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July 20, 2009
PBW Project No. 1358

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

Subject: Correction Action Monitoring Report: 2009 First Semi-Annual Event
Houston Wood Preserving Works, Houston, Texas
TCEQ SWR No. 31547; Hazardous Solid Waste Permit No. 50343

Dear Mr. Arthur:

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: 2009 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.
Senior Hydrogeologist

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

CORRECTIVE ACTION MONITORING REPORT
2009 FIRST SEMIANNUAL EVENT

FORMER HOUSTON WOOD PRESERVING WORKS
4910 LIBERTY ROAD
HOUSTON, TEXAS

July 20, 2009

Prepared for:

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

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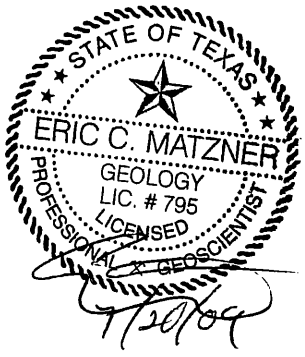

PBW Project No. 1358

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1.0 EXECUTIVE SUMMARY

This semi-annual report presents a summary and evaluation of the Corrective Action Groundwater Monitoring for the Closed Surface Impoundment (Solid Waste Management Unit (SWMU) No. 1) at the former Wood Preserving Works facility (the Site) located in Houston, Texas. The groundwater monitoring activities for this period were performed by Delta Environmental Consultants, Inc. (Delta) on behalf of Union Pacific Railroad (UPRR) in January 2009.

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 2009 sampling event show groundwater flow in the A-TZ to the west in the western portion of SWMU No. 1 and to the southeast in the southeastern portion of SWMU No. 1 with a hydraulic gradient of approximately 0.003 ft/ft. A-TZ groundwater flow typically flows to the west as was observed during the 2008 second semi-annual monitoring event.

Groundwater elevation data collected in the B-TZ show groundwater flow to the north with a hydraulic gradient of 0.002 ft/ft. Groundwater flow during the 2008 second semi-annual monitoring event was to the west-southwest.

Analytical results from the January 2009 sampling event were compared to Texas Commission on Environmental Quality Texas Risk Reduction Program Protective Concentration Limits, as designated in Section IV.D of the Compliance Plan, dated June 10, 2005. Constituent concentrations were below their respective PCLs for the seventh 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 2009 first semi-annual monitoring period (January through June) at the Union Pacific Railroad (UPRR) former Houston Wood Preserving Works facility (the Site) located at 4910 Liberty Road in Houston, Texas (Figure 1). Semi-annual groundwater monitoring is required for the Site as a condition of the Texas Commission on Environmental Quality (TCEQ) Hazardous Waste Permit No. 50343 and associated Compliance Plan (CP) No. 50343, both renewed and issued on June 10, 2005. Groundwater monitoring at the Site is performed to monitor groundwater quality beneath the Closed Surface Impoundment Unit No. 001 (Solid Waste Management Unit (SWMU) No. 1).

Delta Environmental Consultants, Inc. (Delta) on behalf of UPRR conducted groundwater monitoring activities at the Site on January 22, 2009. Groundwater monitoring activities included sampling and gauging the background and point of compliance (POC) wells and piezometers associated with SWMU No. 1. The sampling event, analytical data, and data evaluation provided in this report fulfill the semi-annual corrective action reporting requirements for the first half of 2009 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 June 2009, a recovery system had not been installed at this facility. Therefore, Provisions 8, 9, and 10 that relate to recovery wells or recovery system, are not applicable to 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 2009 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

Delta performed quarterly inspections of SWMU No. 1 in January and April 2009 and conducted semi-annual groundwater sampling activities on June 22, 2009. 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 Master-Flex® peristaltic pump was used to 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 ALS Laboratory, 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 4.5 gallons of purge water was generated during the January 2009 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, purge water and associated personal protective equipment (PPE) were disposed of with investigation derived waste from investigation activities conducted at the Site in January 2009 at the US Ecology Texas LP in Robstown, Texas on March 13, 2009 under water codes 0909101H and 0915301H, respectively.

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 2009 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 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 (field blank, 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 2009 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.

Groundwater elevation data collected during the January 2009 sampling event show groundwater flow in the A-TZ to the west in the western portion of SWMU No. 1 and to the south-southeast in the southeastern portion of SWMU NO. 1 with a hydraulic gradient of approximately 0.003 ft/ft (Figure 3). A-TZ groundwater flow typically flows to the west as was observed during the 2008 second semi-annual monitoring event.

Groundwater elevation data collected in the B-TZ show groundwater flow to the west and north with a hydraulic gradient of 0.002 ft/ft (Figure 4). Groundwater flow during the 2008 second semi-annual monitoring event was to the west-southwest.

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 at the SWMU No. 1; therefore, this provision is not applicable.

3.9 Contaminant Mass Recovered

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

3.10 Analytical Data Evaluation

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

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

Direct comparison to PCLs was used to evaluate the analytical data. Tables 1 and 2 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 2009 monitoring event the compliance wells completed in both transmissive zones are compliant with groundwater results below their respective PCLs; therefore the monitoring wells are considered to be compliant for this monitoring period. Compliance status for each of the monitoring wells is provided in Table 5.

Monitoring wells in A-TZ and B-TZ have not exceeded the established CP PCLs since July 2005, at which time dibenzofuran exceeded its respective PCL of 0.098 mg/L in MW-01A (0.11 mg/L). Including the 2009 first semi-annual analytical data, the SMWU No. 1 monitoring wells have been compliant for seven consecutive semi-annual monitoring events (three and a half years).

A QA/QC review and Data Usability Summary (DUS) were prepared for the January 2009 analytical data. Analytical results were flagged based on the data validation review of the QA/QC samples.

The following samples were qualified as *Estimated (J)*:

- MW-01A and FD-01 for Acenaphthene
- MW-01A, MW-10B and MW-11B for Anthracene
- MW-11A for Bis(2-ethylhexyl)phthalate
- FD-01 for Dibenzofuran;
- MW-01A, MW-02, MW-10B, MW-11A, MW-11B and FD-01 for Fluoranthene;
- FD-01 for 2-Methylnaphthalene;
- MW-10B for Naphthalene;
- MW-01A for Phenanthrene; and
- MW-01A, MW-10B and FD-02 for Pyrene.

A DUS for the laboratory analyses is included in Appendix C, and validated qualifiers were added to the data tables (Tables 1 and 2). Based on the QA/QC data review, the analytical data are usable for the intended use.

3.11 Reported Concentration Maps

Reported concentrations of each constituent analyzed for the 2009 First Semi-Annual Groundwater Monitoring Event are presented on Figures 5 and 6 for the A-TZ and B-TZ compliance wells, respectively. In the event a constituent exceeded their respective PCL, the value would be highlighted on the figures. There were no exceedances of PCLs for any of the required constituents.

3.12 Extent of NAPL

Measurable amounts of LNAPL or DNAPL were not 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 D of this report.

3.14 Summary of Changes Made to Corrective Action Program

No changes have been made to the corrective action program.

3.15 Modifications and Amendments to Compliance Plan

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

3.16 Corrective Measures Implementation (CMI) Report

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

3.17 Well Casing Elevations

Top-of-casing elevations referenced to feet above Mean Sea Level (MSL) for each compliance monitoring well are summarized in Table 4.

3.18 Recommendation for Changes

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

3.19 Well Installation and/or Abandonment

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

3.20 Activity Within Area Subject to Institutional Control

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

3.21 Other Requested Items

No other items have been requested by the executive director.

TABLES

Table 1
Summary of Analytical Results for the A-Transmissive Zone (A-TZ)
Semiannual Monitoring Report: 2009 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		
		1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ
Acenaphthene	1.5	0.055		J	0.038		J	0.014			<0.0008	U		<0.0008	U		<0.0008	U		0.0076		
Acenaphthylene	1.5	<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U	
Anthracene	7.3	0.0012	J	J	<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U	
bis(2-ethylhexyl)phthalate	0.006	<0.0012	U		0.0015	J	J	<0.0012	U		<0.0012	U		<0.0012	U		<0.0012	U		<0.0012	U	
Dibenzofuran	0.098	0.0058			0.0018	J	J	<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U	
Fluoranthene	0.98	0.0024	J	J	0.0013	J	J	<0.0006	U		<0.0006	U		<0.0006	U		<0.0006	U		0.0012	J	J
Fluorene	0.98	0.028			0.018			0.0039	J	J	<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U	
2-Methylnaphthalene	0.098	0.0069			0.0016	J	J	<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U	
Naphthalene	0.49	<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U	
Phenanthrene	0.73	0.001	J	J	<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U	
Pyrene	0.73	0.001	J	J	<0.0009	U		<0.0009	U		<0.0009	U		<0.0009	U		<0.0009	U		<0.0009	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 SQL and the MDL
U = Value not detected greater than the MDL

VQ - Validation Qualifier
J = Estimated data; The reported sample concentration is approximate due to the exceedance of one or more QC requirements
UJ = Estimated data; The analyte was not detected above the reported sample detecteion limit (SDL) however, the SDL is approximate due to exceedance of one or more QC requirements
L = Bias in sample result is likely to be low

Table 2
Summary of Analytical Results for the B-Transmissive Zone (B-TZ)
Semiannual Monitoring Report: 2009 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	Monitoring Well IDs (Concentrations mg/L)														
		MW-10B			MW-11B			P-10			DUP-02			P-12		
		1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ	1/22/2009	LQ	VQ
Acenaphthene	1.5	0.096			0.072			<0.0008	U		<0.0008	U		<0.0008	U	
Acenaphthylene	1.5	<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U	
Anthracene	7.3	0.0043	J	J	0.0022	J	J	<0.0007	U		<0.0007	U		<0.0007	U	
bis(2-ethylhexyl)phthalate	0.006	<0.0012	U		<0.0012	U		<0.0012	U		<0.0012	U		<0.0012	U	
Dibenzofuran	0.098	0.035			0.031			<0.0007	U		<0.0007	U		<0.0007	U	
Di-n-butyl phthalate	2.4	<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U		<0.0007	U	
Fluoranthene	0.98	0.0039	J	J	0.0018	J	J	<0.0006	U		<0.0006	U		<0.0006	U	
Fluorene	0.98	0.051			0.032			<0.0008	U		<0.0008	U		<0.0008	U	
Naphthalene	0.49	0.0028	J	J	<0.0008	U		<0.0008	U		<0.0008	U		<0.0008	U	
Phenol	7.3	<0.0015	U		<0.0015	U		<0.0015	U		<0.0015	U		<0.0015	U	
Pyrene	0.73	0.002	J	J	<0.0009	U		<0.0009	U		0.0012	J	J	0.0026	J	

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-12

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

VQ - Validation Qualifier
J = Estimated data; The reported sample concentration is approximate due to the exceedance of one or more QC requirements
UJ = Estimated data; The analyte was not detected above the reported sample detecteion limit (SDL) however, the SDL is approximate due to exceedance of one or more QC requirements
L = Bias in sample result is likely to be low

Table 3
Summary of Analytical Results for Quality Assurance/Quality Control Samples
Semiannual Monitoring Report: 2009 First Semiannual Event

Houston Wood Preserving Works
Houston, Texas

Analyte	PCL (mg/L)	Sample IDs (Concentrations mg/L)									
		FB-01		MW-01A(MS)[1]		MW-01A(MSD)[1]		P-12(MS)[2]		P-12(MSD)[2]	
		Field Blank		Matrix Spike		Matrix Spike Duplicate		Matrix Spike		Matrix Spike Duplicate	
		1/22/2009		1/22/2008		1/22/2008		1/22/2008		1/22/2008	
Acenaphthene	1.5	<0.0008	U	0.08143		0.09025		0.03191		0.03397	
Acenaphthylene	1.5	<0.0007	U	0.03324		0.03474		0.03158		0.03598	
Anthracene	7.3	<0.0007	U	0.03283		0.03125		0.03271		0.03351	
bis(2-ethylhexyl)phthalate	0.006	<0.0012	U	0.03241		0.03096		0.03224		0.03240	
Dibenzofuran	0.098	<0.0007	U	0.03642		0.03969		0.03114		0.03374	
Di-n-butyl phthalate	2.4	<0.0007	U	0.03263		0.03144		0.03189		0.03430	
Fluoranthene	0.98	<0.0006	U	0.03446		0.03422		0.03113		0.03428	
Fluorene	0.98	<0.0008	U	0.05844		0.06385		0.03088		0.03622	
2-Methylnaphthalene	0.098	<0.0008	U	0.03764		0.03896		0.02932		0.03247	
Naphthalene	0.49	<0.0008	U	0.03242		0.03332		0.03157		0.03604	
Phenanthrene	0.73	<0.0007	U	0.03162		0.03140		0.03141		0.03431	
Phenol	7.3	<0.0015	U	0.06703		0.06620		0.06189		0.06454	
Pyrene	0.73	<0.0009	U	0.03311		0.03334		0.03669		0.03869	

Notes:
PCL = Protective Concentration Level
(1) = MW-01A(MS) and MW-01A(MSD) are matrix spike and matrix spike duplicate samples collected at MW-01A, respectively.
(2) = P-12(MS) and P-12(MSD) are matrix spike and matrix spike duplicate samples collected at P-12, respectively.
U = Not detected above the Method Detection Limit
JH = concentration estimated high due to MS/MSD recovery outside of acceptance limits
NA = not analyzed

Table 4

Water Level Measurements
Semiannual Monitoring Report: 2009 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	47.92	1/22/2009	6.21	ND	20.2	19.91	41.71
MW-02	47.97	1/22/2009	6.31	ND	20.3	20.21	41.66
MW-07	48.86	1/22/2009	7.49	ND	NA	24.83	41.37
MW-08	49.33	1/22/2009	7.71	ND	26.8	25.72	41.62
MW-10A	49.86	1/22/2009	8.27	ND	25.9	25.55	41.59
MW-11A	50.05	1/22/2009	8.57	ND	24.4	24.06	41.48
B-TZ Monitoring Locations							
MW-10B	49.94	1/22/2009	8.39	ND	48.8	48.35	41.55
MW-11B	50.18	1/22/2009	8.72	ND	46.8	47.10	41.46
P-10	47.69	1/22/2009	6.35	ND	40.0	43.89	41.34
P-12	48.78	1/22/2009	6.99	ND	40.0	43.46	41.79

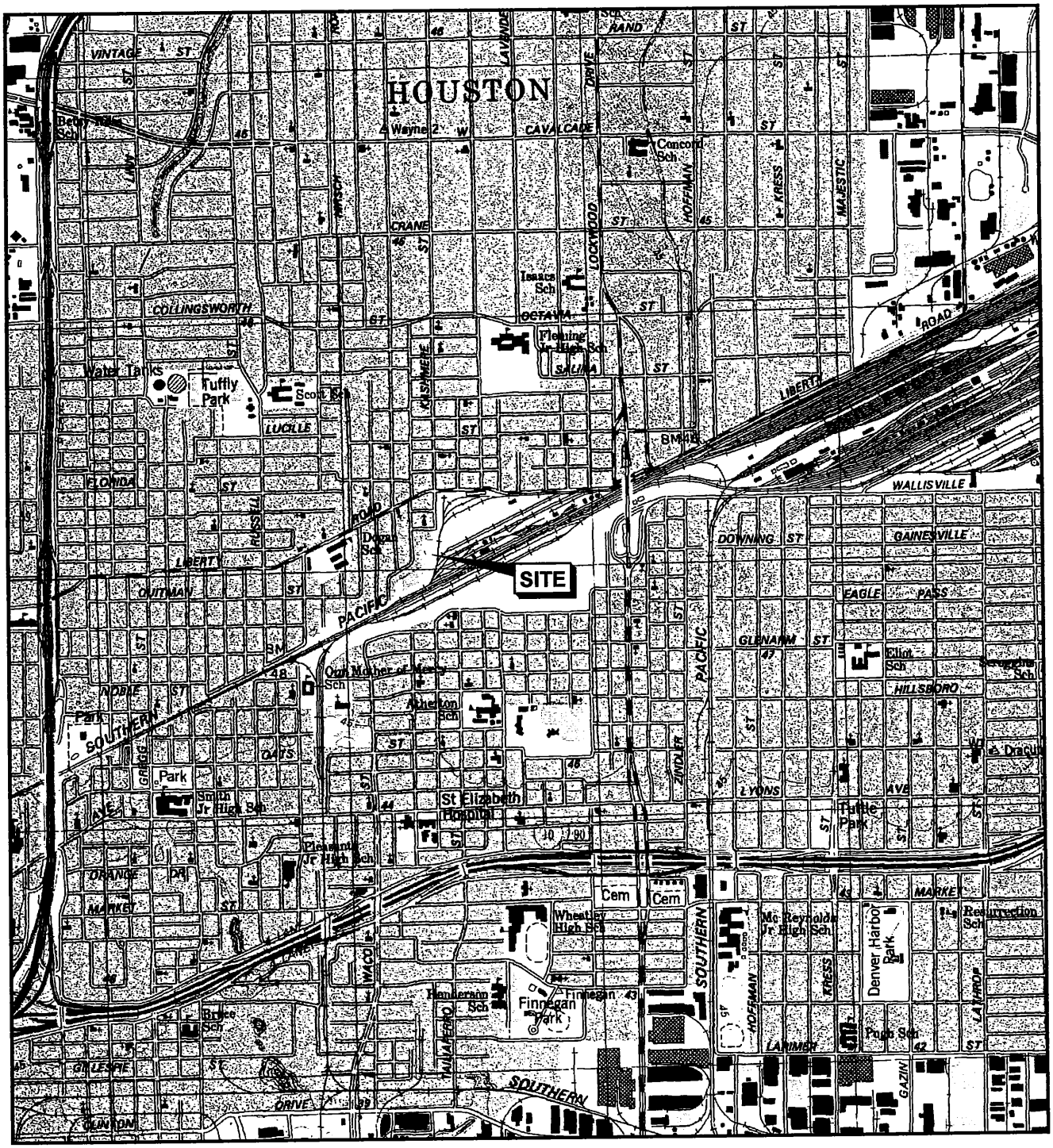
Notes
BTOC = feet below the top of the well casing
ft. MSL = feet above Mean Sea Level
NA = Information not available
ND = Not Detected

Table 5
Compliance Status of Wells and Piezometers
Semiannual Monitoring Report: 2009 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



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

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Figure 1

SITE LOCATION MAP

PROJECT: 1358	BY: ZGK	REVISIONS
DATE: JUNE, 2009	CHECKED: ECM	

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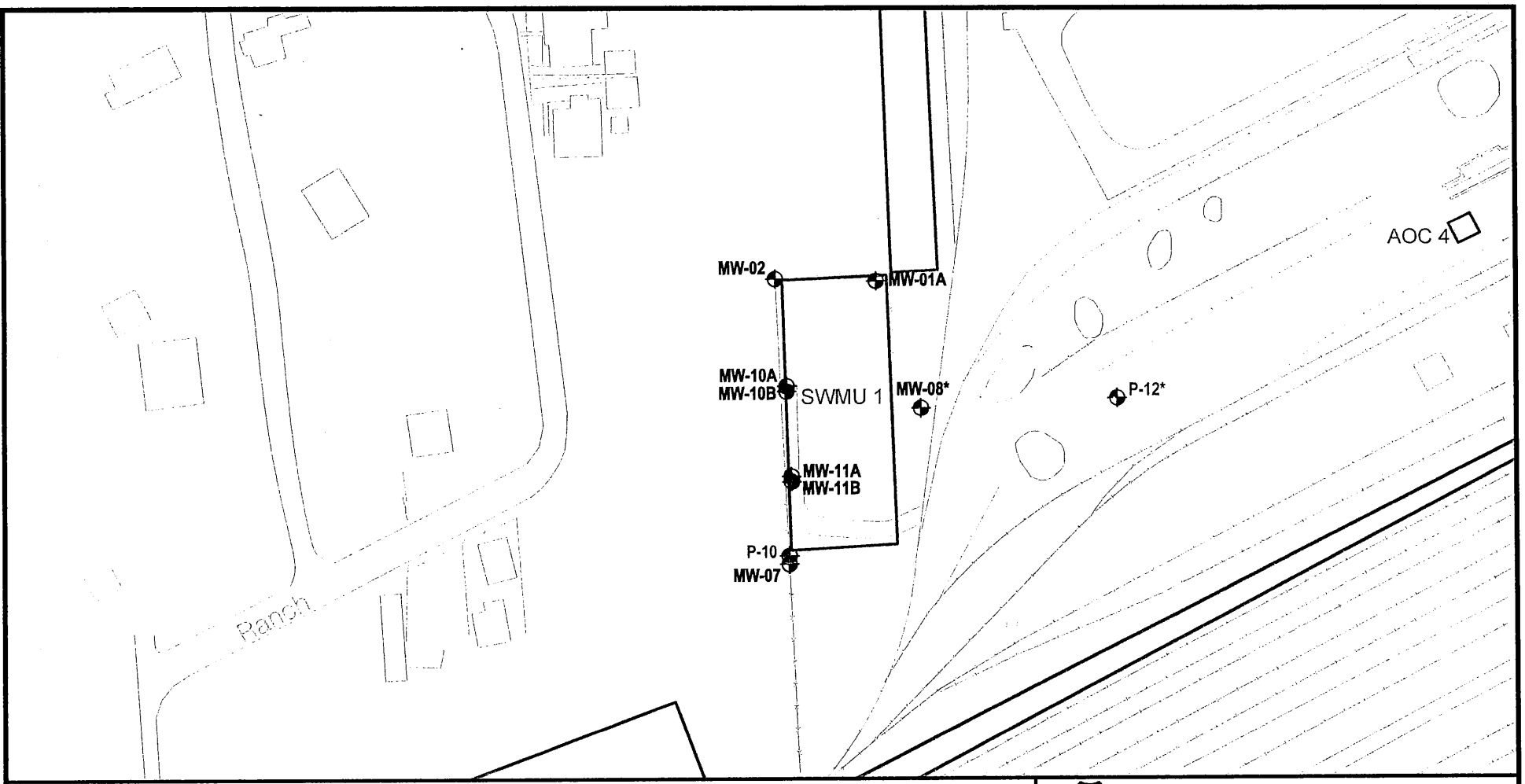

EXPLANATION

- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- Zone A Monitoring Well Location
- Zone B 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: ZGK	REVISIONS
DATE: JUNE, 2009	CHECKED: ECM	

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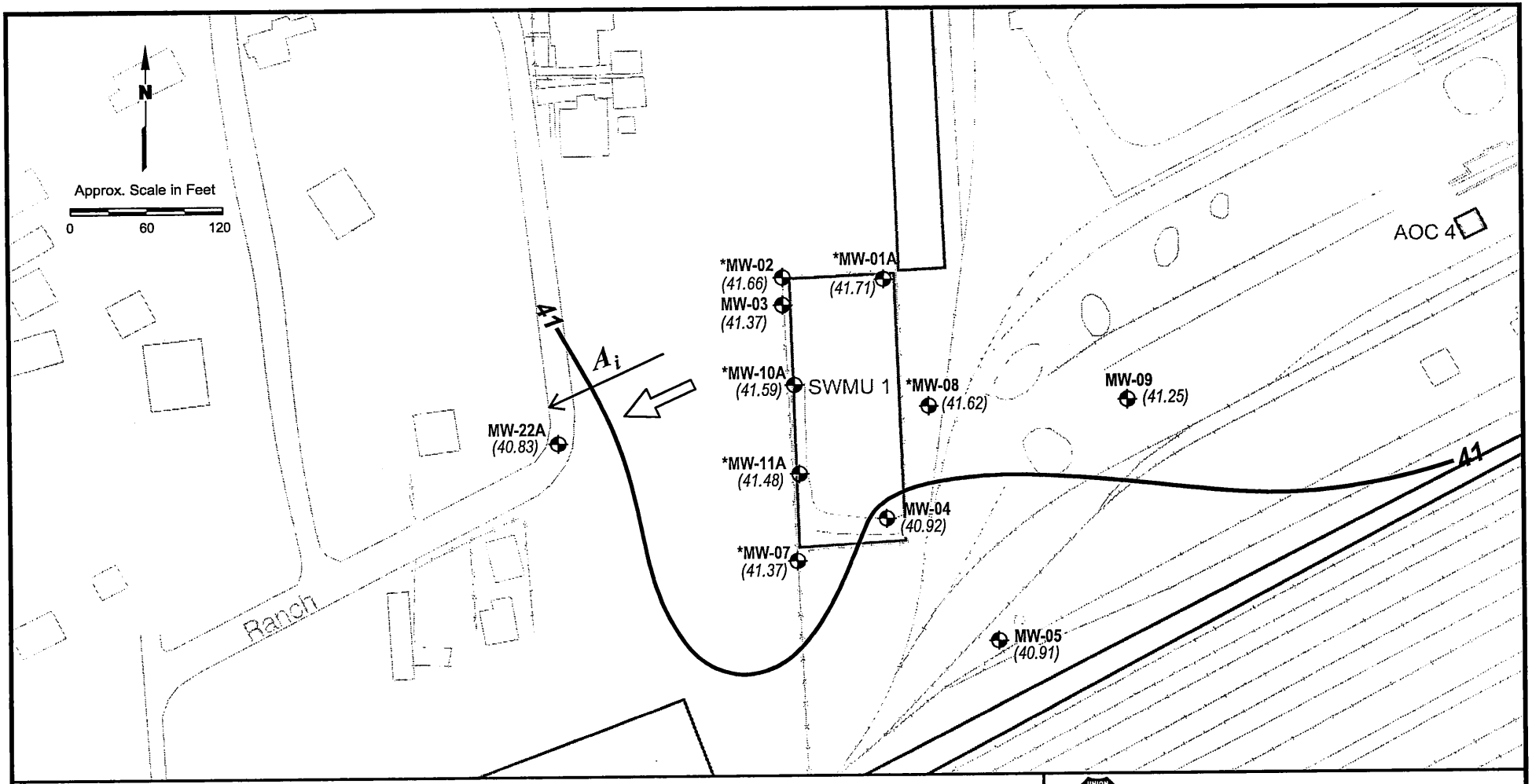

EXPLANATION

- Road, Parking Lot, Sidewalk
- Fence
- Railroad
- A-TZ Monitoring Well Location (* - Compliance Well)
- (41.37) Groundwater Elevation (Ft, MSL)
- —41— Groundwater Elevation Contour (Ft, MSL) C.I.= 1 Ft
- General Groundwater Flow Direction

ESTIMATED GRADIENT

$A_i \rightarrow A_i = \frac{1ft}{300ft} = 0.003\ ft/ft$

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

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Figure 3

A-TZ POTENTIOMETRIC SURFACE CONTOUR MAP JANUARY 22, 2009

PROJECT: 1358	BY: ZGK	REVISIONS
DATE: JUNE, 2009	CHECKED: ECM	

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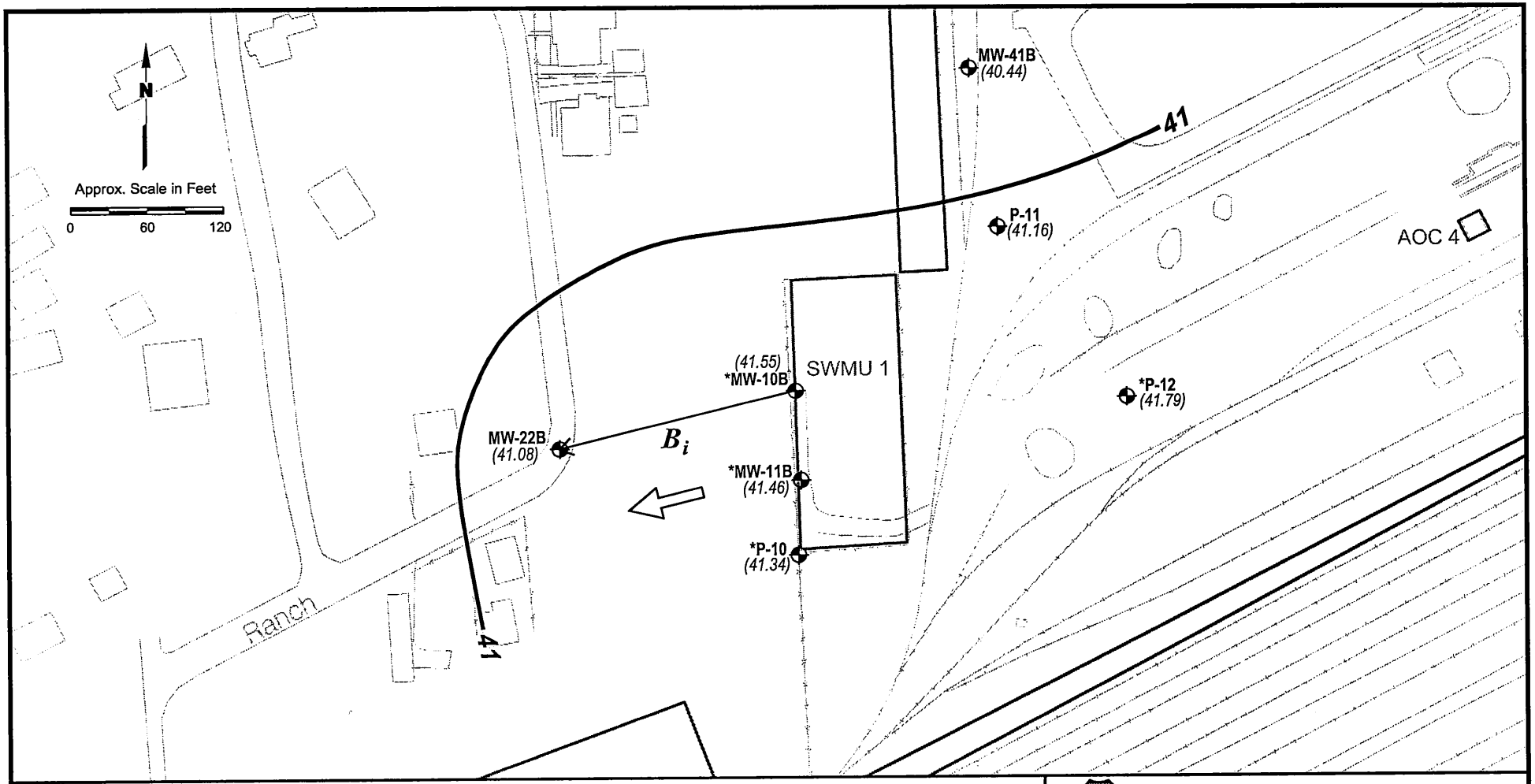

EXPLANATION

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

ESTIMATED GRADIENT

$B_i \rightarrow B_i = \frac{0.47ft}{192ft} = 0.002\ ft/ft$

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 22, 2009

PROJECT: 1358	BY: ZGK	REVISIONS
DATE: JUNE, 2009	CHECKED: ECM	

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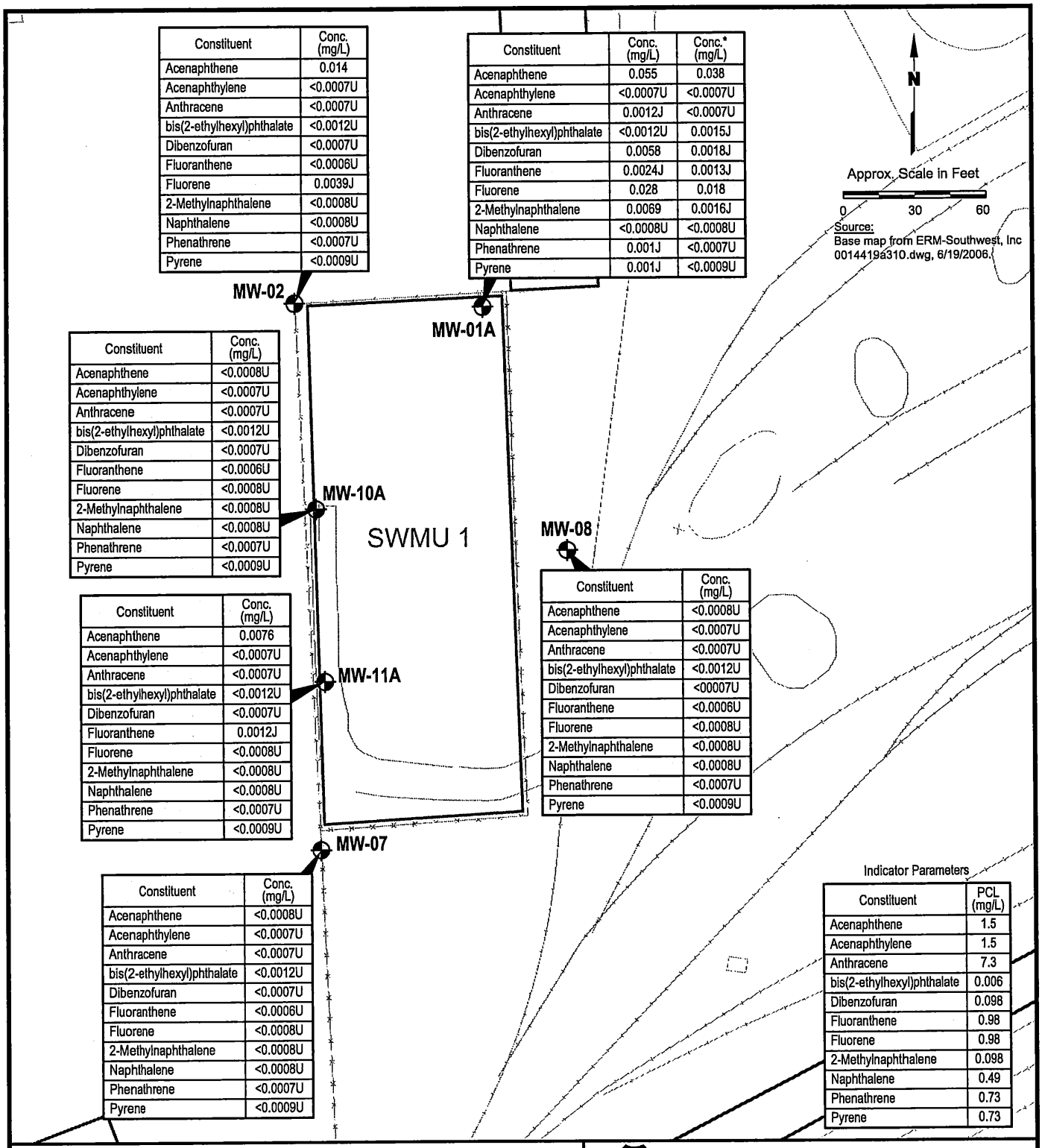

Constituent	Conc. (mg/L)
Acenaphthene	0.014
Acenaphthylene	<0.0007U
Anthracene	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	<0.0007U
Fluoranthene	<0.0006U
Fluorene	0.0039J
2-Methylnaphthalene	<0.0008U
Naphthalene	<0.0008U
Phenathrene	<0.0007U
Pyrene	<0.0009U

Constituent	Conc. (mg/L)	Conc.* (mg/L)
Acenaphthene	0.055	0.038
Acenaphthylene	<0.0007U	<0.0007U
Anthracene	0.0012J	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U	0.0015J
Dibenzofuran	0.0058	0.0018J
Fluoranthene	0.0024J	0.0013J
Fluorene	0.028	0.018
2-Methylnaphthalene	0.0069	0.0016J
Naphthalene	<0.0008U	<0.0008U
Phenathrene	0.001J	<0.0007U
Pyrene	0.001J	<0.0009U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0008U
Acenaphthylene	<0.0007U
Anthracene	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	<0.0007U
Fluoranthene	<0.0006U
Fluorene	<0.0008U
2-Methylnaphthalene	<0.0008U
Naphthalene	<0.0008U
Phenathrene	<0.0007U
Pyrene	<0.0009U

Constituent	Conc. (mg/L)
Acenaphthene	0.0076
Acenaphthylene	<0.0007U
Anthracene	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	<0.0007U
Fluoranthene	0.0012J
Fluorene	<0.0008U
2-Methylnaphthalene	<0.0008U
Naphthalene	<0.0008U
Phenathrene	<0.0007U
Pyrene	<0.0009U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0008U
Acenaphthylene	<0.0007U
Anthracene	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	<0.0007U
Fluoranthene	<0.0006U
Fluorene	<0.0008U
2-Methylnaphthalene	<0.0008U
Naphthalene	<0.0008U
Phenathrene	<0.0007U
Pyrene	<0.0009U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0008U
Acenaphthylene	<0.0007U
Anthracene	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	<0.0007U
Fluoranthene	<0.0006U
Fluorene	<0.0008U
2-Methylnaphthalene	<0.0008U
Naphthalene	<0.0008U
Phenathrene	<0.0007U
Pyrene	<0.0009U

Indicator Parameters

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

EXPLANATION

- Fence
- Railroad
- A-TZ Monitoring Well Location

Notes:
1. * Duplicates sample taken at MW-1A.
2. Sample collected on January 22, 2009.
3. J= Estimated value between SQL and MDL.
4. U= Value not detected greater than the MDL.

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Figure 5

A-TZ REPORTED CONCENTRATIONS 2009 1st SEMI ANNUAL MONITORING EVENT

PROJECT: 1358	BY: ZGK	REVISIONS
DATE: JUNE, 2009	CHECKED: ECM	

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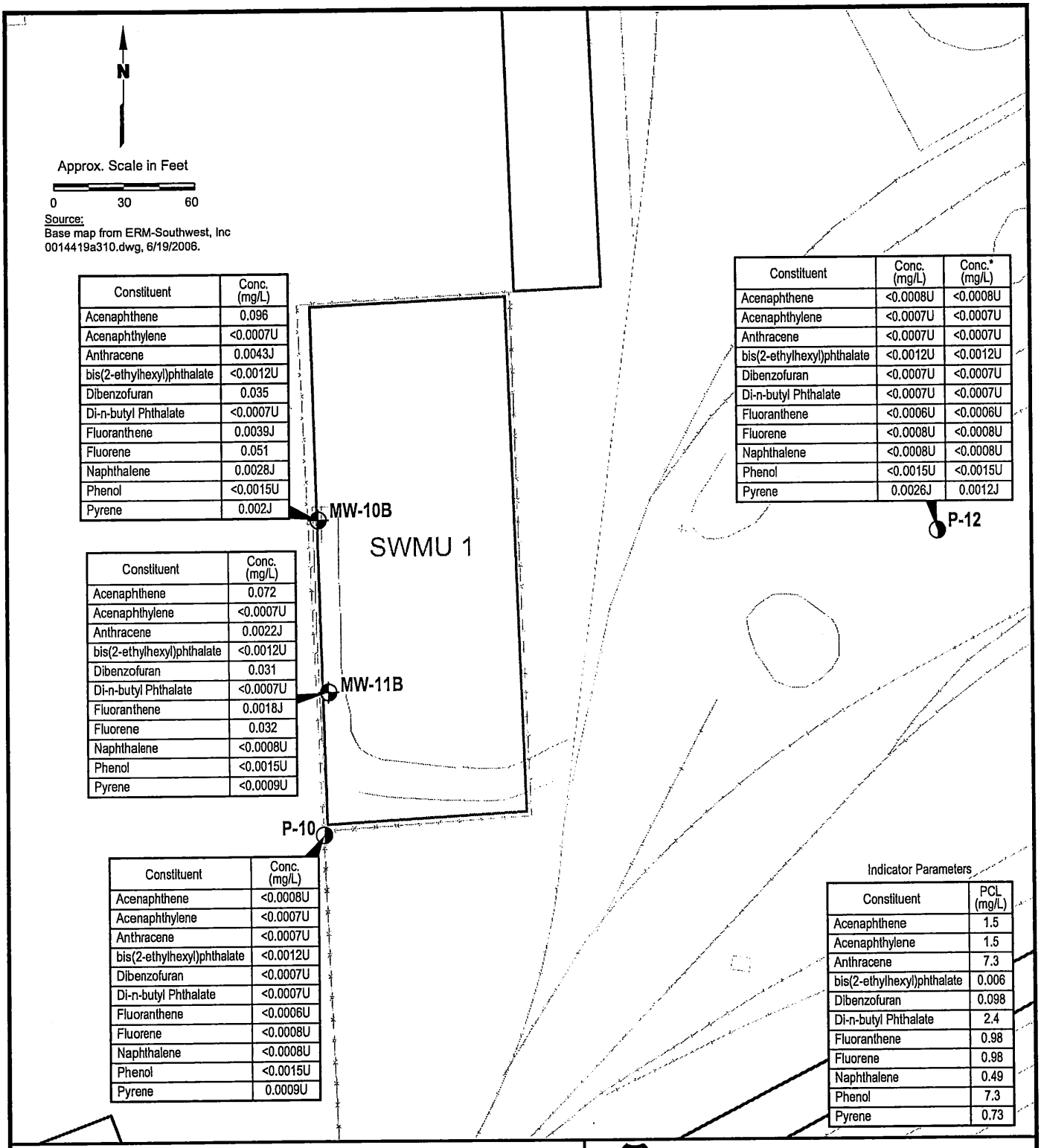

Constituent	Conc. (mg/L)
Acenaphthene	0.096
Acenaphthylene	<0.0007U
Anthracene	0.0043J
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	0.035
Di-n-butyl Phthalate	<0.0007U
Fluoranthene	0.0039J
Fluorene	0.051
Naphthalene	0.0028J
Phenol	<0.0015U
Pyrene	0.002J

Constituent	Conc. (mg/L)
Acenaphthene	0.072
Acenaphthylene	<0.0007U
Anthracene	0.0022J
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	0.031
Di-n-butyl Phthalate	<0.0007U
Fluoranthene	0.0018J
Fluorene	0.032
Naphthalene	<0.0008U
Phenol	<0.0015U
Pyrene	<0.0009U

Constituent	Conc. (mg/L)
Acenaphthene	<0.0008U
Acenaphthylene	<0.0007U
Anthracene	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U
Dibenzofuran	<0.0007U
Di-n-butyl Phthalate	<0.0007U
Fluoranthene	<0.0006U
Fluorene	<0.0008U
Naphthalene	<0.0008U
Phenol	<0.0015U
Pyrene	0.0009U

Constituent	Conc. (mg/L)	Conc.* (mg/L)
Acenaphthene	<0.0008U	<0.0008U
Acenaphthylene	<0.0007U	<0.0007U
Anthracene	<0.0007U	<0.0007U
bis(2-ethylhexyl)phthalate	<0.0012U	<0.0012U
Dibenzofuran	<0.0007U	<0.0007U
Di-n-butyl Phthalate	<0.0007U	<0.0007U
Fluoranthene	<0.0006U	<0.0006U
Fluorene	<0.0008U	<0.0008U
Naphthalene	<0.0008U	<0.0008U
Phenol	<0.0015U	<0.0015U
Pyrene	0.0026J	0.0012J

Indicator Parameters

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

EXPLANATION

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

Notes:
1. * Duplicates sample taken at P-12.
2. Sample collected on January 22, 2009.
3. J= Estimated value between SQL and MDL.
4. U= Value not detected greater than the MDL.

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Figure 6

B-TZ REPORTED CONCENTRATIONS 2009 1st SEMI ANNUAL MONITORING EVENT

PROJECT: 1358	BY: ZGK	REVISIONS
DATE: JUNE, 2009	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.

APPENDIX B
FIELD PARAMETERS

TABLE B-1
Groundwater Sampling Field Parameters
Semiannual Monitoring Report: 2009 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
	1/22/2009	1/22/2009	1/22/2009	1/22/2009	1/22/2009	1/22/2009	1/22/2009	1/22/2009	1/22/2009	1/22/2009
Time Sampled (hrs CST)	12:27	11:55	13:11	14:07	10:51	9:47	11:25	10:16	13:36	14:35
Temperature (°C)	22.59	20.73	24.19	22.63	21.24	20.18	22.06	21.03	23.89	24.19
pH (Standard Units)	6.99	7.01	7.24	7.23	7.07	7.00	6.70	6.98	7.32	7.25
Specific Conductivity (µS)	1,431	799	827	768	1,052	1,132	1,344	1,220	1,140	1,353
Dissolved Oxygen (mg/L)	0.29	0.48	4.97	4.54	0.61	0.42	0.38	0.25	2.07	2.46
Turbidity (NTU)	20.00	4.30	4.10	1.60	2.00	22.00	7.20	10.00	2.60	3.80

APPENDIX C
LABORATORY ANALYTICAL REPORTS and DATA USABILITY SUMMARIES

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

Environmental Division

03-Feb-09

Eric Matzner
Pastor, Behling & Wheeler, LLC
2201 Double Creek Drive
Suite 4004
Round Rock, TX 78664

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

Re: HWPW-SWMU 1 Jan. 09

Work Order : **0901442**

Dear Eric,

ALS Laboratory Group received 13 samples on 1/23/2009 08:40 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Laboratory Group and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Lora Terrill

Electronically approved by: Lora Terrill

Lora Terrill
VP Lab Operations

ACCREDITED IN ACCORDANCE WITH nelac

Certificate No: T104704231-08-TX

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Work Order: 0901442

TRRP Laboratory Data Package Cover Page

This data package consists of all or some of the following as applicable:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation:

R2 Sample identification cross-reference

R3 Test reports (analytical data sheets) for each environmental sample that includes:
- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- 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) for each analyte for each method and matrix;?

R10 Other problems or anomalies.

Release Statement: I am responsible for the release of this laboratory data package. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the labor in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observec the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Re Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

Check, if applicable: [NA] This laboratory is an in-house laboratory controlled by the person responding to rule. The official sign the cover page of the rule-required report (for example, the APAR) in which these data are used is responsible for releasing this c package and is by signature affirming the above release statement is true.

Lora Terrill

Lora Terrill
VP Lab Operations

Laboratory Review Checklist: Reportable Data

Laboratory Name: ALS Laboratory Group	LRC Date: 02/03/2009
Project Name: Houston Wood Preserving Works	Laboratory Job Number: 0901442
Reviewer Name: Lora Terrill	Prep Batch Number(s): 34161

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
R1	OI	**CHAIN-OF-CUSTODY (C-O-C)**					
		1) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		2) Were all departures from standard conditions described in an exception report?	X				
R2	OI	**SAMPLE AND QUALITY CONTROL (QC) IDENTIFICATION**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**TEST REPORTS**					
		1) Were all samples prepared and analyzed within holding times?	X				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		3) Were calculations checked by a peer or supervisor?	X				
		4) Were all analyte identifications checked by a peer or supervisor?	X				
		5) Were sample quantitation limits reported for all analytes not detected?	X				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			X		
		7) Was % moisture (or solids) reported for all soil and sediment samples?			X		
		8) If required for the project, TICs reported?			X		
R4	O	**SURROGATE RECOVERY DATA**					
		1) Were surrogates added prior to extraction?	X				
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**TEST REPORTS/SUMMMARY FORMS FOR BLANK SAMPLES**					
		1) Were appropriate type(s) of blanks analyzed?	X				
		2) Were blanks analyzed at the appropriate frequency?	X				
		3) Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		4) Were blank concentrations < MQL?	X				
R6	OI	**LABORATORY CONTROL SAMPLES (LCS):**					
		1) Were all COCs included in the LCS?	X				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		3) Were LCSs analyzed at the required frequency?	X				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?	X				
		6) Was the LCSD RPD within QC limits?			X		
R7	OI	**MATRIX SPIKE (MS) AND MATRIX SPIKE DUPLICATE (MSD) DATA**					
		1) Were the project/method specified analytes included in the MS and MSD?	X				
		2) Were MS/MSD analyzed at the appropriate frequency?	X				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			1
		4) Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**ANALYTICAL DUPLICATE DATA**					
		1) Were appropriate analytical duplicates analyzed for each matrix?			X		
		2) Were analytical duplicates analyzed at the appropriate frequency?			X		
		3) Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**METHOD QUANTITATION LIMITS (MQLS):**					
		1) Are the MQLs for each method analyte listed and included in the laboratory data package?	X				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		3) Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**OTHER PROBLEMS/ANOMALIES**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		2) Were all necessary corrective actions performed for the reported data?	X				
		3) If requested, is the justification for elevated SQLs documented?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted in o the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable);

3 NA = Not applicable;

4 NR = Not Reviewed;

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Review Checklist: Supporting Data

Laboratory Name: ALS Laboratory Group	LRC Date: 02/03/2009
Project Name: Houston Wood Preserving Works	Laboratory Job Number: 0901442
Reviewer Name: Lora Terrill	Prep Batch Number(s): 34161

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**INITIAL CALIBRATION (ICAL)**					
		1) Were response factors (RFs) and/or relative response factors (RRFs) for each analyte within the QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**INITIAL AND CONTINUING CALIBRATION VERIFICATION (ICCV AND CCV) AND**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**MASS SPECTRAL TUNING:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**INTERNAL STANDARDS (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**RAW DATA (NELAC SECTION 1 APPENDIX A GLOSSARY, AND SECTION 5.12 OR**					
		1) Were the raw data (e.g., chromatograms, spectral data) reviewed by an analyst?	X				
		2) 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**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**PROFICIENCY TEST REPORTS:**					
		Are proficiency testing or inter-laboratory comparison results on file?	X				
S11	OI	**METHOD DETECTION LIMIT (MDL) STUDIES**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	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)**					
		1) Was DOC conducted consistent with NELAC 5C or ISO/IEC 4.2.2?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**VERIFICATION/VALIDATION DOCUMENTATION FOR METHODS**					
		Are all the methods used to generate the data documented, verified, and validated, where applicable, (NELAC 5.10.2 or ISO/IEC 17025 Section 5.4.5)?	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" should be included in the laboratory data package submitted to the TCEQ 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 Report	
Laboratory Name: ALS Laboratory Group	LRC Date: 02/03/2009
Project Name: Houston Wood Preserving Works	Laboratory Job Number: 0901442
Reviewer Name: Lora Terrill	Prep Batch Number(s): 34161

ER #[1]	DESCRIPTION
1	Batch 34161 Semivolatiles (sample WG-1620-MW01A-012209) recovery below control limit for Acenaphthene. MSD and MS/MSD RPD in control.

1 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

ALS Laboratory Group

Date: 03-Feb-09

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Work Order: **0901442**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
0901442-01	WG-1620-MW01A-012209	Water		1/22/2009 12:27	1/23/2009 08:40	☐
0901442-02	WG-1620-MW02-012209	Water		1/22/2009 11:55	1/23/2009 08:40	☐
0901442-03	WG-1620-MW07-012209	Water		1/22/2009 13:11	1/23/2009 08:40	☐
0901442-04	WG-1620-MW08-012209	Water		1/22/2009 14:07	1/23/2009 08:40	☐
0901442-05	WG-1620-MW10A-012209	Water		1/22/2009 10:51	1/23/2009 08:40	☐
0901442-06	WG-1620-MW10B-012209	Water		1/22/2009 11:25	1/23/2009 08:40	☐
0901442-07	WG-1620-MW11A-012209	Water		1/22/2009 09:47	1/23/2009 08:40	☐
0901442-08	WG-1620-MW11B-012209	Water		1/22/2009 10:16	1/23/2009 08:40	☐
0901442-09	WG-1620-P10-012209	Water		1/22/2009 13:36	1/23/2009 08:40	☐
0901442-10	WG-1620-P12-012209	Water		1/22/2009 14:35	1/23/2009 08:40	☐
0901442-11	WG-1620-FD01-012209	Water		1/22/2009	1/23/2009 08:40	☐
0901442-12	WG-1620-FD02-012209	Water		1/22/2009	1/23/2009 08:40	☐
0901442-13	WG-1620-FB01-012209	Water		1/22/2009 08:32	1/23/2009 08:40	☐

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW01A-012209
Collection Date: 1/22/2009 12:27 PM

Work Order: 0901442
Lab ID: 0901442-01
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	**6.9**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthene	**54**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	**1.2**	J	**0.70**	**5.0**	**µg/L**	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Dibenzofuran	**5.8**		**0.70**	**5.0**	**µg/L**	1	1/27/2009
Fluoranthene	**2.4**	J	**0.60**	**5.0**	**µg/L**	1	1/27/2009
Fluorene	**28**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	**1.0**	J	**0.70**	**5.0**	**µg/L**	1	1/27/2009
Pyrene	**1.0**	J	**0.90**	**5.0**	**µg/L**	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*66.5*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*57.8*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*56.0*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*54.5*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*57.3*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*60.1*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW02-012209
Collection Date: 1/22/2009 11:55 AM

Work Order: 0901442
Lab ID: 0901442-02
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthene	**14**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	**3.9**	J	**0.80**	**5.0**	**µg/L**	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*63.4*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*58.9*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*55.4*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*58.4*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*58.8*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*58.0*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

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P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW07-012209
Collection Date: 1/22/2009 01:11 PM

Work Order: 0901442
Lab ID: 0901442-03
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*62.3*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*58.9*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*52.3*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*57.5*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*53.7*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*54.5*			*20-120*	*%REC*	1	1/27/2009

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P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW08-012209
Collection Date: 1/22/2009 02:07 PM

Work Order: 0901442
Lab ID: 0901442-04
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*59.2*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*58.4*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*54.9*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*59.5*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*55.4*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*57.7*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

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B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW10A-012209
Collection Date: 1/22/2009 10:51 AM

Work Order: 0901442
Lab ID: 0901442-05
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*58.3*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*60.0*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*53.5*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*60.3*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*59.4*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*55.6*			*20-120*	*%REC*	1	1/27/2009

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P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW10B-012209
Collection Date: 1/22/2009 11:25 AM

Work Order: 0901442
Lab ID: 0901442-06
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
Acenaphthene	**96**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	**4.3**	J	**0.70**	**5.0**	**µg/L**	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Di-n-butyl phthalate	U		0.70	5.0	µg/L	1	1/27/2009
Dibenzofuran	**35**		**0.70**	**5.0**	**µg/L**	1	1/27/2009
Fluoranthene	**3.9**	J	**0.60**	**5.0**	**µg/L**	1	1/27/2009
Fluorene	**51**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Naphthalene	**2.8**	J	**0.80**	**5.0**	**µg/L**	1	1/27/2009
Phenol	U		1.5	5.0	µg/L	1	1/27/2009
Pyrene	**2.0**	J	**0.90**	**5.0**	**µg/L**	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*65.4*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*64.4*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*58.0*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*60.0*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*58.6*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*57.9*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

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J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW11A-012209
Collection Date: 1/22/2009 09:47 AM

Work Order: 0901442
Lab ID: 0901442-07
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthene	**7.6**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	**1.2**	J	**0.60**	**5.0**	**µg/L**	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*59.6*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*62.0*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*57.0*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*60.4*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*59.3*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*60.1*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-MW11B-012209
Collection Date: 1/22/2009 10:16 AM

Work Order: 0901442
Lab ID: 0901442-08
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
Acenaphthene	**72**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	**2.2**	J	**0.70**	**5.0**	**µg/L**	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Di-n-butyl phthalate	U		0.70	5.0	µg/L	1	1/27/2009
Dibenzofuran	**31**		**0.70**	**5.0**	**µg/L**	1	1/27/2009
Fluoranthene	**1.8**	J	**0.60**	**5.0**	**µg/L**	1	1/27/2009
Fluorene	**32**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenol	U		1.5	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*59.4*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*59.9*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*54.3*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*57.7*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*58.7*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*57.2*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-P10-012209
Collection Date: 1/22/2009 01:36 PM

Work Order: 0901442
Lab ID: 0901442-09
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Di-n-butyl phthalate	U		0.70	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenol	U		1.5	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*55.8*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*58.4*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*53.0*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*57.6*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*56.2*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*59.4*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-P12-012209
Collection Date: 1/22/2009 02:35 PM

Work Order: 0901442
Lab ID: 0901442-10
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Di-n-butyl phthalate	U		0.70	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenol	U		1.5	5.0	µg/L	1	1/27/2009
Pyrene	**2.6**	J	**0.90**	**5.0**	**µg/L**	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*54.2*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*56.3*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*53.5*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*53.8*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*54.0*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*55.1*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-FD01-012209
Collection Date: 1/22/2009

Work Order: 0901442
Lab ID: 0901442-11
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	**1.6**	**J**	**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthene	**38**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	**1.5**	**J**	**1.2**	**5.0**	**µg/L**	1	1/27/2009
Dibenzofuran	**1.8**	**J**	**0.70**	**5.0**	**µg/L**	1	1/27/2009
Fluoranthene	**1.3**	**J**	**0.60**	**5.0**	**µg/L**	1	1/27/2009
Fluorene	**18**		**0.80**	**5.0**	**µg/L**	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*61.1*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*62.4*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*58.4*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*61.3*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*60.3*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*64.3*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-FD02-012209
Collection Date: 1/22/2009

Work Order: 0901442
Lab ID: 0901442-12
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Di-n-butyl phthalate	U		0.70	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenol	U		1.5	5.0	µg/L	1	1/27/2009
Pyrene	**1.2**	J	**0.90**	**5.0**	**µg/L**	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*54.2*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*54.7*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*50.5*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*53.9*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*53.0*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*53.3*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: *03-Feb-09*

Client: Pastor, Behling & Wheeler, LLC
Project: HWPW-SWMU 1 Jan. 09
Sample ID: WG-1620-FB01-012209
Collection Date: 1/22/2009 08:32 AM

Work Order: 0901442
Lab ID: 0901442-13
Matrix: WATER

Analyses	Result	Qual	SDL	MQL	Units	Dilution Factor	Date Analyzed
SEMIVOLATILES		Method: **SW8270**			Prep: SW3510 / 1/26/09		Analyst: **ACN**
2-Methylnaphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthene	U		0.80	5.0	µg/L	1	1/27/2009
Acenaphthylene	U		0.70	5.0	µg/L	1	1/27/2009
Anthracene	U		0.70	5.0	µg/L	1	1/27/2009
Bis(2-ethylhexyl)phthalate	U		1.2	5.0	µg/L	1	1/27/2009
Di-n-butyl phthalate	U		0.70	5.0	µg/L	1	1/27/2009
Dibenzofuran	U		0.70	5.0	µg/L	1	1/27/2009
Fluoranthene	U		0.60	5.0	µg/L	1	1/27/2009
Fluorene	U		0.80	5.0	µg/L	1	1/27/2009
Naphthalene	U		0.80	5.0	µg/L	1	1/27/2009
Phenanthrene	U		0.70	5.0	µg/L	1	1/27/2009
Phenol	U		1.5	5.0	µg/L	1	1/27/2009
Pyrene	U		0.90	5.0	µg/L	1	1/27/2009
Surr: 2,4,6-Tribromophenol	*52.2*			*42-124*	*%REC*	1	1/27/2009
Surr: 2-Fluorobiphenyl	*57.3*			*48-120*	*%REC*	1	1/27/2009
Surr: 2-Fluorophenol	*53.9*			*20-120*	*%REC*	1	1/27/2009
Surr: 4-Terphenyl-d14	*56.7*			*51-135*	*%REC*	1	1/27/2009
Surr: Nitrobenzene-d5	*55.2*			*41-120*	*%REC*	1	1/27/2009
Surr: Phenol-d6	*56.1*			*20-120*	*%REC*	1	1/27/2009

Qualifiers:

U - Analyzed for but Not Detected
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
a - Not accredited
S - Spike Recovery outside accepted recovery limits
P - Dual Column results RPD > 40%
E - Value above quantitation range
H - Analyzed outside of Hold Time
n - Not offered for accreditation

ALS Laboratory Group

Date: 03-Feb-09

WorkOrder: 0901442
Test Code: 8270_TCL_W
Test Number: SW8270
Test Name: Semivolatiles

METHOD DETECTION / REPORTING LIMITS

Matrix: Aqueous **Units:** µg/L

Type	Analyte	CAS	MDL	Unadjusted MQL
A	2-Methylnaphthalene	91-57-6	0.8	5
A	Acenaphthene	83-32-9	0.8	5
A	Acenaphthylene	208-96-8	0.7	5
A	Anthracene	120-12-7	0.7	5
A	Bis(2-ethylhexyl)phthalate	117-81-7	1.2	5
A	Di-n-butyl phthalate	84-74-2	0.7	5
A	Dibenzofuran	132-64-9	0.7	5
A	Fluoranthene	206-44-0	0.6	5
A	Fluorene	86-73-7	0.8	5
A	Naphthalene	91-20-3	0.8	5
A	Phenanthrene	85-01-8	0.7	5
A	Phenol	108-95-2	1.5	5
A	Pyrene	129-00-0	0.9	5
S	Surr: 2,4,6-Tribromophenol	118-79-6	0	5
S	Surr: 2-Fluorobiphenyl	321-60-8	0	5
S	Surr: 2-Fluorophenol	367-12-4	0	5
S	Surr: 4-Terphenyl-d14	1718-51-0	0	5
S	Surr: Nitrobenzene-d5	4165-60-0	0	5
S	Surr: Phenol-d6	13127-88-3	0	5

ALS Laboratory Group

Client: Pastor, Behling & Wheeler, LLC

Work Order: 0901442

Project: HWPW-SWMU 1 Jan. 09

Date: *03-Feb-09*

QC BATCH REPORT

Batch ID: **34161** Instrument ID **SV-3** Method: **SW8270**

MBLK Sample ID: **SBLKW1-090126-34161** Units: **µg/L** Analysis Date: **1/27/2009 10:30 AM**

Client ID: Run ID: **SV-3_090127A** SeqNo: **1589202** Prep Date: **1/26/2009** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	U	5.0								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Anthracene	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Di-n-butyl phthalate	U	5.0								
Dibenzofuran	U	5.0								
Fluoranthene	U	5.0								
Fluorene	U	5.0								
Naphthalene	U	5.0								
Phenanthrene	U	5.0								
Phenol	U	5.0								
Pyrene	U	5.0								
Surr: 2,4,6-Tribromophenol	*62.71*	5.0	*100*	0	*62.7*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*65.71*	5.0	*100*	0	*65.7*	*48-120*	0			
Surr: 2-Fluorophenol	*63.82*	5.0	*100*	0	*63.8*	*20-120*	0			
Surr: 4-Terphenyl-d14	*68.75*	5.0	*100*	0	*68.8*	*51-135*	0			
Surr: Nitrobenzene-d5	*59.99*	5.0	*100*	0	*60*	*41-120*	0			
Surr: Phenol-d6	*66.27*	5.0	*100*	0	*66.3*	*20-120*	0			

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

O - Referenced analyte value is > 4 times amount spiked

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

P - Dual Column results percent difference > 40%

B - Analyte detected in assoc. Method Blank

U - Analyzed for but not detected

E - Value above quantitation range

Client: Pastor, Behling & Wheeler, LLC
Work Order: 0901442
Project: HWPW-SWMU 1 Jan. 09

QC BATCH REPORT

Batch ID: **34161** Instrument ID **SV-3** Method: **SW8270**

LCS Sample ID: **SLCSW1-090126-34161** Units: **µg/L** Analysis Date: **1/27/2009 10:55 AM**

Client ID: Run ID: **SV-3_090127A** SeqNo: **1589203** Prep Date: **1/26/2009** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	32.92	5.0	50	0	65.8	55-120	0			
Acenaphthene	36.32	5.0	50	0	72.6	55-120	0			
Acenaphthylene	37.33	5.0	50	0	74.7	55-120	0			
Anthracene	35.05	5.0	50	0	70.1	55-120	0			
Bis(2-ethylhexyl)phthalate	36.28	5.0	50	0	72.6	50-125	0			
Di-n-butyl phthalate	35.97	5.0	50	0	71.9	55-120	0			
Dibenzofuran	35.85	5.0	50	0	71.7	55-120	0			
Fluoranthene	36.3	5.0	50	0	72.6	55-120	0			
Fluorene	36.96	5.0	50	0	73.9	55-120	0			
Naphthalene	35.46	5.0	50	0	70.9	55-120	0			
Phenanthrene	34.86	5.0	50	0	69.7	55-120	0			
Phenol	68.01	5.0	100	0	68	50-120	0			
Pyrene	36.77	5.0	50	0	73.5	55-120	0			
Surr: 2,4,6-Tribromophenol	*73.56*	5.0	*100*	0	*73.6*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*67.22*	5.0	*100*	0	*67.2*	*48-120*	0			
Surr: 2-Fluorophenol	*64.37*	5.0	*100*	0	*64.4*	*20-120*	0			
Surr: 4-Terphenyl-d14	*61.85*	5.0	*100*	0	*61.9*	*51-135*	0			
Surr: Nitrobenzene-d5	*64.43*	5.0	*100*	0	*64.4*	*41-120*	0			
Surr: Phenol-d6	*68.21*	5.0	*100*	0	*68.2*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Pastor, Behling & Wheeler, LLC
Work Order: 0901442
Project: HWPW-SWMU 1 Jan. 09

QC BATCH REPORT

Batch ID: **34161** Instrument ID **SV-3** Method: **SW8270**

MS Sample ID: **0901442-01AMS** Units: **µg/L** Analysis Date: **1/27/2009 01:57 PM**

Client ID: **WG-1620-MW01A-012209** Run ID: **SV-3_090127A** SeqNo: **1589209** Prep Date: **1/26/2009** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	37.64	5.0	50	6.852	61.6	55-120	0			
Acenaphthene	81.43	5.0	100	54.21	27.2	55-120	0			S
Acenaphthylene	33.24	5.0	50	0	66.5	55-120	0			
Anthracene	32.83	5.0	50	1.229	63.2	55-120	0			
Bis(2-ethylhexyl)phthalate	32.41	5.0	50	0	64.8	50-125	0			
Di-n-butyl phthalate	32.63	5.0	50	0	65.3	55-120	0			
Dibenzofuran	36.32	5.0	50	5.836	61	55-120	0			
Fluoranthene	34.46	5.0	50	2.383	64.2	55-120	0			
Fluorene	58.44	5.0	50	28.14	60.6	55-120	0			
Naphthalene	32.42	5.0	50	0	64.8	55-120	0			
Phenanthrene	31.62	5.0	50	1.047	61.1	55-120	0			
Phenol	67.03	5.0	100	0	67	50-120	0			
Pyrene	33.11	5.0	50	1.022	64.2	55-120	0			
Surr: 2,4,6-Tribromophenol	*67.93*	5.0	*100*	0	*67.9*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*60.39*	5.0	*100*	0	*60.4*	*48-120*	0			
Surr: 2-Fluorophenol	*63.4*	5.0	*100*	0	*63.4*	*20-120*	0			
Surr: 4-Terphenyl-d14	*57.49*	5.0	*100*	0	*57.5*	*51-135*	0			
Surr: Nitrobenzene-d5	*61.08*	5.0	*100*	0	*61.1*	*41-120*	0			
Surr: Phenol-d6	*66.43*	5.0	*100*	0	*66.4*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Pastor, Behling & Wheeler, LLC
Work Order: 0901442
Project: HWPW-SWMU 1 Jan. 09

QC BATCH REPORT

Batch ID: **34161** Instrument ID **SV-3** Method: **SW8270**

MS Sample ID: **0901442-10AMS** Units: **µg/L** Analysis Date: **1/27/2009 03:12 PM**

Client ID: **WG-1620-P12-012209** Run ID: **SV-3_090127A** SeqNo: **1589212** Prep Date: **1/26/2009** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	29.32	5.0	50	0	58.6	55-120	0			
Acenaphthene	31.91	5.0	50	0	63.8	55-120	0			
Acenaphthylene	31.58	5.0	50	0	63.2	55-120	0			
Anthracene	32.71	5.0	50	0	65.4	55-120	0			
Bis(2-ethylhexyl)phthalate	32.24	5.0	50	0	64.5	50-125	0			
Di-n-butyl phthalate	31.89	5.0	50	0	63.8	55-120	0			
Dibenzofuran	31.14	5.0	50	0	62.3	55-120	0			
Fluoranthene	31.13	5.0	50	0	62.3	55-120	0			
Fluorene	30.88	5.0	50	0	61.8	55-120	0			
Naphthalene	31.57	5.0	50	0	63.1	55-120	0			
Phenanthrene	31.41	5.0	50	0	62.8	55-120	0			
Phenol	61.89	5.0	100	0	61.9	50-120	0			
Pyrene	36.69	5.0	50	2.649	68.1	55-120	0			
Surr: 2,4,6-Tribromophenol	*62.11*	5.0	*100*	0	*62.1*	*42-124*	0			
Surr: 2-Fluorobiphenyl	*59.95*	5.0	*100*	0	*59.9*	*48-120*	0			
Surr: 2-Fluorophenol	*62.63*	5.0	*100*	0	*62.6*	*20-120*	0			
Surr: 4-Terphenyl-d14	*57.89*	5.0	*100*	0	*57.9*	*51-135*	0			
Surr: Nitrobenzene-d5	*58.46*	5.0	*100*	0	*58.5*	*41-120*	0			
Surr: Phenol-d6	*63.94*	5.0	*100*	0	*63.9*	*20-120*	0			

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
O - Referenced analyte value is > 4 times amount spiked
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Pastor, Behling & Wheeler, LLC
Work Order: 0901442
Project: HWPW-SWMU 1 Jan. 09

QC BATCH REPORT

Batch ID: **34161** Instrument ID **SV-3** Method: **SW8270**

MSD Sample ID: **0901442-01AMSD** Units: **µg/L** Analysis Date: **1/27/2009 02:22 PM**

Client ID: **WG-1620-MW01A-012209** Run ID: **SV-3_090127A** SeqNo: **1589211** Prep Date: **1/26/2009** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	38.96	5.0	50	6.852	64.2	55-120	37.64	3.45	20	
Acenaphthene	90.25	5.0	50	54.21	72.1	55-120	81.43	10.3	20	
Acenaphthylene	34.74	5.0	50	0	69.5	55-120	33.24	4.42	20	
Anthracene	31.25	5.0	50	1.229	60	55-120	32.83	4.94	20	
Bis(2-ethylhexyl)phthalate	30.96	5.0	50	0	61.9	50-125	32.41	4.58	20	
Di-n-butyl phthalate	31.44	5.0	50	0	62.9	55-120	32.63	3.72	20	
Dibenzofuran	39.69	5.0	50	5.836	67.7	55-120	36.32	8.85	20	
Fluoranthene	34.22	5.0	50	2.383	63.7	55-120	34.46	0.712	20	
Fluorene	63.85	5.0	50	28.14	71.4	55-120	58.44	8.86	20	
Naphthalene	33.32	5.0	50	0	66.6	55-120	32.42	2.72	20	
Phenanthrene	31.4	5.0	50	1.047	60.7	55-120	31.62	0.716	20	
Phenol	66.2	5.0	100	0	66.2	50-120	67.03	1.25	20	
Pyrene	33.34	5.0	50	1.022	64.6	55-120	33.11	0.691	20	
Surr: 2,4,6-Tribromophenol	*67.44*	5.0	*100*	0	*67.4*	*42-124*	67.93	*0.724*	*20*	
Surr: 2-Fluorobiphenyl	*61.56*	5.0	*100*	0	*61.6*	*48-120*	60.39	*1.91*	*20*	
Surr: 2-Fluorophenol	*63.41*	5.0	*100*	0	*63.4*	*20-120*	63.4	*0.027*	*20*	
Surr: 4-Terphenyl-d14	*53.99*	5.0	*100*	0	*54*	*51-135*	57.49	*6.28*	*20*	
Surr: Nitrobenzene-d5	*61.78*	5.0	*100*	0	*61.8*	*41-120*	61.08	*1.14*	*20*	
Surr: Phenol-d6	*66.14*	5.0	*100*	0	*66.1*	*20-120*	66.43	*0.44*	*20*	

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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

Client: Pastor, Behling & Wheeler, LLC
Work Order: 0901442
Project: HWPW-SWMU 1 Jan. 09

QC BATCH REPORT

Batch ID: **34161** Instrument ID **SV-3** Method: **SW8270**

MSD Sample ID: **0901442-10AMSD** Units: **µg/L** Analysis Date: **1/27/2009 03:37 PM**

Client ID: **WG-1620-P12-012209** Run ID: **SV-3_090127A** SeqNo: **1589213** Prep Date: **1/26/2009** DF: **1**

Analyte	Result	MQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
2-Methylnaphthalene	32.47	5.0	50	0	64.9	55-120	29.32	10.2	20	
Acenaphthene	33.97	5.0	50	0	67.9	55-120	31.91	6.26	20	
Acenaphthylene	35.98	5.0	50	0	72	55-120	31.58	13	20	
Anthracene	33.51	5.0	50	0	67	55-120	32.71	2.41	20	
Bis(2-ethylhexyl)phthalate	32.4	5.0	50	0	64.8	50-125	32.24	0.473	20	
Di-n-butyl phthalate	34.3	5.0	50	0	68.6	55-120	31.89	7.26	20	
Dibenzofuran	33.74	5.0	50	0	67.5	55-120	31.14	8.02	20	
Fluoranthene	34.28	5.0	50	0	68.6	55-120	31.13	9.63	20	
Fluorene	36.22	5.0	50	0	72.4	55-120	30.88	15.9	20	
Naphthalene	36.04	5.0	50	0	72.1	55-120	31.57	13.2	20	
Phenanthrene	34.31	5.0	50	0	68.6	55-120	31.41	8.83	20	
Phenol	64.54	5.0	100	0	64.5	50-120	61.89	4.19	20	
Pyrene	38.69	5.0	50	2.649	72.1	55-120	36.69	5.31	20	
Surr: 2,4,6-Tribromophenol	*65.74*	5.0	*100*	0	*65.7*	*42-124*	62.11	*5.69*	*20*	
Surr: 2-Fluorobiphenyl	*59.7*	5.0	*100*	0	*59.7*	*48-120*	59.95	*0.417*	*20*	
Surr: 2-Fluorophenol	*58.23*	5.0	*100*	0	*58.2*	*20-120*	62.63	*7.28*	*20*	
Surr: 4-Terphenyl-d14	*56.29*	5.0	*100*	0	*56.3*	*51-135*	57.89	*2.8*	*20*	
Surr: Nitrobenzene-d5	*59.6*	5.0	*100*	0	*59.6*	*41-120*	58.46	*1.93*	*20*	
Surr: Phenol-d6	*62.33*	5.0	*100*	0	*62.3*	*20-120*	63.94	*2.55*	*20*	

The following samples were analyzed in this batch:

0901442-01A	0901442-02A	0901442-03A
0901442-04A	0901442-05A	0901442-06A
0901442-07A	0901442-08A	0901442-09A
0901442-10A	0901442-11A	0901442-12A
0901442-13A		

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O - Referenced analyte value is > 4 times amount spiked
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R - RPD outside accepted recovery limits
P - Dual Column results percent difference > 40%
B - Analyte detected in assoc. Method Blank
U - Analyzed for but not detected
E - Value above quantitation range

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Chain of Custody Form

ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager: | ALS Work Order #: 840 [illegible]

Customer Information

Purchase Order	
Work Order	
Company Name	Pastor, Behling & Wheeler, LLC
Send Report To	Eric Matzner
Address	2201 Double Creek Drive Suite 4004
City/State/Zip	Round Rock, TX 78664
Phone	(512) 671-3434
Fax	(512) 671-3446
e-Mail Address	

Project Information

Project Name	HWPW-SWMU 1 Jan 09
Project Number	1620-01-Rev 0
Bill To Company	Union Pacific Railroad
Invoice Attn	
Address	1400 Douglas Street Stop 0750
City/State/Zip	Omaha, NE 681790750
Phone	
Fax	
e-Mail Address	

Parameter/Method Request for Analysis

A	SVOC (8270) ATZ & BTZ
B	SVOC (8270) ATZ Only
C	SVOC (8270) BTZ Only
D	
E	
F	
G	
H	
J	

	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	J	Hold
1	WG-1620-MW01A- 012209	1/22/09	1227	Water	NONE	2		X								☐
2	WG-1620-MW02- 012209	1/22/09	1155	Water	NONE	2		X								☐
3	WG-1620-MW07- 012209	1/22/09	1311	Water	NONE	2		X								☐
4	WG-1620-MW08- 012209	1/22/09	1407	Water	NONE	2		X								☐
5	WG-1620-MW10A- 012209	1/22/09	1051	Water	NONE	2		X								☐
6	WG-1620-MW10B- 012209	1/22/09	1125	Water	NONE	2			X							☐
7	WG-1620-MW11A- 012209	1/22/09	0947	Water	NONE	2		X								☐
8	WG-1620-MW11B- 012209	1/22/09	1016	Water	NONE	2			X							☐
9	WG-1620-P10- 012209	1/22/09	1336	Water	NONE	2			X							☐
10	WG-1620-P12- 012209	1/22/09	1435	Water	NONE	2			X							☐

Sampler(s) Please Print & Sign: Patrick Naff

Shipment Method:

Required Turnaround Time: (Check Box) ☐ Other ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☑ Std 10 WK Days

Results Due Date:

Notes: 10 Work Day TAT. 1-23-09

	Date	Time	
Relinquished by:	1/22/09	1615	Received by: 0840
Relinquished by:	1-23-09	1040	Received by (Laboratory):
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Cooler ID | Cooler Temp

QC Package: (Check One Box Below)
- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other _____
- ☑ TRRP CheckList
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

ALS Laboratory Group
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
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Chain of Custody Form

ALS Laboratory Group
3352 128th Ave.
Holland, MI 49424-9263
Tel: +1 616 399 6070
Fax: +1 616 399 6185

ALS Project Manager:

ALS Work Order #: 0901410

Customer Information

Purchase Order	
Work Order	
Company Name	Pastor Behling & Wheeler, LLC
Send Report To	Eric Matzner
Address	2201 Double Creek Drive Suite 4004
City/State/Zip	RoundRock, TX 78664
Phone	(512) 671-3434
Fax	(512) 671-3446
e-Mail Address	

Project Information

Project Name	HWPW-SWMU 1 Jan 09
Project Number	1620-01-Rev 0
Bill To Company	Union Pacific Railroad
Invoice Attn	
Address	1400 Douglas Street Stop 0750
City/State/Zip	Omaha, NE 681790750
Phone	
Fax	
e-Mail Address	

Parameter/Method Request for Analysis

A	SVOC (8270) ATZ & BTZ
B	SVOC (8270) ATZ Only
C	SVOC (8270) BTZ Only
D	
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	WG-1620-FD01- 012209	1/22/09	—	Water	NONE	2		X									☐
2	WG-1620-FD02- 012209	1/22/09	—	Water					X								☐
3	WG-1620-MW01A- 012209 MS	1/22/09	1227	Water	NONE	2		X									☐
4	WG-1620-MW01A- 012209 MSD	1/22/09	1227	Water	NONE	2		X									☐
5	WG-1620-P12- 012209 MS	1/22/09	1435	Water	NONE	2			X								☐
6	WG-1620-P12- 012209 MSD	1/22/09	1435	Water	NONE	2			X								☐
7	WG-1620-FB01- 012209	1/22/09	0832	Water	None	2	X										☐
8				Water													☐
9				Water													☐
10																	

Sampler(s) Please Print & Sign: Patrick Mackey

Shipment Method

Required Turnaround Time: (Check Box) ☐ 1 WK Days ☑ Std 10 WK Days ☐ 2 WK Days ☐ Other ☐ 24 Hour

Results Due Date:

Relinquished by: Date: 1/22/09 Time: 1615 Received by: 0840

Relinquished by: Date: 1-23-09 Time: 1040 Received by (Laboratory):

Notes: 10 Work Day TAT. 1-23-09

Logged by (Laboratory): Date: Time: Checked by (Laboratory): Date:

Cooler ID: Cooler Temp:

QC Package: (Check One Box Below)

- ☐ Level II Std QC
- ☐ Level III Std QC/Raw Data
- ☐ Level IV SW846/CLP
- ☐ Other
- ☑ TRRP CheckList
- ☐ TRRP Level IV

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.

ALS Laboratory Group

Sample Receipt Checklist

Client Name: PBW

Date/Time Received: 1/23/2009 08:40

Work Order Number 0901442

Received by: PS

Checklist completed by _____ 1/23/09 (Signature / Date)

Reviewed by _____ 1/26/09 (Initials / Date)

Matrix: waters

Carrier name: ALS.HS

Shipping container/cooler in good condition?	Yes ✓	No	Not Present
Custody seals intact on shipping container/cooler?	Yes ✓	No	Not Present
Custody seals intact on sample bottles?	Yes	No	Not Present ✓
Chain of custody present?	Yes ✓	No	
Chain of custody signed when relinquished and received?	Yes ✓	No	
Chain of custody agrees with sample labels?	Yes ✓	No	
Samples in proper container/bottle?	Yes ✓	No	
Sample containers intact?	Yes ✓	No	
Sufficient sample volume for indicated test?	Yes ✓	No	
All samples received within holding time?	Yes ✓	No	
Container/Temp Blank temperature in compliance?	Yes ✓	No	
Temperature(s)/Thermometer(s):	2.6c,2.7c,1.4c	002	
Cooler(s)/Kit(s):	1829,2449,1888		
Water - VOA vials have zero headspace?	Yes	No	No VOA vials submitted ✓
Water - pH acceptable upon receipt?	Yes ✓	No	N/A

Adjusted? Checked by

Login Notes:

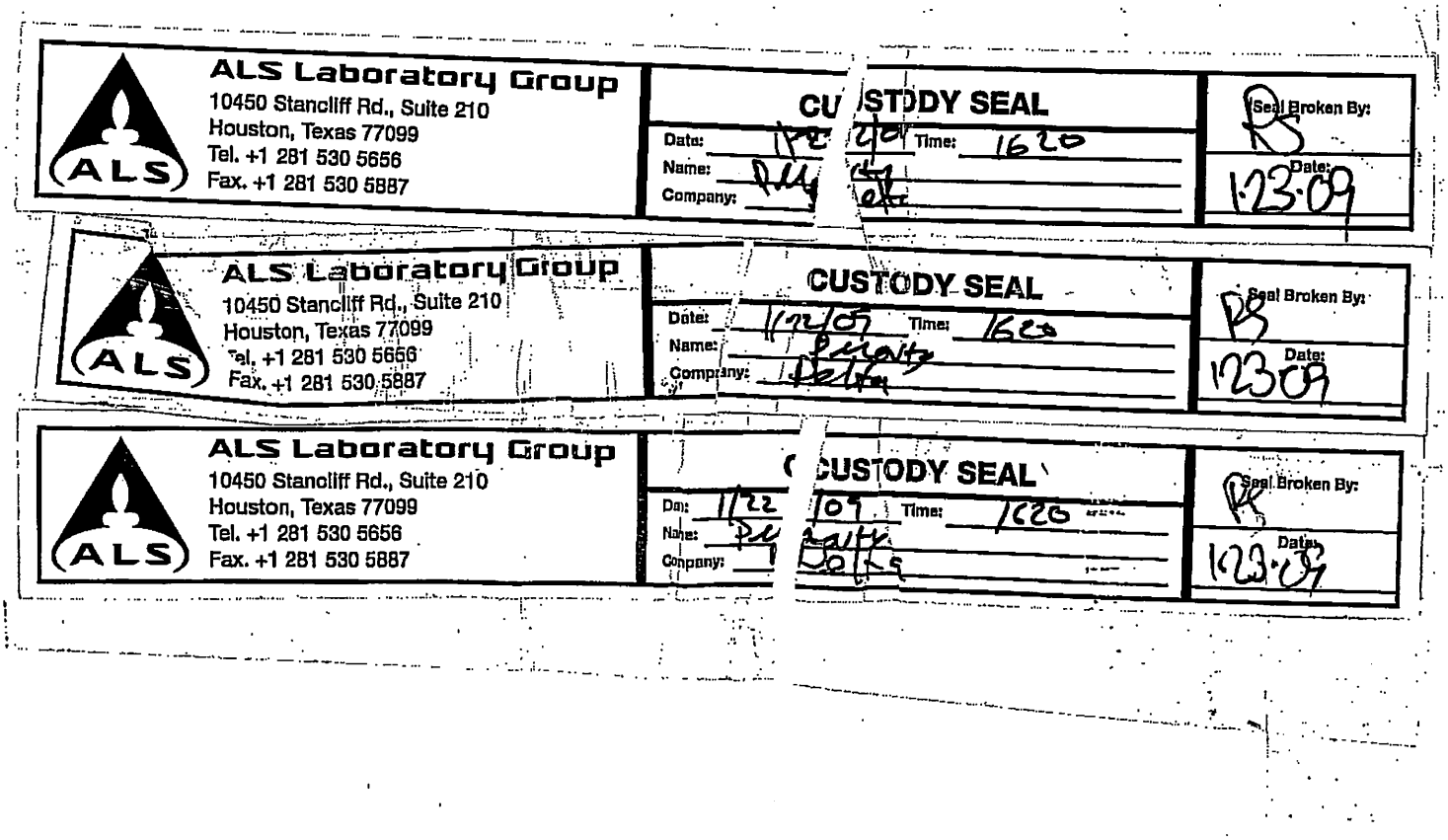
Client contacted: Date contacted: Person contacted

Contacted by: Regarding:

Comments:

Corrective Action

U401492



ALS Laboratory Group
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CUSTODY SEAL
Date: 1/22/09 Time: 1620
Name: [illegible]
Company: [illegible]

Seal Broken By: RB
Date: 1-23-09

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CUSTODY SEAL
Date: 1/22/09 Time: 1620
Name: [illegible]
Company: [illegible]

Seal Broken By: RB
Date: 1-23-09

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Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL
Date: 1/22/09 Time: 1620
Name: [illegible]
Company: [illegible]

Seal Broken By: RB
Date: 1-23-09

DATA USABILITY SUMMARY

SITE:	Union Pacific Railroad Company (UPRR) Houston Wood Preserving Works Houston, Texas (PBW Project No. 1358)
UPRR SITE ID:	Houston, TX – Wood Preserving Works (99000484-HWPW)
CLIENT:	Pastor, Behling & Wheeler, LLC (PBW)
EVENT:	Semi-Annual Compliance Monitoring – January 2009 (1H09)
INTENDED USE:	Ten groundwater samples from background and compliance wells were collected during a semi-annual monitoring event from the closed surface impoundment SWMU No. 1. The analytical data will be used to monitor chemicals of concern (COCs) in the groundwater that have been identified during past investigations and to evaluate whether migration of COCs could result in a risk to human or ecological health.
LABORATORY:	ALS Laboratory Group Houston, Texas
CERTIFICATION:	T104704231-08-TX
WORK ORDERS:	0901442
TESTS/ METHODS:	Semivolatile Organics (SVOC) SW-846 3510C/ 8270C
SAMPLES(1):	10 groundwater samples, 2 field duplicates, 2 matrix spike/matrix spike duplicate pairs, 1 field blank

(1) See Table 1 for a complete listing of samples.

QAA completed a third-party review of the above chemical analysis data for conformance with the requirements of the Texas Risk Reduction Program (TRRP) guidance document, *Review and Reporting of COC Concentration Data* (RGG-366/TRRP-13) and adherence to project objectives. The results of the review are discussed in this Data Usability Summary (DUS).

All samples collected during the event were included in the review. QAA completed the review using the following laboratory submittals and project data:

- the laboratory reportable data as defined in TRRP-13;
- the Laboratory Review Checklists (LRCs) and associated exception reports;
- the laboratory Electronic Data Deliverables (EDDs), which are spreadsheets containing results for all investigative and field QC samples; and
- the field notes on sampling activities.

The review of the reportable data included the Quality Control (QC) parameters listed below, as required per TRRP-13, using the applicable analytical method and project requirements:

- Chain-of-Custody Procedures
- Sample Condition - Holding Time, Preservation, and Containers
- Field Procedures
- Results Reporting Procedures
- Laboratory and Field Blanks
- Laboratory Control Spike and Matrix Spike Recoveries
- Surrogate Recoveries
- Laboratory, Matrix, and Field Duplicate Precision

Additionally, QAA used the LRCs to evaluate the following QC parameters:

- Method Quantitation Limits (MQLs)
- Method Detection Limits (MDLs)
- Instrument Tuning, Calibration and Performance
- Internal Standards

No project specific criteria have been specified for this site and thus the reviewer selected appropriate criteria as follows:

- Organics: 60-140% spike recovery (but not less than 10%) and ± MQL difference or 40% RPD (for laboratory duplicates) as recommended in TRRP-13
- Aqueous Samples: ± 2x MQL difference or 30% RPD (for field duplicates)

The results of the review are summarized in Table 2, which lists all of the qualified results for investigative samples.

USABILITY SUMMARY

1. Usability Of Unqualified Non-Detects – For all tests, non-detects are reported with the Sample Detection Limit (SDL) as required per TRRP. Additionally, according to the LRC, an MDL study was performed for each target analyte and the MDLs were checked for reasonableness. The Levels of Required Performance (LORPs) for the site have been defined by PBW as the Tier 1 Protective Concentration Levels (PCLs), $^{GW}GW_{Ing}$, for residential land use. As needed per TRRP, the Unadjusted MQL stated by the laboratory is at or below the LORP for each target analyte, and thus the results can be used to demonstrate conformance with critical PCLs.

2. Usability Of Qualified Data – There are no major QC deficiencies and thus all data is usable for the intended use. Data for various analytes is qualified as estimated (J) due to minor QC deficiencies (see Table 2), primarily because the concentration is between the SDL and MQL. Results for Acenaphthene in MW01A and its field duplicate (FD01) are qualified as estimated (J) due to poor precision for the field duplicate pair. For a conservative approach, the higher result (from the original sample) should be used.

QAA Reviewer: Taryn G. Scholz (Name) 3/13/2009 (Date)

QC PARAMETER	QC OUTCOME
Chain-of-Custody	Proper sample custody procedures were followed. This confirms that the integrity of the samples was maintained.
Sample Condition	Samples were collected in appropriate containers, properly preserved in the field, and prepared and analyzed within the holding times as required in the analytical methods, which ensures that the samples were not affected by analyte degradation.
Field Procedures	Wells were inspected and gauged and then purged and sampled using a low-flow technique (0.1 liters per minute) and dedicated tubing. Field instruments were calibrated daily. All samples were immediately put on ice and kept on ice until delivered to the laboratory. Two field duplicates (one for each transmissive zone), two MS/MSD pairs (one for each transmissive zone), and one field blank (one for each day of sampling) were collected with the ten investigative samples. Readings for pH, temperature, turbidity, dissolved oxygen, and specific conductivity were recorded and wells were purged until the well conditions stabilized (i.e., no parameter measurement varied by more than 10% between two consecutive readings).
Results Reporting	The hardcopy analytical results include a Result, SDL, and MQL (which is adjusted for sample-specific actions such as dilution or use of a smaller sample aliquot) and are reported in ug/L. Results for non-detects are reported as 'U' and should be considered not present at or above the SDL per TRRP. In the EDD, the SDL is reported under 'quantitation_limt' and the MQL is reported under 'reporting_detection_limt'. The EDD also includes the MDL (reported under ' method_detection_limit') and the unadjusted MQL (reported under 'MQL'). Detects between the SDL and MQL are reported as required per TRRP and include a J-flag to indicate that the concentration is estimated. The DUQ includes a flag for the concentration being below the MQL plus any other QC deficiencies. No samples required dilution, and thus there are no elevated reporting limits for non-detects.
MQLs	The LORPs for the site are defined as the Tier 1 Protective Concentration Levels (PCLs) for residential land use and a Class 2 groundwater resource (i.e., the $^{GW}GW_{Ing}$ in TCEQ Table 3 dated April 23, 2008). For each target analyte, the unadjusted MQL is at or below the LORP.
MDLs	According to the LRC, an MDL study was performed for each target analyte, and the MDLs were checked for reasonableness and either adjusted or supported by the analysis of Detectability Check Standards (DCSs) as required per TRRP-13.
Laboratory Blanks	The laboratory blanks do not contain any target analytes above the detection limit, which confirms that no contamination was introduced in the laboratory.
Field Blanks	The field blank does not contain any target analytes above the detection limit, which confirms that no contamination was introduced in the field.
Laboratory Control Spike Recovery	The laboratory prepared one Laboratory Control Spike (LCS) with each analytical batch and reported recoveries for all target analytes. All recoveries are within the TRRP recommended limits, which indicates good accuracy for the preparation and analysis technique on a sample free of matrix effects.

QC PARAMETER	QC OUTCOME
Matrix Spike Recovery	The laboratory prepared two Matrix Spike (MS) and Matrix Spike Duplicate (MSD) pairs using a sample from the site as indicated on the custody record (MW01A and P12), and reported recoveries for all target analytes. All of the average recoveries are within the TRRP recommended limits, which indicates good accuracy for the preparation/ analysis technique on this particular sample matrix.
Surrogate Recovery	The laboratory added multiple surrogates to each sample. All recoveries are within the laboratory limits, which indicates the accuracy of the preparation and analysis technique is acceptable for each particular sample.
Laboratory Duplicate Precision	The laboratory did not prepare Laboratory Control Spike Duplicates (LCSD) as they are not required per the analytical methods or TRRP. The reviewer used the matrix and field duplicates to assess precision.
Matrix Duplicate Precision	For the MSD, all of the RPDs are within the TRRP recommended limits, which indicates good precision for the preparation/ analysis technique on this particular sample matrix.
Field Duplicate Precision	Two field duplicate pairs were collected with the ten investigative samples. RPDs (or the difference between results for concentrations <5x MQL and non-detects) are within the TRRP criteria, except as follows:

Sample Date	Original Sample ID	Analyte	FD RPD
1/22/09	WG-1620-MW01A-012209	Acenaphthene	35

The criteria are met for all target analytes for one pair and for all but one target analyte for the second pair. Thus, there is no indication of a widespread field precision problem and the reviewer only qualified the original sample and field duplicate (FD01). Results for this analyte were qualified as estimated (J) and, for a conservative approach, the higher result (from the original sample) should be used.

GCMS Tuning	According to the LRCs, tuning data met the criteria for ion abundance in the analytical method.
Instrument Calibration	According to the LRC, initial and continuing calibration data met method requirements. This indicates the instruments were properly calibrated to measure target analyte concentrations.
Internal Standards	According to the LRCs, the internal standard (IS) area counts and retention times were within method requirements.

TABLE 1
HOUSTON, TX – WOOD PRESERVING WORKS
SEMI-ANNUAL COMPLIANCE MONITORING – JANUARY 2009

SAMPLES COLLECTED

LAB ID	SAMPLE ID	SAMPLE TYPE	SAMPLE DATE	SAMPLE MATRIX	TESTS	SVOC QC BATCH
0901442-01	WG-1620-MW01A-012209	N(1)	1/22/09	W	SVOC (A)	34161
0901442-02	WG-1620-MW02-012209	N	1/22/09	W	SVOC (A)	34161
0901442-03	WG-1620-MW07-012209	N	1/22/09	W	SVOC (A)	34161
0901442-04	WG-1620-MW08-012209	N	1/22/09	W	SVOC (A)	34161
0901442-05	WG-1620-MW10A-012209	N	1/22/09	W	SVOC (A)	34161
0901442-06	WG-1620-MW10B-012209	N	1/22/09	W	SVOC (B)	34161
0901442-07	WG-1620-MW11A-012209	N	1/22/09	W	SVOC (A)	34161
0901442-08	WG-1620-MW11B-012209	N	1/22/09	W	SVOC (B)	34161
0901442-09	WG-1620-P10-012209	N	1/22/09	W	SVOC (B)	34161
0901442-10	WG-1620-P12-012209	N(1)	1/22/09	W	SVOC (B)	34161
0901442-11	WG-1620-FD01-012209	FD	1/22/09	W	SVOC (A)	34161
0901442-12	WG-1620-FD02-012209	FD	1/22/09	W	SVOC (B)	34161
0901442-13	WG-1620-FB01-012209	FB	1/22/09	W	SVOC (A&B)	34161

(1) Matrix spike/matrix spike duplicate (MS/MSD) pair collected at this location

N – Investigative sample
FB – Field blank
FD – Field duplicate

Field Duplicate ID	Sample ID
WG-1620-FD01-012209	WG-1620-MW01A-012209
WG-1620-FD02-012209	WG-1620-P12-012209

TARGET ANALYTES

Semivolatile Organics (SVOC) A-Transmissive Zone (A list)	Semivolatile Organics (SVOC) B-Transmissive Zone (B list)
2-Methylnaphthalene	Acenaphthene
Acenaphthene	Acenaphthylene
Acenaphthylene	Anthracene
Anthracene	bis(2-Ethylhexyl)phthalate
bis(2-Ethylhexyl)phthalate	Dibenzofuran
Dibenzofuran	Di-n-butyl Phthalate
Fluoranthene	Fluoranthene
Fluorene	Fluorene
Naphthalene	Naphthalene
Phenanthrene	Phenol
Pyrene	Pyrene

TABLE 2

HOUSTON, TX – WOOD PRESERVING WORKS

SEMI-ANNUAL COMPLIANCE MONITORING – JANUARY 2009

QUALIFIED SAMPLE RESULTS

LAB ID	SAMPLE ID	ANALYTE	DUQ	REASON
0901442-01A	WG-1620-MW01A-012209	Acenaphthene	J	Poor precision (35 RPD) for field duplicate pair collected at this location
		Anthracene	J	Result is between SDL and MQL
		Fluoranthene	J	Result is between SDL and MQL
		Phenanthrene	J	Result is between SDL and MQL
		Pyrene	J	Result is between SDL and MQL
0901442-02A	WG-1620-MW02-012209	Fluorene	J	Result is between SDL and MQL
0901442-06A	WG-1620-MW10B-012209	Anthracene	J	Result is between SDL and MQL
		Fluoranthene	J	Result is between SDL and MQL
		Naphthalene	J	Result is between SDL and MQL
		Pyrene	J	Result is between SDL and MQL
0901442-07A	WG-1620-MW11A-012209	Fluoranthene	J	Result is between SDL and MQL
0901442-08A	WG-1620-MW11B-012209	Anthracene	J	Result is between SDL and MQL
		Fluoranthene	J	Result is between SDL and MQL
0901442-11A	WG-1620-FD01-012209	2-Methylnaphthalene	J	Result is between SDL and MQL
		Acenaphthene	J	Poor precision (35 RPD) for field duplicate pair collected at this location
		Bis(2-ethylhexyl)phthalate	J	Result is between SDL and MQL
		Dibenzofuran	J	Result is between SDL and MQL
		Fluoranthene	J	Result is between SDL and MQL
0901442-12A	WG-1620-FD02-012209	Pyrene	J	Result is between SDL and MQL

U – Blank affected; The analyte was not detected above 5x (10x for common contaminants) the level in an associated blank.

UJ – Estimated data; The analyte was not detected above the reported sample detection limit (SDL) however, the SDL is approximate due to exceedance of one or more QC requirements.

J – Estimated data; The reported sample concentration is approximate due to exceedance of one or more QC requirements.

R – Rejected data; Serious QC deficiencies make it impossible to verify the absence or presence of this analyte.

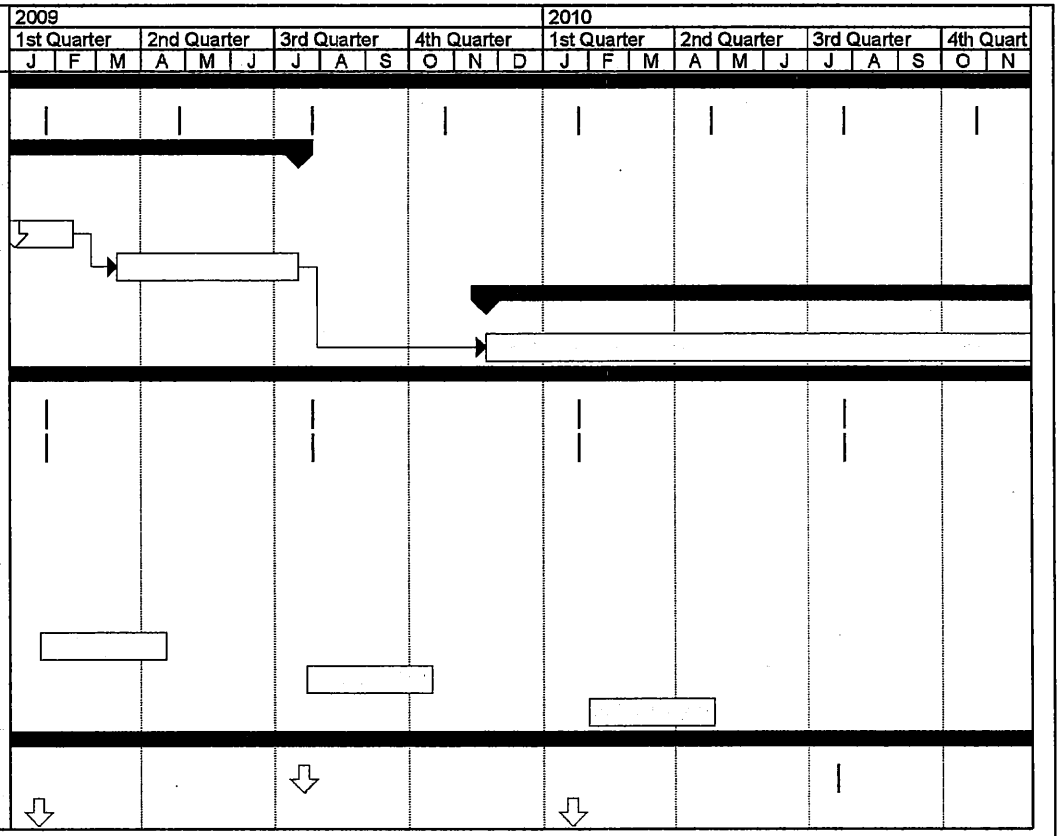
H – Bias in sample result is likely to be high

L – Bias in sample result is likely to be low

NOTE: For multiple deficiencies, the reviewer applied the most severe flag. (R>U>J>JL/JH and R>UJ>UJL)

APPENDIX D
UPDATED COMPLIANCE SCHEDULE

ID	Task Name/Permit or CP Section No.
1	**Facility Management**
2	General Inspection Requirements (quaterly) [Permit Section III.D; Table III.D]
26	**Addendum to the Affected Property Assessment Report (APAR) [Permit Section IX.A; CP Section VIII.D]**
27	Field Investigation Activities
28	Addition Delineation Field Investigation (Groundwater/Soil)
29	Prepare and Submit Addendum to the APAR
30	**Corrective Measures Implementation (CMI)/Response Action Plan (RAP) [CP Section VIII.F]**
31	Prepare and Submit Response Action Plan (RAP)
32	**Ground-Water Monitoring Program [Permit Section VI.A.; CP Section VI.]**
33	Water Level Measurements (Semiannually) [CP Section VI.C.4.a]1
46	Monitoring Well Inspections (Semiannually) [CP Section VI.C.4.a]1
69	Ground Water Sampling and Data Evaluation (2nd 2006 Semiannual) [CP Setion VI.C.2]
70	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
71	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
72	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
73	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
74	Ground Water Sampling and Data Evaluation (1st Semiannual) [CP Setion VI.C.2]
75	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
76	Ground Water Sampling and Data Evaluation (2nd Semiannual) [CP Setion VI.C.2]
77	**Response and Reporting [Permit Section II.B.7; CP Section VII.)**
78	First Semi-Annual GW Monitoring Report - July 21 [CP Section VII.C.2]
85	Second Semi-Annual GW Monitoring Report - January 21 [CP Section VII.C.2]



Compliance Schedule
UPRR Houston Wood Preserving Works Site
Houston, Texas

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