T / F IHW 31547 CO RP

WWC COMM # 11033664

PROJ. MGR. M. Arthur

Management

15810 Park Ten Place
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Houston, Texas 77084
(281) 600-1000
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ERM

July 18, 2005

Dr. Ata-ur Rahman
Permits Section
Industrial and Hazardous Waste Division
Texas Commission on Environmental Quality
12100 Park 35 Circle, MC 130
Austin, Texas 78753

Subject: Transmittal of the Semiannual Monitoring Report: First Semiannual Event 2005
Houston Wood Preserving Works, Houston, Texas 31547

Dear Dr. Rahman:

On behalf of Union Pacific Railroad (UPRR), two copies of the referenced report are enclosed pursuant to the requirements of Section VII.B.2 of Compliance Plan No. CP-50343, issued in conjunction with Post-Closure Care Permit No. HW-50343-000.

Please call me at (281) 600-1000 if you have any questions regarding the enclosed report.

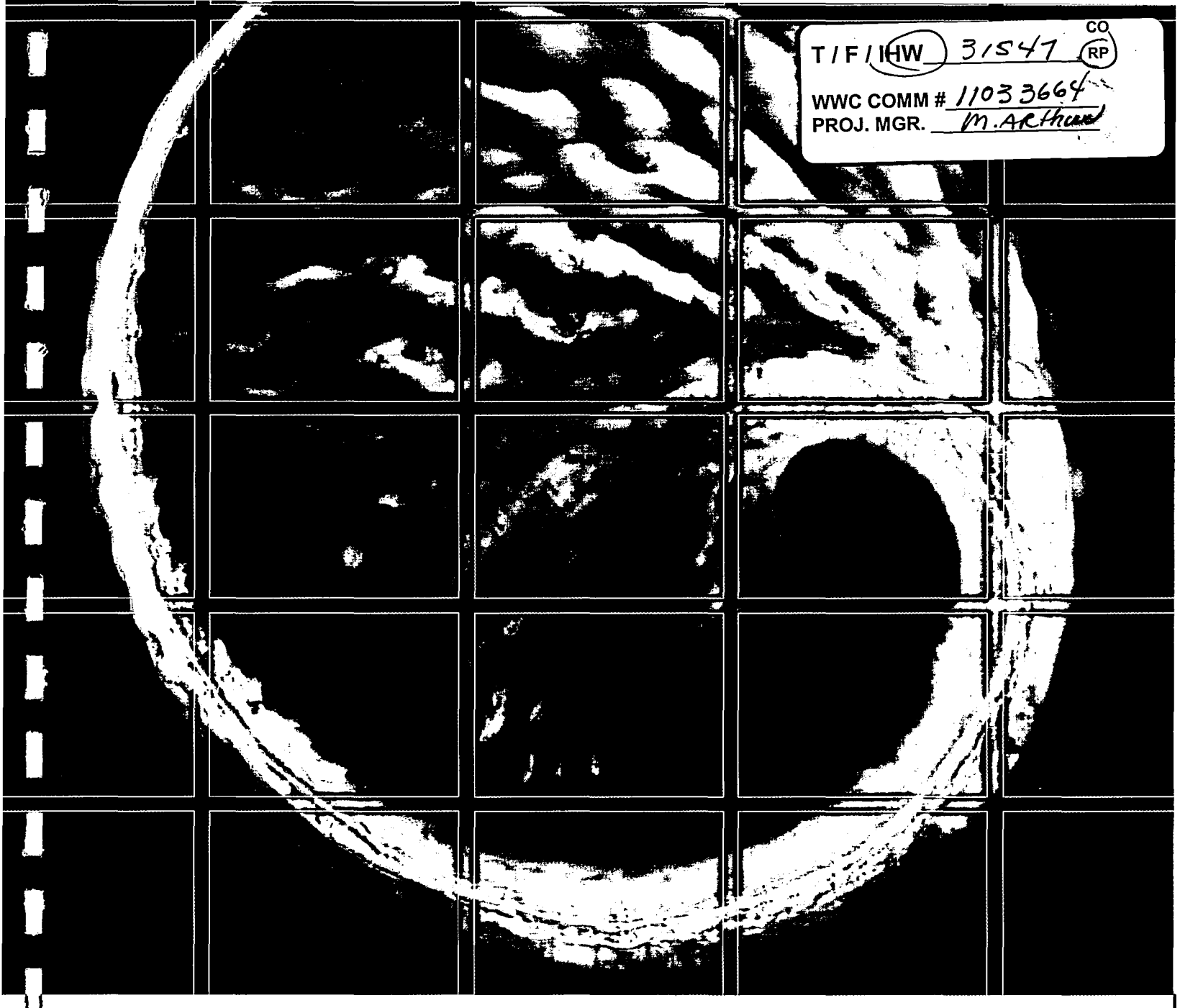
Sincerely,

Environmental Resources Management

Christopher M. Young, P.G.

CMY/fr
Enclosures

cc: Mark Arthur, TCEQ-Austin
Marsha Hill, TCEQ Region 12 – Houston
Geoffrey B. Reeder, Union Pacific Railroad



T / F / IHW 31547 CO RP

WWC COMM # 11033664

PROJ. MGR. M. Arthur

Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works
Houston, Texas

Union Pacific Railroad Company

Received
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Remediation Division
Corrective Action Section

July 18, 2005

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Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works

Houston, Texas

July 18, 2005

Project No. 0014419

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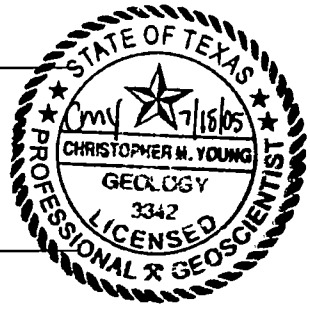

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1.0 INTRODUCTION

Routine semiannual ground water monitoring is required as a condition of the Compliance Plan (CP) for the former Houston Wood Preserving Works (HWPW) site, located at 4910 Liberty Road, Houston, Texas (Figure 1-1). These activities are performed to monitor ground water quality beneath a closed surface impoundment (Texas Natural Resource Conservation Commission [TNRCC] Permit Unit No. II.B.1). The new CP and Permit were issued June 10, 2005; however, the work was completed under the old permit.

The surface impoundment was described in RCRA Permit No. HW-50343-000 and associated Compliance Plan (CP-50343), both issued by the TNRCC; [now referred to as the Texas Commission on Environmental Quality (TCEQ)]. The sampling event, analytical data, and this data evaluation report represent the first half of 2005 and fulfill the semiannual reporting requirements described in the CP, Section VII.B.2.

On February 28, March 1, 3, and 4, 2005, Environmental Resources Management (ERM) conducted ground water sampling activities at the site. These activities included sampling the on-site wells and piezometers associated with the surface impoundment.

Section VII.B.2 of the CP describes the technical information to be provided in each semiannual report. Those requirements include:

1. 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;
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 Ground Water 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;
3. Tabulation of all 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;
4. Potentiometric surface maps showing the elevation of the water table at the time of sampling;
5. If a recovery system is installed, potentiometric surface maps showing delineation of the radius of influence, minimum and maximum gradient within the hydrologically influenced area, and the direction of ground-water flow gradients outside the radius of influence;
6. 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;

7. If a recovery system is installed, monthly tabulations of quantities of recovered ground-water and NAPLs (if encountered), and graphs of weekly recorded flow rates versus time for the recovery wells during each quarter;
8. Tabulation of all data evaluation results pursuant to Section VI.D and status of each well listed on CP Table III with regard to compliance with the corrective action objectives and compliance with the GWPSs;
9. Maps of the contaminated area depicting concentrations of naphthalene, acenaphthene, and total benzene, toluene, ethylbenzene, and xylenes (BTEX) as isopleth contours;
10. An updated schedule summary as required by Section XI.A;
11. Summary of any changes made to the monitoring/corrective action program and a summary of recovery well inspections, repairs, and any operational difficulties;
12. Recommendation for any changes; and
13. Any other items requested by the Executive Director.

As of June 29, 2005, a recovery system had not been installed at this facility. Therefore, the provisions that relate to recovery wells (i.e., provisions 5, 7, and 11) were not applicable to this reporting period.

2.0 FIRST SEMIANNUAL GROUND WATER SAMPLING EVENT FOR 2005

This section contains a discussion of each of the semiannual report provisions required by CP Section VII.B.2, by reference number to the list of provisions in Section 1.

2.1 NARRATIVE SUMMARY OF SECOND SEMIANNUAL ACTIVITIES

CP Section VII.B.2.a requires a narrative summary of evaluations completed in accordance with CP Sections V, VI, and VII. Section V relates to the Corrective Action Program in place for the permitted unit. Section VI relates to the Ground Water Monitoring Program designed to evaluate the effectiveness of the Corrective Action Program. Section VII includes provisions for amending the Corrective Action Program and/or Compliance Plan. Each of these evaluations is provided below.

2.1.1 *Corrective Action Program*

Ground water samples were collected from the existing wells to assess affected ground water in the A-Transmissive Zone (A-TZ) and the B-Transmissive Zone (B-TZ). 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. and summarized as follows:

- A-TZ refers to the first sand unit encountered at approximately 35 feet above mean sea level (msl), averaging 6 to 8 feet in thickness; and
- B-TZ refers to the second sand unit encountered at approximately 15 feet above msl, averaging 8 to 10 feet in thickness.

The following monitor wells were sampled (as designated by function in CP Table III; Appendix A to this report):

- A-TZ Point of Compliance (POC) wells: MW-01A, MW-02, MW-07, MW-10A, and MW-11A;
- A-TZ Corrective Action Observation (CAO) wells: MW-04, MW-05, MW-07, MW-08, and MW-09;
- B-TZ POC wells: MW-10B, MW-11B, and P-10; and
- B-TZ CAO wells: P-11 and P-12.

In addition, MW-03, which is screened in the A-TZ within the closed impoundment, was also sampled.

2.1.2 *Ground Water Monitoring*

ERM performed quarterly well inspections on March 1, 2005 and ground water monitoring activities on March 1, 3, and 4. Ground water sampling was performed using procedures outlined in a U.S. EPA document titled *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504)

published in April 1996. Purging and sampling were performed using a low-flow pump, with its sample intake set at the approximate center of the screened interval of each well.

The wells are equipped with dedicated polytetrafluoroethylene (PTFE) tubing for ground water sampling. A Master-Flex® peristaltic pump was used to collect the ground water samples. A 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. Ground water was pumped from the screened interval of the well at a flow rate of less than approximately 0.5 L/min. A flow-through cell and field meters were used to measure and evaluate field parameters including temperature, pH, specific conductivity, dissolved oxygen, and turbidity. When the field parameters had stabilized to the EPA-specified criteria, the well was sampled. The samples were also collected at a flow rate of less then 0.5 L/min. A compilation of recorded field parameters is included in Appendix B.

For each well, three 40-mL glass vials [for volatile organic constituent (VOC) analysis] and four 1,000-mL amber glass bottles [for semivolatile organic constituent (SVOC) analysis] were filled directly from the pumping apparatus described above. The bottles, containing laboratory-supplied preservatives, were sealed and packed in coolers with sufficient ice to maintain a sample temperature of approximately 4°C. The sample coolers were delivered to Severn Trent 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.

2.2 *ANALYTICAL RESULTS*

The results of the chemical analyses for the first semiannual sampling event of 2005 are summarized in Tables 2-1 and 2-2, respectively. Compounds with concentrations reported above the GWPS are indicated in boxes on the tables. The CP sets the GWPS at the practical quantitation limit (PQL) for each of the compounds analyzed. Table 2-3 summarizes the field blank and trip blank results for quality assurance/quality control (QA/QC) purposes. Duplicate sample results are included on Table 2-1 for comparison with the original sample.

2.3 *WELL MEASUREMENTS*

During the quarterly well inspections and the sampling event, the following information was recorded at each monitor well:

Before Sampling

- The presence of light non-aqueous phase liquids (LNAPLs) was evaluated; and
- Depth to ground water was measured to the nearest 0.01 foot.

After Sampling

- The presence of dense non-aqueous phase liquids (DNAPLs) was evaluated; and
- Total well depths were determined.

Table 2-4 provides a summary of these measurements. None of the CP wells had measurable amounts of LNAPL or DNAPL.

2.4 *POTENTIOMETRIC SURFACE MAPS*

The ground water elevation data recorded during the first semiannual 2005 well gauging activities were used to create potentiometric surface maps of the A-TZ and B-TZ (Figures 2-1 and 2-2, respectively). A review of Figure 2-1 indicates that ground water flow is toward the northwest with an estimated gradient of 0.00075 feet/foot (ft/ft) in the A-TZ. The flow in the B-TZ is toward the northwest with a gradient of 0.00172 ft/ft (Figure 2-2).

2.5 *POTENTIOMETRIC SURFACE MAPS FOR RECOVERY SYSTEM*

As of June 29, 2005, a recovery system had not been installed at the closed surface impoundment. Therefore, this provision is not applicable.

2.6 *NON-AQUEOUS PHASE LIQUIDS*

None of the CP wells had measurable amounts of LNAPL or DNAPL.

2.7 *NAPL RECOVERIES*

No measurable amount of NAPL has been recorded in any of the CP wells. Therefore, recovery of NAPL has not been required and this provision is not applicable.

2.8 *ANALYTICAL DATA EVALUATION*

CP Section VI.D describes two methods which may be used to determine the compliance status of a given well. The analytical results may be either directly compared with the GWPS (CP Table I; included in Appendix A herein), or statistically compared to the GWPS using the 99% significance level of the t-distribution. Table 2-5 shows the results of a direct comparison of data from the first semiannual sampling event with the GWPS. A boxed value indicates an exceedance of the GWPS. Wells and piezometers were considered to be compliant if each of the constituents listed in CP Table I was reported at a concentration less than or equal to the GWPS. Data usability summaries are included in Appendix C, and qualifers were added to the data tables in italics.

2.9 *BTEX, ACENAPHTHENE, AND NAPHTHALENE ISOPLETHS*

As specified by the CP, isopleth maps depicting concentrations of BTEX, acenaphthene, and naphthalene were constructed using the data presented in Tables 2-1 and 2-2. The isopleth maps are present in Figures 2-3 through 2-8.

2.10 *UPDATED COMPLIANCE SCHEDULE*

An updated compliance schedule is included as Appendix D of this report. The schedule has been updated from the second semiannual monitoring report 2004.

2.11 *SUMMARY OF CHANGES MADE TO THE MONITORING/CORRECTIVE ACTION PROGRAM AND SUMMARY OF RECOVERY WELL INSPECTIONS AND MAINTENANCE*

No changes were made to the monitoring/corrective action program.

2.12 *RECOMMENDATION FOR CHANGES*

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. Several changes to the ground water monitoring program were proposed in the renewal application. UPRR responded to TCEQ comments on the application. The permit and CP was issued June 10, 2005, and the subsequent semiannual event (July 2005) will follow provisions set forth in the June 10, 2005 CP.

2.13 *OTHER REQUESTED ITEMS*

In a letter dated November 10, 2004, the TCEQ requested that prior to the next semiannual sampling event that UPRR replace or redevelop any well if greater than 20% of the well's screened interval appears to have silted in. Based on total depth measurements collected during the second semiannual event of 2004 (September 13, 2004), four wells (MW-01A, MW-02, MW-03, and MW-04) were identified to have apparent accumulation of silt into the screened interval, but accumulations were less than 20% of the screened interval. However, silt removal activities were completed on February 28, 2005 for these four wells by hand bailing.

At monitor wells MW-01A and MW-02, activities resulted in "hard bottom" and measurements of total depths within 0.30 feet and 0.15 feet of reported constructed depths, respectively. Hand bailing activities at MW-03 and MW-04 did not result in an appreciable change in measured total depth prior to initiation of activities. Therefore, measured total depths will be monitored for changes and alternate silt removal activities will be evaluated for future implementation, if necessary.

Tables

July 18, 2005
Project No. 0014419

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084
(281) 600-1000

TABLE 2-1

Summary of Analytical Results for the A-Transmissive Zone (A-TZ)
Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)	Monitor Well ID: Sample Date:	MW-01A 3/4/2005		MW-02 3/4/2005		MW-02D (A) 3/4/2005		MW-03 3/4/2005		MW-04 3/3/2005		MW-05 3/1/2005		MW-07 3/1/2005		MW-08 3/1/2005		MW-09 3/3/2005		MW-10A 3/1/2005		MW-11A 3/3/2005		MW-11AD (B) 3/3/2005	
Volatile Organic Constituents																										
Benzene	0.005		0.00416	J	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U
Chlorobenzene	0.005		0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U
1,2-Dichloroethane	0.005		0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U
Ethylbenzene	0.010		0.00209	J	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U
Methylene Chloride	0.005		0.0013	U, UJ	0.0013	U, UJ	0.0013	U, UJ	0.0013	U, UJ	0.0013	U, UJ	0.0013	U	0.0013	U	0.0013	U	0.0013	U, UJ	0.0013	U	0.0013	U, UJ	0.0013	U, UJ
Toluene	0.005		0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U
Xylenes (total)	0.005		0.00777	J	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U
Semivolatile Organic Constituents																										
Acenaphthene	0.010		0.224		0.0394		0.0436		0.117		0.00007	U, UJL	0.00176		0.0001	J	0.00012	J	0.00007	U	0.00007	U, UJL	0.0139	J	0.0388	J
Acenaphthylene	0.010		0.00326		0.0004	J	0.00049		0.000948		0.00006	U, UJL	0.00006	U	0.00006	U	0.00006	U	0.00006	U	0.00006	U,UJ	0.00006	U	0.000517	
Anthracene	0.010		0.00754		0.00114		0.00141		0.0039		0.00036	J	0.00014	J	0.0004	J	0.00015	J	0.00028	J	0.00013	J	0.000833	J	0.00211	J
Benzo(a)anthracene	0.010		0.00011	U, UJL	0.00011	U, UJ	0.00014	J	0.00023	J	0.00011	U	0.00011	U	0.00011	U	0.00011	U	0.00011	U	0.00011	U	0.00011	U	0.00011	U, UJL
Benzo(a)pyrene	0.010		0.000024	U	0.000024	U	0.000024	U	0.000024	U	0.000024	J,UJ	0.000007	U	0.000007	U	0.000007	U	0.000024	J,UJ	0.000007	U	0.000024	J	0.000024	U, UJL
bis(2-chloroethoxy)methane	0.010		0.000013	U	0.000013	U	0.000013	U	0.000013	U	0.000013	U, UJL	0.000009	U	0.000009	U	0.000009	U	0.000013	U	0.000009	U	0.000013	U	0.000013	U
2-Chloronaphthalene	0.010		0.00008	U	0.00008	U, UJL	0.00008	U, UJL	0.00008	U	0.00008	U, UJL	0.00008	U	0.00008	U	0.00008	U	0.00008	U	0.00008	U,UJ	0.00008	U	0.00008	U, UJL
Chrysene	0.010		0.00012	U, UJL	0.00012	U, UJ	0.00012	U, UJL	0.00021	J	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U	0.00012	U, UJL
Dibenzofuran	0.010		0.101		0.0152		0.0162		0.0347		0.00008	U, UJL	0.00022	J	0.00008	U	0.00008	U	0.00026	J	0.00008	U,UJ	0.00451	J	0.0115	J
Di-n-butyl Phthalate	0.010		0.0002	U	0.00031	U	0.00028	UJL	0.00029	U	0.00019	U	0.00021	J,UJ	0.00016	J,UJ	0.00019	J,UJ	0.00022	U	0.00013	J,UJ	0.00013	U	0.00013	UJL
2,4-Dimethylphenol	0.010		0.0126	JL	0.0003	U, UJL	0.0003	U, UJL	0.0003	U, UJL	0.0003	U, UJL	0.0003	U	0.0003	U	0.0003	U	0.0003	U, JL	0.0003	U,UJ	0.0003	U, UJL	0.0003	U, UJL
2,4-Dinitrotoluene	0.050		0.00004	U	0.00004	U	0.00004	U	0.00004	U	0.00004	U	0.000009	U	0.000009	U	0.000009	U	0.00004	U	0.000009	U	0.00004	U	0.00004	U
2,6-Dinitrotoluene	0.010		0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U	0.000026	U
1,2-Diphenylhydrazine	0.010		0.000032	U	0.000032	U	0.000032	U	0.000032	U	0.000032	U, JI	0.00001	U	0.000011	U	0.00001	U	0.000032	U	0.00001	U	0.000032	U	0.000032	U
bis(2-ethylhexyl)phthalate	0.010		0.00035	U, UJL	0.00035	U, UJ	0.000766	UJL	0.000797	U	0.000815	U	0.00035	U	0.000791	b,U	0.00035	U	0.00035	U	0.00035	U ·	0.000806	U	0.000778	UJL
Fluoranthene	0.010		0.00935		0.00421		0.00416		0.0137		0.00008	U	0.00008	U	0.00008	U	0.00008	U	0.00008	U	0.00008	U	0.000786	J	0.00192	J
Fluorene	0.010		0.124		0.0268		0.0292		0.0637		0.00007	U, UJL	0.00035	J	0.00007	U	0.00007	U	0.00007	U	0.00007	U,UJ	0.00663	J	0.0197	J
2-Methyl-4,6-dinitrophenol	0.010		0.00079	U, UJL	0.00079	U, UJL	0.00079	U, UJL	0.00079	U, UJL	0.00079	U, UJL	0.00079	U	0.00079	U	0.00079	U	0.00079	U, JL	0.00079	U	0.00079	U, UJL	0.00079	U, UJL
2-Methylnaphthalene	0.010		0.0882		0.00008	J	0.00011	J	0.00181		0.00007	U	0.00007	U	0.00007	U	0.00007	U	0.00007	U	0.00007	U,UJ	0.00016	J	0.00154	
Naphthalene	0.010		0.12		0.00161		0.00232		0.05		0.00006	U	0.00909		0.00006	U	0.00006	U	0.00006	U	0.00006	U,UJ	0.011	J	0.0479	J
Nitrobenzene	0.010		0.0001	U, UJL	0.0001	U, UJL	0.0001	U, UJL	0.0001	U, UJL	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U,UJ	0.0001	U, UJL	0.0001	U, UJL
4-Nitrophenol	0.050		0.00053	U, UJL	0.00053	U, UJL	0.00053	U, UJL	0.00053	U, UJL	0.00053	U, UJL	0.00053	U	0.00053	U	0.00053	U	0.00053	U, JL	0.00053	U,UJ	0.00053	U, UJL	0.00053	U, UJL
n-Nitrosodiphenylamine	0.010		0.00005	U	0.00005	U	0.00005	U, UJL	0.00005	U	0.00005	U	0.00005	U	0.00005	U	0.00005	U	0.00005	U	0.00005	U	0.00005	U	0.00005	U, UJL
Pentachlorophenol	0.050		0.000066	U	0.000066	U	0.000066	U	0.000066	U, UJ	0.000066	R	0.000038	U	0.000039	U	0.000038	U	0.000066	U	0.000038	U	0.000066	U	0.000066	U
Phenanthrene	0.010		0.0182		0.00024	J	0.00024	J	0.0104		0.00009	U	0.00009	U	0.00009	U	0.00009	U	0.00009	U	0.00009	U	0.00023	J, J	0.00332	J
Phenol	0.010		0.00004	U, UJL	0.00004	U, UJL	0.00004	U, UJL	0.00004	U, UJL	0.00004	U, UJL	0.00004	U	0.00004	U	0.00004	U	0.00004	U, JL	0.00004	U	0.00004	U, UJL	0.00004	U, UJL
Pyrene	0.010		0.00362		0.00183		0.00195		0.00578		0.00009	U	0.00015	J	0.00009	U	0.00009	U	0.00009	U	0.00009	U	0.00016	J	0.000688	

NOTES:

All values reported in mg/L.
ND = *Not Detected* at the Method Detection Limit (MDL), which is less than or equal to the Practical Quantitation Limit (PQL) in all instances and can be found in the laboratory reports in Appendix C.
PQL = *Practical Quantitation Limit*, as defined on Table I of the Compliance Plan and determined by the analytical methods of EPA SW-846 *Test Methods for Determining Solid Wastes*.
The Compliance Plan Table 1 defines the Ground Water Protection Standard (GWPS) as the PQL.
[ ] Indicates value reported above the GWPS.
(A) MW-02D is a duplicate of MW-02.
(B) MW-11AD is a duplicate of MW-11A
b = target analyte was found in method blank.
U = Analyte analyzed but not detected.
J = Estimated value between the reporting limit and MDL.
U = Not Detected based on third party qualification
J = Estimated data based on third party qualification
L = Low bias based on third party qualification
R = Rejected based on third party qualification

TABLE 2-2

Summary of Analytical Results for the B-Transmissive Zone (B-TZ)
Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)	Monitor Well ID: Sample Date:	MW-10B 3/1/2005		MW-11B 3/1/2005		P-10 3/3/2005		P-11 3/4/2005		P-12 3/4/2005	
Volatile Organic Constituents												
Benzene	0.005		0.00143	U	0.00143	U	0.00143	U	0.00143	U	0.00143	U
Chlorobenzene	0.005		0.00155	U	0.00155	U	0.00155	U	0.00155	U	0.00155	U
1,2-Dichloroethane	0.005		0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U
Ethylbenzene	0.010		0.00137	U	0.00137	U	0.00137	U	0.00137	U	0.00137	U
Methylene Chloride	0.005		0.0013	U	0.0013	U	0.0013	U, *UJ*	0.0013	U, *UJ*	0.0013	U, *UJ*
Toluene	0.005		0.00136	U	0.00136	U	0.00136	U	0.00136	U	0.00136	U
Xylenes (total)	0.005		0.00441	U	0.00441	U	0.00441	U	0.00441	U	0.00441	U
Semivolatile Organic Constituents												
Acenaphthene	0.010		0.0164		0.0131		0.00453		0.133		0.00007	U, *UJL*
Acenaphthylene	0.010		0.00035	J	0.00031	J	0.00008	J	0.00006	U	0.00006	U, *UJL*
Anthracene	0.010		0.000995		0.00025	J	0.00015	J	0.00697		0.00007	U
Benzo(a)anthracene	0.010		0.00011	U	0.00012	U	0.00011	U	0.00012	U	0.00011	U, *JL*
Benzo(a)pyrene	0.010		0.000007	U	0.000007	U	0.000024	U, *UJL*	0.000025	U	0.000024	U
bis(2-chloroethoxy)methane	0.010		0.000009	U	0.000009	U	0.000013	U	0.000014	U	0.000013	U
2-Chloronaphthalene	0.010		0.00008	U	0.00008	U	0.00008	U, *UJL*	0.00008	U	0.00008	U, *UJL*
Chrysene	0.010		0.00012	U	0.00013	U	0.00012	U	0.00013	U	0.00012	U, *UJL*
Dibenzofuran	0.010		0.00482		0.00027	J	0.000892		0.013		0.00008	U, *UJL*
Di-n-butyl Phthalate	0.010		0.00022	J,*UJ*	0.0003	J,*UJ*	0.0003	*U*	0.00011	U	0.00013	*U*
2,4-Dimethylphenol	0.010		0.0003	U	0.00031	U	0.0003	U, *UJL*	0.00031	U, *UJL*	0.0003	U, *UJL*
2,4-Dinitrotoluene	0.050		0.000009	U	0.000009	U	0.00004	U	0.000042	U	0.00004	U
2,6-Dinitrotoluene	0.010		0.000026	U	0.000027	U	0.000026	U	0.000027	U	0.000026	U
1,2-Diphenylhydrazine	0.010		0.00001	U	0.000011	U	0.000032	U	0.000034	U	0.000032	U
bis(2-ethylhexyl)phthalate	0.010		0.00035	U	0.00037	U	0.000836	*U*	0.00037	U	0.00035	U
Fluoranthene	0.010		0.000941		0.000589		0.00015	J	0.00706		0.00008	U
Fluorene	0.010		0.00601		0.0001	J	0.000723		0.0536		0.00007	U, *UJL*
2-Methyl-4,6-dinitrophenol	0.010		0.00079	U	0.00083	U	0.00079	U, *UJL*	0.00082	U, *UJL*	0.00079	U, *UJL*
2-Methylnaphthalene	0.010		0.00012	J	0.00007	U	0.00007	U	0.00254		0.00007	U, *UJL*
Naphthalene	0.010		0.00171		0.00006	U	0.0142		0.198		0.00006	U, *UJL*
Nitrobenzene	0.010		0.0001	U	0.00011	U	0.0001	U	0.00011	U	0.0001	U, *UJL*
4-Nitrophenol	0.050		0.00053	U	0.00056	U	0.00053	*JL*	0.00055	U, *UJL*	0.00053	U, *UJL*
n-Nitrosodiphenylamine	0.010		0.00205		0.00005	U	0.00005	U	0.00005	U	0.00005	U
Pentachlorophenol	0.050		0.000038	U	0.00004	U	0.000066	U, *UJL*	0.000068	U, *UJL*	0.000066	U
Phenanthrene	0.010		0.000544		0.00009	U	0.00009	U	0.0392		0.00009	U
Phenol	0.010		0.00004	U	0.00004	U	0.00004	U, *UJL*	0.00004	U, *UJL*	0.00004	U, *UJL*
Pyrene	0.010		0.00041	J	0.00025	J	0.00009	U	0.00402		0.00592	

NOTES:

All values reported in mg/L.
ND = *Not Detected* at the Method Detection Limit (MDL), which is less than or equal to the Practical Quantitation Limit (PQL) in all instances and can be found in the laboratory reports in Appendix C.
PQL = *Practical Quantitation Limit*, as defined on Table I of the Compliance Plan and determined by the analytical methods of EPA SW-846 *Test Methods for Determining Solid Wastes*.
The Compliance Plan Table 1 defines the Ground Water Protection Standard (GWPS) as the PQL.
[ ] indicates value reported above the GWPS.
(A) MW-02D is a duplicate of MW-02.
(B) MW-11AD is a duplicate of MW-11A
b = target analyte was found in method blank.
U = Analyte analyzed but not detected.
J = Estimated value between the reporting limit and MDL.
U = *Not Detected* based on third party qualification
J = Estimated data based on third party qualification
L = Low bias based on third party qualification
R = Rejected based on third party qualification

TABLE 2-3

Summary of Analytical Results for Quality Assurance/Quality Control Samples
Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)	Sample / Sample Date:	Field Blank FB-030305 3/3/05	Trip Blank TB02-1SA05 3/3/05	Trip Blank TB01-1SA05 3/1/05
Methylene Chloride	0.005		0.0013 U *JL*	ND	ND
Pentachlorophenol	0.050		0.000066 U *JL*	NA	NA
2,4-Dimethylphenol	0.010		0.0003 U *JL*	NA	NA
2-Methyl-4,6-dinitrophenol	0.010		0.00079 U *JL*	NA	NA
4-Nitrophenol	0.050		0.00053 U *JL*	NA	NA
Phenol	0.010		0.00004 U *JL*	NA	NA

NOTES:

Only Constituents with reported concentrations are summarized in this table.
All values reported in mg/L.
ND = *Not Detected* at the Method Detection Limit (MDL), which is less than or equal to the Practical Quantitation Limit (PQL) in all instances and can be found in the laboratory reports in Appendix C.
NA = Not Analyzed.
PQL = *Practical Quantitation Limit,* as defined on Table I of the Compliance Plan and determined
The Compliance Plan Table 1 defines the Ground Water Protection Standard (GWPS) as the PQL.
J = Estimated data based on third party qualification.
L = Low bias based on third party qualification
U = Analyte analyzed but not detected.

TABLE 2-4

Water Level and Total Depth of Well Measurements
Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works
Houston, Texas

Well ID	Top of Casing [1] Elevation (ft MSL)	Depth to Water (ft TOC)	Water Surface Elevation (ft MSL)	Total Depth of Well as Measured (ft TOC)	Total Depth as Completed (ft TOC) *
A-TZ Monitoring Locations					
MW-01A	47.92	2.40	45.52	19.77	20.2
MW-02	47.97	2.46	45.51	20.15	20.3
MW-03	48.34	2.82	45.52	18.82	20.9
MW-04	49.85	4.29	45.56	21.35	23.4
MW-05	49.24	3.59	45.65	27.35	28.3
MW-07	48.86	3.45	45.41	24.76	N/A
MW-08	49.33	3.78	45.55	24.98	26.8
MW-09	49.26	3.47	45.79	25.30	26.8
MW-10A	49.86	4.33	45.53	25.52	25.9
MW-11A	50.05	4.58	45.47	23.94	24.4
B-TZ Monitoring Locations					
MW-10B	49.94	4.50	45.44	46.40	48.8
MW-11B	50.18	4.77	45.41	46.61	46.8
P-10	47.69	2.33	45.36	42.80	N/A
P-11	48.98	3.61	45.37	42.75	51.8
P-12	48.78	3.00	45.78	42.90	51.7

NOTES:

Wells were gauged on March 1, 2005.
Non-aqueous phase liquids were not measured in any well.
ft MSL = feet above Mean Sea Level
ft TOC = feet below the Top Of (the well) Casing
* Reported during well installation and completion
N/A = Information not available
NM = Not Measured
(1) Wells resurveyed by Baseline Surveyors on April 21 and 28, 2004.

TABLE 2-5

Compliance Status of Wells and Piezometers
Semiannual Monitoring Report: First Semiannual Event 2005

Houston Wood Preserving Works
Houston, Texas

A-TZ Monitoring Location	Well Designation	Compliance Status
MW-01A	Point of compliance	Non-Compliant
MW-02	Point of compliance	Non-Compliant
MW-03	Point of compliance	Non-Compliant
MW-11A	Point of compliance	Non-Compliant
MW-10A	Point of compliance	Compliant
MW-04	Corrective action observation	Compliant
MW-05	Corrective action observation	Compliant
MW-07	Corrective action observation	Compliant
MW-08	Corrective action observation	Compliant
MW-09	Corrective action observation	Compliant

B-TZ Monitoring Location	Well Designation	Compliance Status
MW-10B	Point of compliance	Non-Compliant
MW-11B	Point of compliance	Non-Compliant
P-10	Point of compliance	Non-Compliant
P-11	Corrective action observation	Non-Compliant
P-12	Corrective action observation	Compliant

Figures

July 18, 2005
Project No. 0014419

Environmental Resources Management
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Houston, Texas 77084
(281) 600-1000

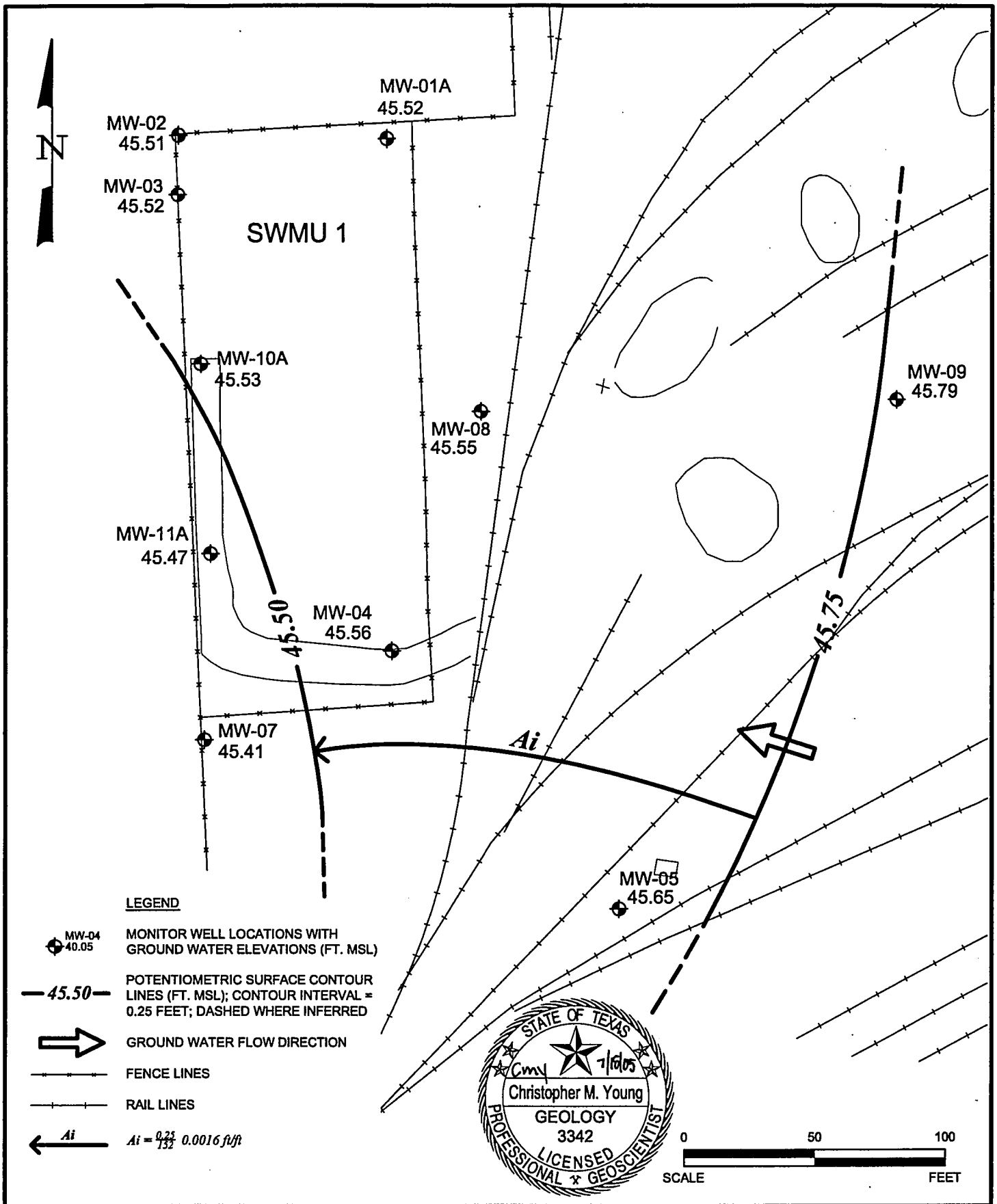

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FIGURE 2-1
A-TZ POTENTIOMETRIC SURFACE
MARCH 1, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

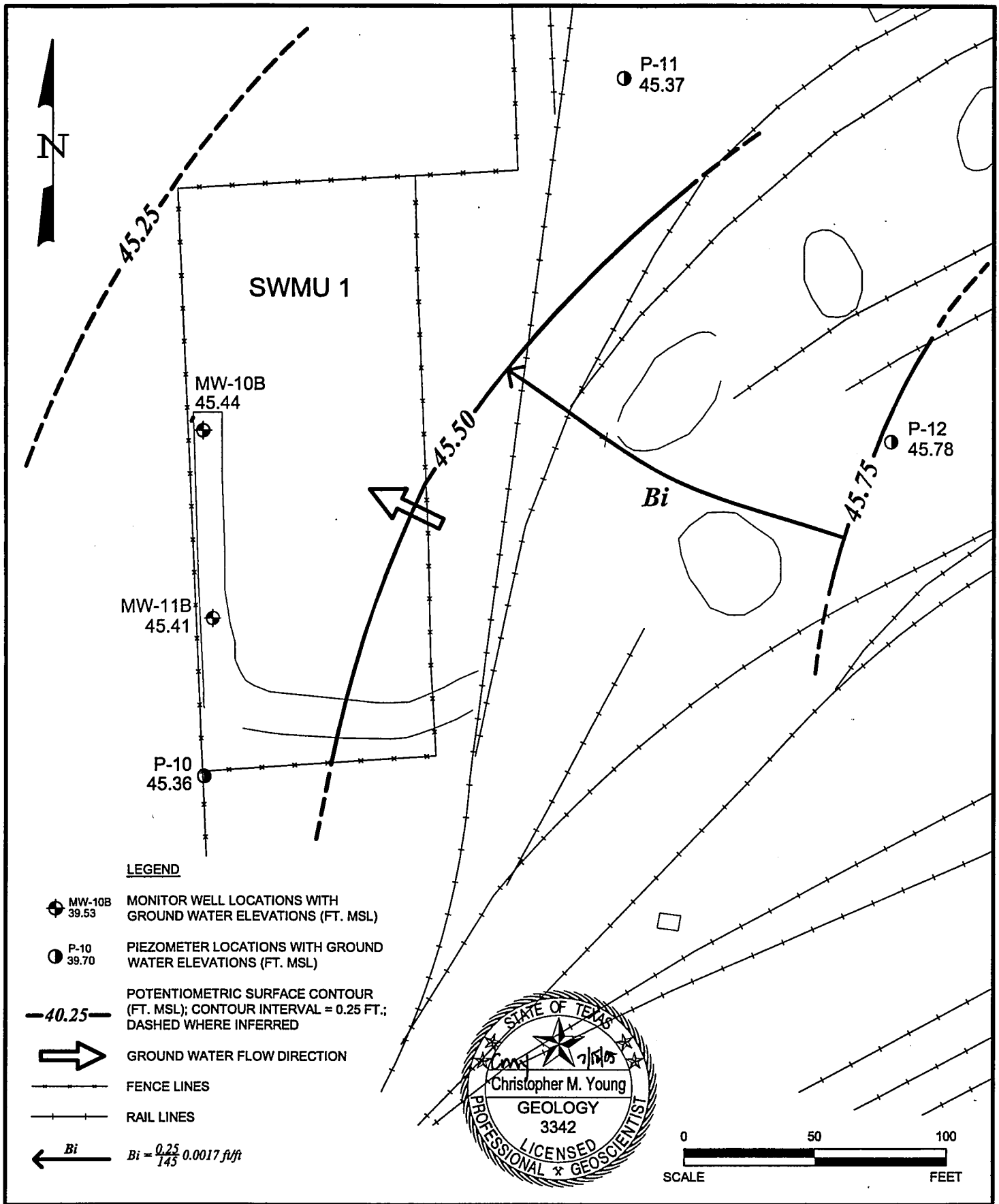

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FIGURE 2-2
B-TZ POTENTIOMETRIC SURFACE
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Houston Wood Preserving Works
Houston, Texas

ERM

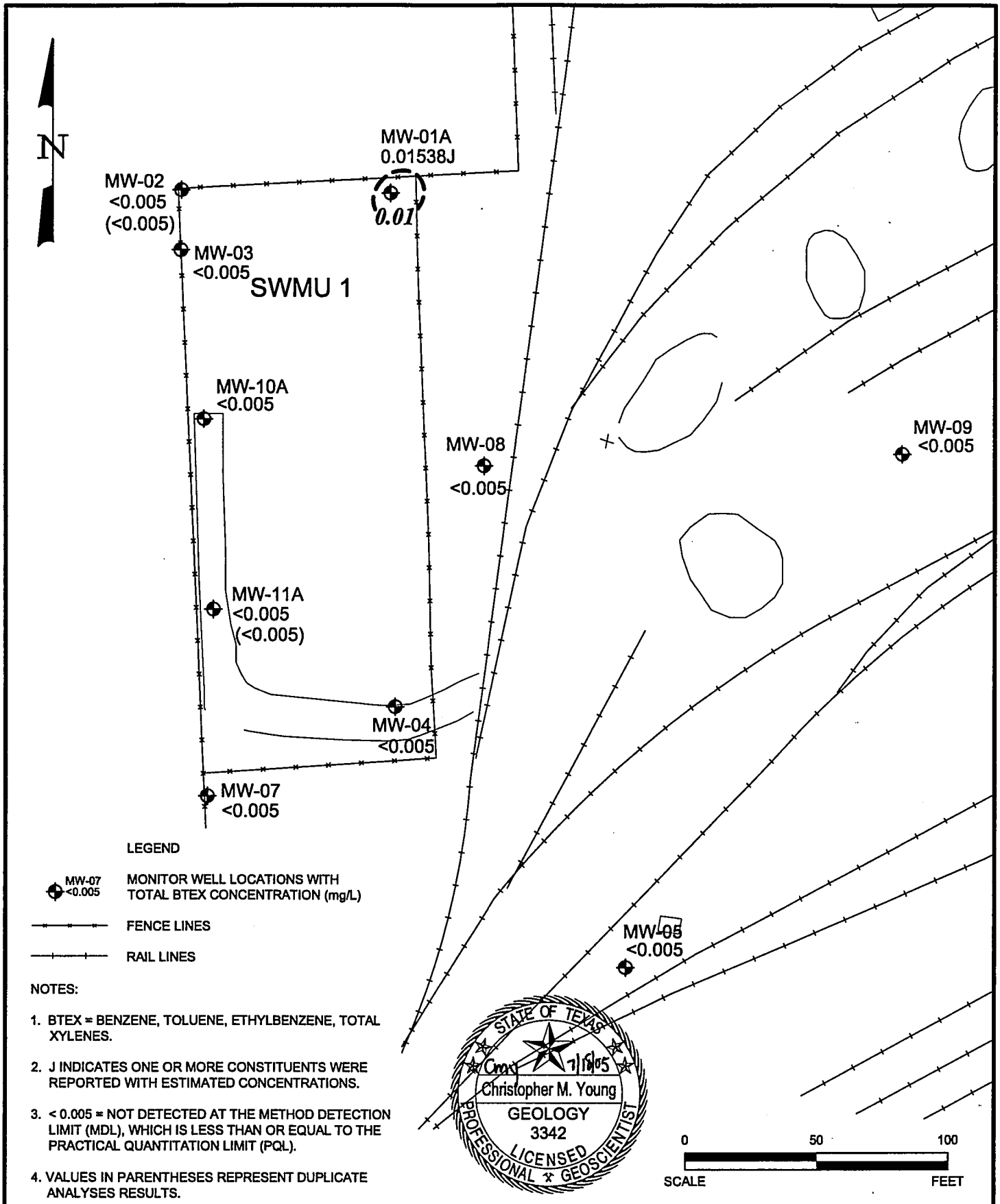

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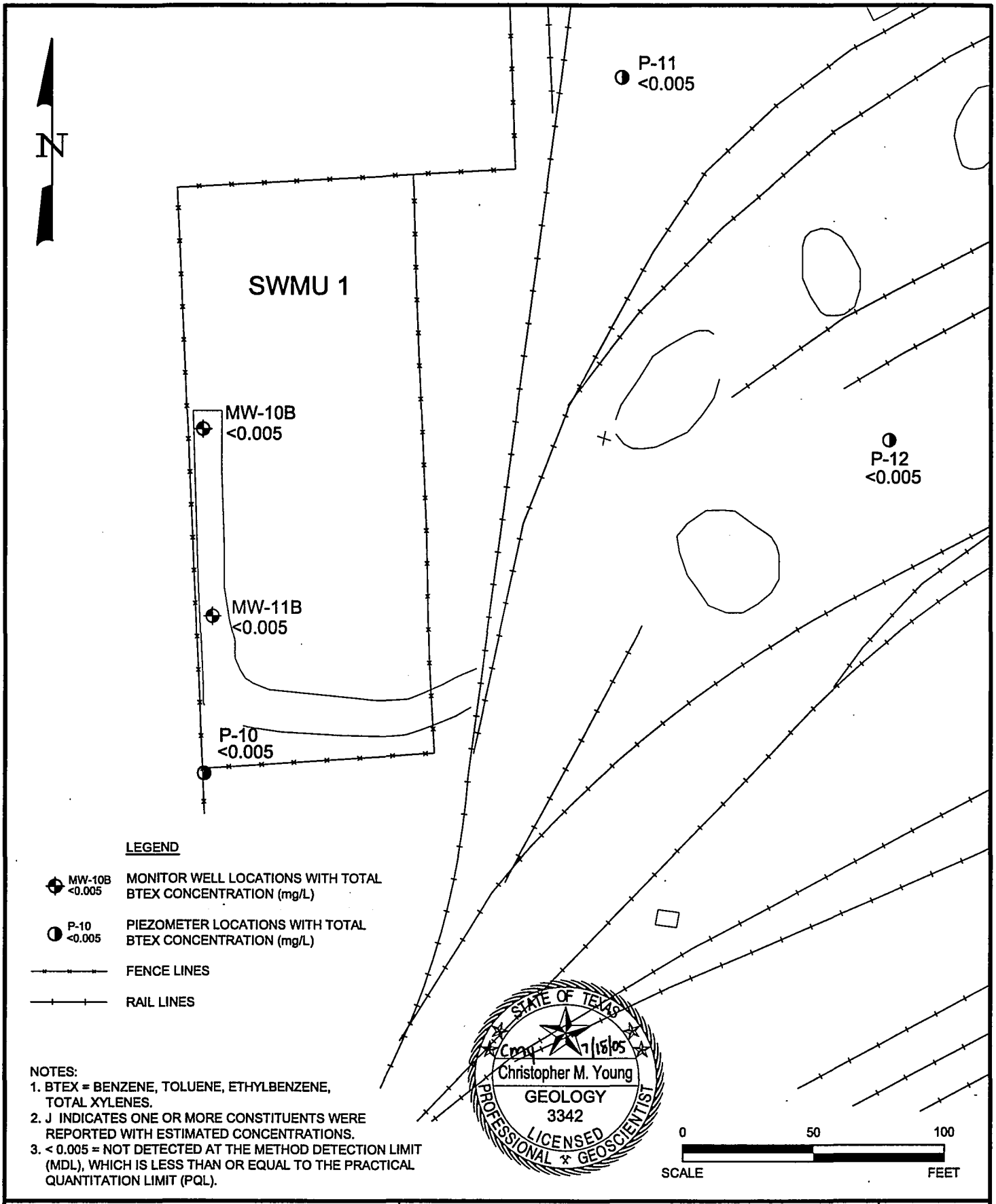
FIGURE 2-3
TOTAL BTEX IN A-TZ GROUND WATER
MARCH 1 & 3, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM



NOTES:
1. BTEX = BENZENE, TOLUENE, ETHYLBENZENE, TOTAL XYLENES.
2. J INDICATES ONE OR MORE CONSTITUENTS WERE REPORTED WITH ESTIMATED CONCENTRATIONS.
3. < 0.005 = NOT DETECTED AT THE METHOD DETECTION LIMIT (MDL), WHICH IS LESS THAN OR EQUAL TO THE PRACTICAL QUANTITATION LIMIT (PQL).

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FIGURE 2-4
TOTAL BTEX IN B-TZ GROUND WATER
MARCH 1 & 3, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

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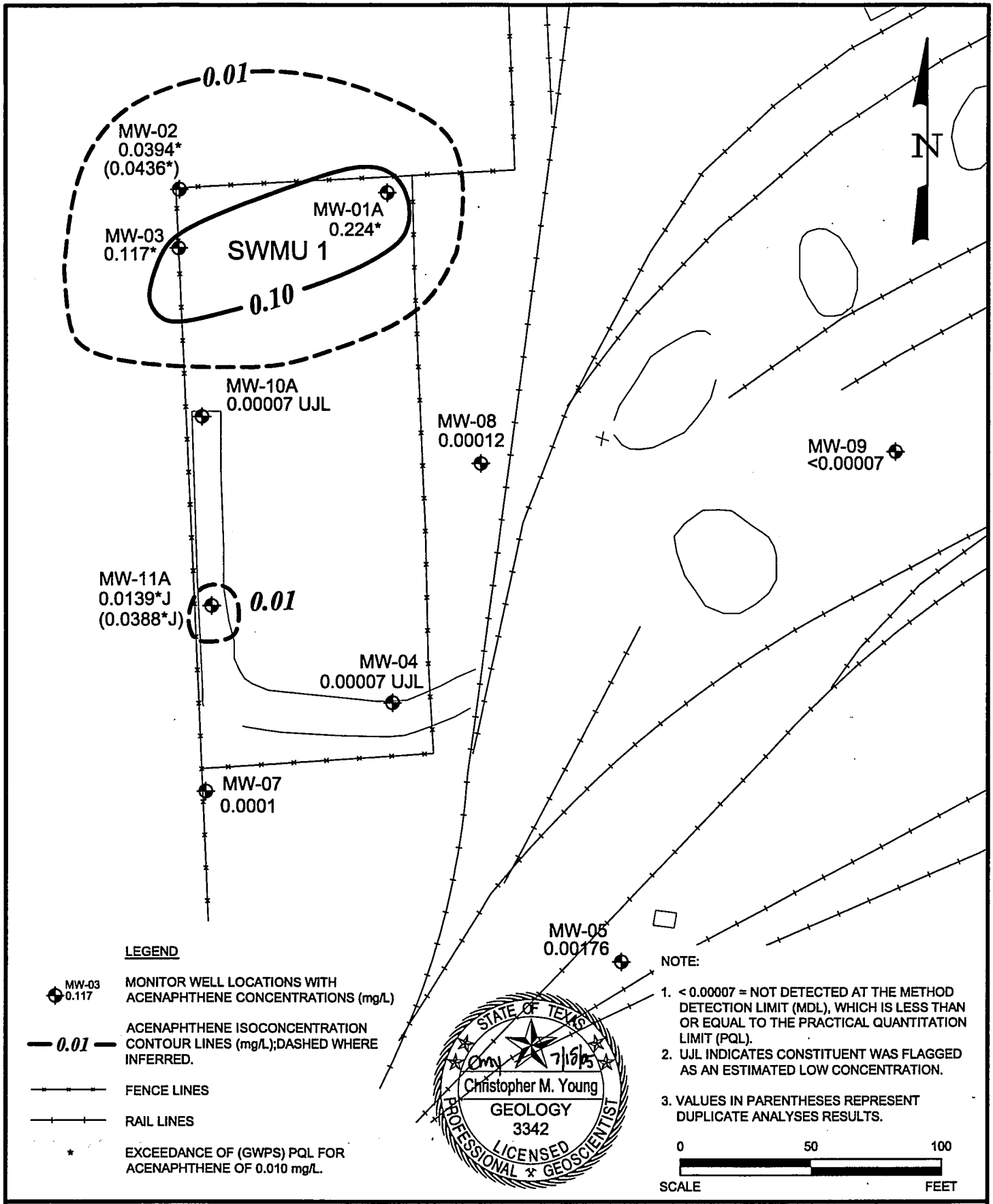

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FIGURE 2-5
ACENAPHTHENE IN A-TZ GROUND WATER
MARCH 1 & 3, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

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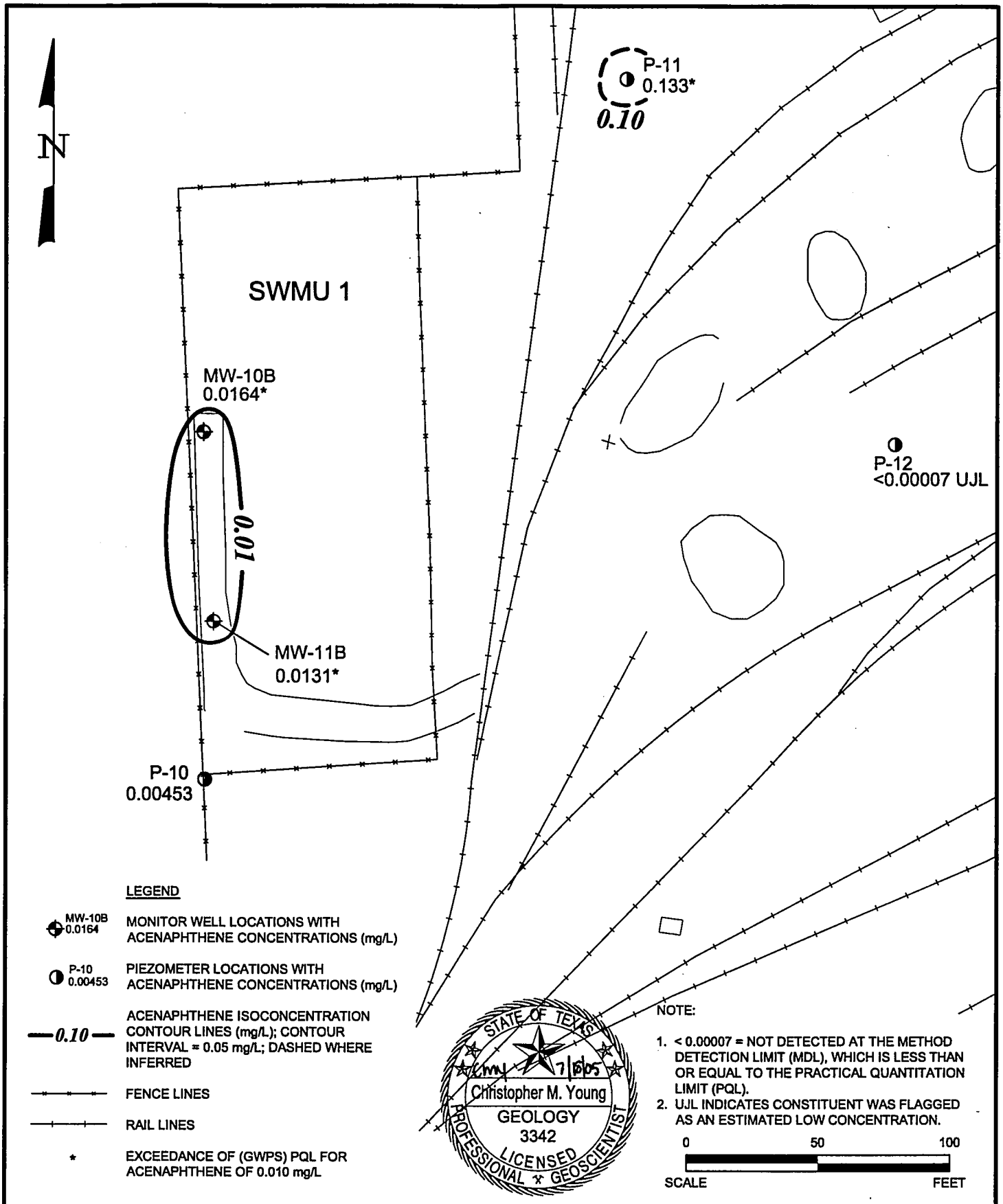

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FIGURE 2-6
ACENAPHTHENE IN B-TZ GROUND WATER
MARCH 1 & 3, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

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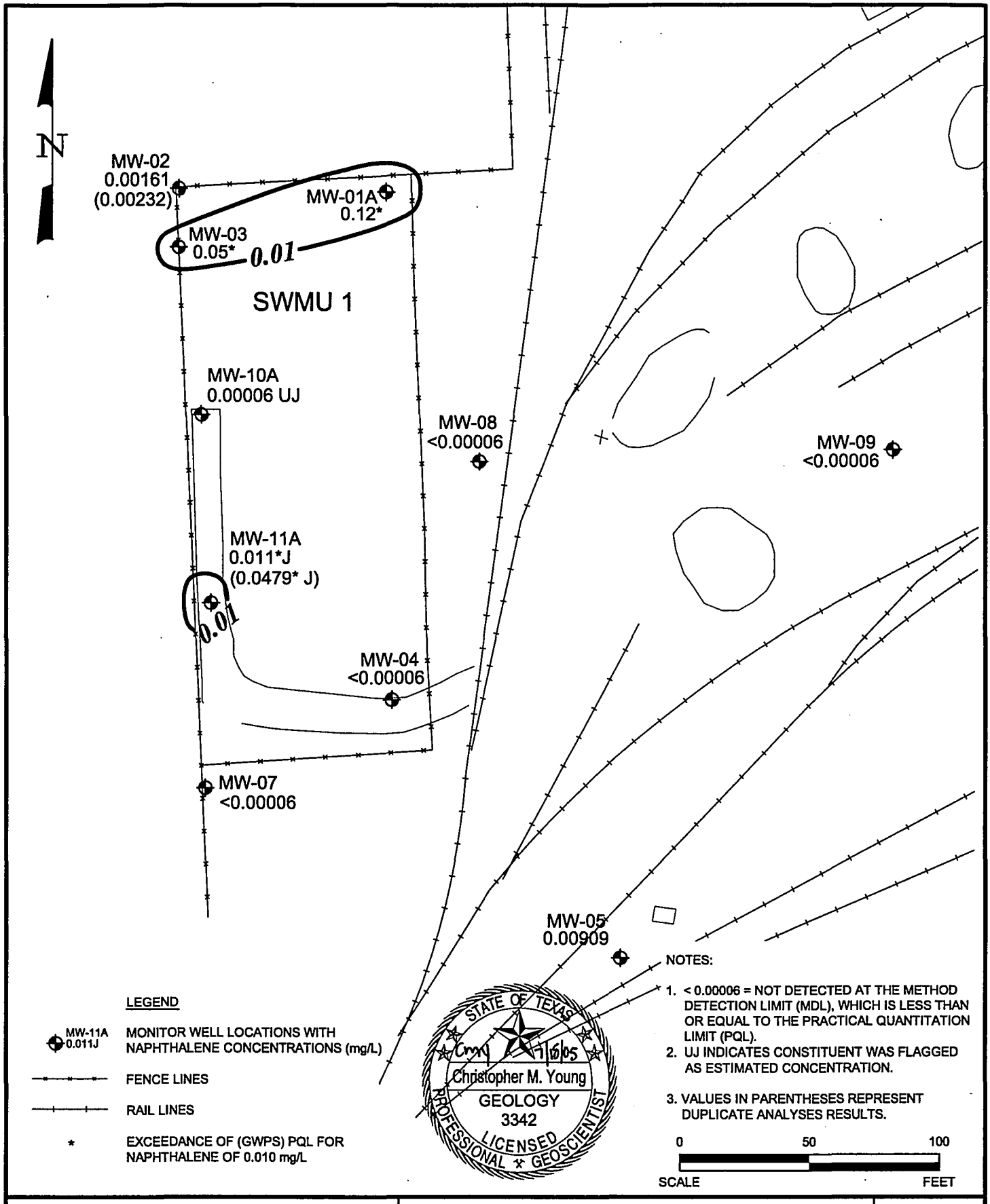

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FIGURE 2-7
NAPHTHALENE IN A-TZ GROUND WATER (mg/L)
MARCH 1 & 3, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

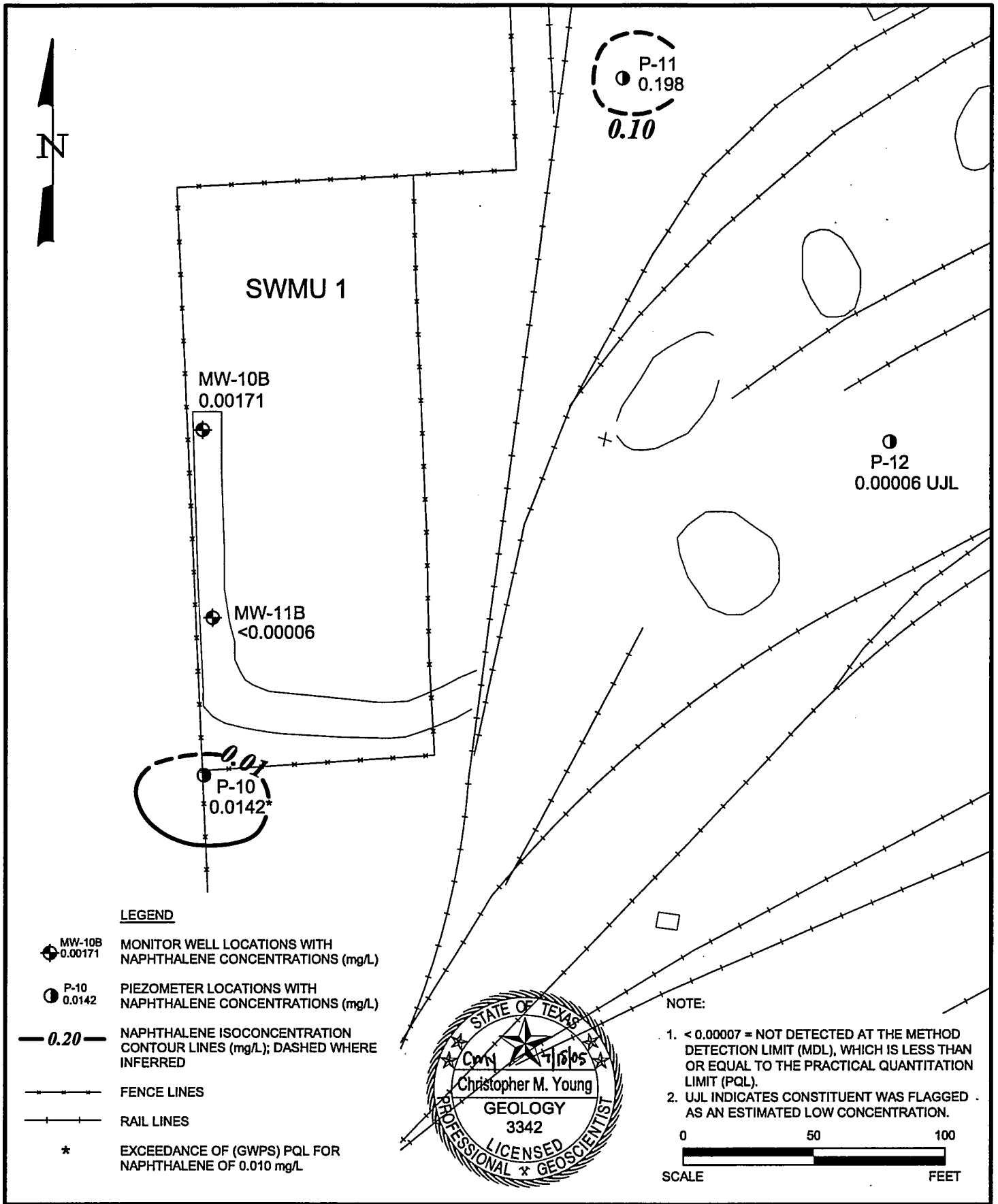

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FIGURE 2-8
NAPHTHALENE IN B-TZ GROUND WATER (mg/L)
MARCH 1 & 3, 2005
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

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Compliance Plan Tables

Appendix A

July 18, 2005
Project No. 0014419

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084
(281) 600-1000

TABLE 1

Table of Hazardous and Solid Waste Constituents and Concentration Limits for Ground-Water Protection Standard

COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (mg/l)
Acenaphthene	ND (0.010)
Acenaphthylene	ND (0.010)
Anthracene	ND (0.010)
Benzene	ND (0.005)
Benzo(a)anthracene	ND (0.010)
Benzo(a)pyrene	ND (0.010)
bis(2-Ethylhexyl)phthalate	ND (0.010)
bis(2-Chloroethoxy)methane	ND (0.010)
Chlorobenzene	ND (0.005)
2-Chloranaphthalene	ND (0.010)
Chrysene	ND (0.010)
Dibenzofuran	ND (0.010)
1,2-Dichlorethane	ND (0.005)
Dichloromethane	ND (0.005)
2,4-Dimethylphenol	ND (0.010)
Di-n-butyl phthalate	ND (0.010)
4,6-Dinitro-o-cresol	ND (0.050)
2,4-Dinitrotoluene	ND (0.010)
2,6-Dinitrotoluene	ND (0.010)
1,2-Diphenylhydrazine	ND (0.010)
Ethylbenzene	ND (0.005)
Fluoranthene	ND (0.010)
Fluorene	ND (0.010)
Methylene chloride	ND (0.010)
2-Methylnaphthalene	ND (0.010)
Naphthalene	ND (0.010)
Nitrobenzene	ND (0.010)
4-Nitrophenal	ND (0.050)
N-Nitrosodiphenylamine	ND (0.010)
Pentachlorophenol	ND (0.050)
Phenanthrene	ND (0.010)
Phenol	ND (0.010)
Pyrene	ND (0.010)
Toluene	ND (0.005)
Xylenes	ND (0.005)

N.D. Non-detectable at Practical Quantitation Limit as determined by the analytical methods of the United States Environmental Protection Agency publication SW-846 Test Methods for Evaluating Solid Waste, Third Edition, November 1986, (USEPA SW-846) and as listed in the July 8, 1987 edition of the Federal Register and later editions. Practical Quantitation Limit (PQL) is indicated in parentheses. Practical Quantitation Limits are the lowest concentrations of analytes in ground-water that can be reliably determined within specified

limits of precision and accuracy by the indicated methods under routine laboratory operating conditions.

TABLE II

Table of Indicator Parameters and Concentration Limits for Ground-water Protection Standard

COLUMN A Hazardous Constituents	COLUMN 3 Concentration Limits (mg/l)
Acenaphthene	ND (0.010)
Anthracene	ND (0.010)
Benzene	ND (0.005)
bis(2-Ethylhexyl)phthalate	ND (0.010)
Dibenzofuran	ND (0.010)
2,4-Dimethylphenol	ND (0.010)
Ethylbenzene	ND (0.005)
Fluoranthene	ND (0.010)
Fluorene	ND (0.010)
Methylene Chloride	ND (0.010)
2-Methylnaphthalene	ND (0.010)
Naphthalene	ND (0.010)
Phenanthrene	ND (0.010)
Pyrene	ND (0.010)
Toluene	ND (0.005)
Xylenes	ND (0.005)

N.D. Non-detectable at Practical Quantitation Limit as determined by the analytical methods of the United States Environmental Protection Agency publication SW-846 Test Methods for Evaluating Solid Waste, Third Edition, November 1986, (USEPA SW-846) and as listed in the July 8, 1987 edition of the Federal Register and later editions. Practical Quantitation Limit (PQL) is indicated in parentheses. Practical Quantitation Limits are the lowest concentrations of analytes in ground-water that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions.

TABLE III

Designation of Wells by Function

1. POINT OF COMPLIANCE WELLS	SAMPLING FREQUENCY
A. Upper Transmissive Zone (existing)	
MW-1	Semi-annual
MW-2	Semi-annual
MW-7	Semi-annual
MW-10*	Semi-annual
MW-11*	Semi-annual

2. BACKGROUND WELLS

As proposed in the Compliance Plan Application, background values of the tested constituents will be assumed to be the Practical Quantitation Limit (PQL), and therefore, negate the need for background wells, unless this Compliance Plan Is modified under Section VI.A.

3. CORRECTIVE ACTION OBSERVATION WELLS	SAMPLING FREQUENCY
A. On-site Uppermost Transmissive Zone (existing)	
MW-4	Semi-annual
MW-5	Semi-annual
MW-7	Semi-annual
MW-8	Semi-annual
MW-9	Semi-annual

*Point of Compliance wells noted with an asterisk are to be installed within ninety (90) days of issuance of this Compliance Plan along the property boundary between existing monitor wells MW-2 and MW-7.

Field Parameters

Appendix B

July 18, 2005
Project No. 0014419

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084
(281) 600-1000

TABLE B-1

Ground Water Sampling Field Parameters

Semiannual Monitoring Report: First Semiannual Event 2005
Houston Wood Preserving Works
Houston, Texas

Well ID: / Date Sampled:	MW-01A 3/4/05	MW-02 3/4/05	MW-03 3/4/05	MW-04 3/3/05	MW-05 3/1/05	MW-07 3/1/05	MW-08 3/1/05	MW-09 3/3/05
Time Sampled (hrs CST)	853	935	1028	1508	1700	1540	1548	958
Temperature (°C)	19.3	19.9	19.1	20.0	21.6	20.6	20.8	19.5
pH (Standard Units)	6.85	6.86	6.92	6.66	6.96	7.15	7.49	6.98
Specific Conductivity (uS)	1,347	594	921	729	640	831	464	826
Dissolved Oxygen (mg/L)	-2.0	0.2	-2.1	-1.9	1.8	4.4	3.7	2.0
Turbidity (NTU)	4.53	8.72	8.49	9.52	0.00	0.00	0.00	0.00

Well ID: / Date Sampled:	MW-10A 3/1/05	MW-10B 3/1/05	MW-11A 3/3/05	MW-11B 3/1/05	P-10 3/3/05	P-11 3/3/05	P-12 3/3/05
Time Sampled (hrs CST)	1658	1658	1138	1538	823	1320	1445
Temperature (°C)	18.9	18.8	18.6	20.0	17.2	22.2	20.7
pH (Standard Units)	7.12	7.12	6.94	7.10	7.25	6.68	6.67
Specific Conductivity (uS)	952	1,167	1,127	1,093	1,084	1,455	1,422
Dissolved Oxygen (mg/L)	1.2	0.5	-0.9	0.5	-2.1	0.0	1.0
Turbidity (NTU)	0.00	55.00	10.39	49.86	0.89	0.00	0.00

NOTES:

CST = Central Standard Time
NTU = Nephalometric Turbidity Unit

Laboratory Analytical Reports and Data Usability Summaries

Appendix C

July 18, 2005
Project No. 0014419

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084
(281) 600-1000

ATTACHMENT

Data Usability Summary

Union Pacific Railroad
Houston, Texas

Environmental Resources Management reviewed one data package (Job Number 291381) from Severn Trent Laboratories for the analysis of ground water samples collected on March 1, 2005 at the Union Pacific Railroad's Houston Wood Preserving Works Site. Data were reviewed for conformance to the requirements of the guidance document, *Review and Reporting of COC Concentration Data* (RG-366/TRRP-13) dated December 2002.

Intended Use of Data

To provide concentrations of constituents in the ground water for comparison to Practical Quantitation Limits (PQLs) or background.

Analyses requested included:

SW-846 8260B - Volatile Organic Compounds (VOCs) by Gas Chromatography-Mass Spectrometry (GC/MS)
SW-846 8270C LL- Semivolatile Organic Compounds (SVOCs) by Gas Chromatography-Mass Spectrometry (GC/MS) Low Level
SW-846 8270C SIM- Semivolatile Organic Compounds (SVOCs) by Gas Chromatography-Mass Spectrometry (GC/MS) Selective Ion Monitoring

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data,* (RG-366/TRRP-13) dated December 2002 and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals and field data were examined:

- The reportable data,
- The laboratory review checklists and associated exception reports, and
- The field notes with respect to field instrument calibrations, filtering procedures, sampling procedures, and preservation procedures prior to shipping the samples to the laboratory.

The results of supporting quality control (QC) analyses were summarized on the Laboratory Review Checklists (LRCs), Exception Reports (ERs) and in the case narratives, all of which were included in this review. The LRCs, associated ERs, and reportable data covered by this review are included in the laboratory report provided in Appendix B.

Introduction

Six (6) ground water samples were analyzed for VOCs (1,2-dichloroethane, benzene, chlorobenzene, ethylbenzene, methylene chloride, toluene, and xylenes (total)), SVOCs by SW-846 8270C LL (2,4-dimethylphenol, 2-chloronaphthalene, 2-methyl-4,6-dinitrophenol, 2-methylnaphthalene, 4-nitrophenol, acenaphthene, acenaphthylene, anthracene, benzo(a)anthracene, bis(2-ethylhexyl)phthalate, chrysene, dibenzofuran, di-n-butyl phthalate, fluoranthene, fluorene, naphthalene, nitrobenzene, n-nitrosodiphenylamine, phenanthrene, phenol, and pyrene), and SVOCs by SW-846 8270C SIM (1,2-diphenylhydrazine, 2,4-dinitrotoluene, 2,6-dinitrotolutene, benzo(a)pyrene, bis(2-chloroethoxy)methane, and pentachlorophenol). One (1) trip blank was analyzed for VOCs (1,2-dichloroethane, benzene, chlorobenzene, ethylbenzene, methylene chloride, toluene, and xylenes (total)). Table C-1 lists the sample identifications cross-referenced to laboratory identifications.

Data Review / Validation Results

Analytical Results
Ground water results are reported in mg/L. Qualified data are provided in Table C-2. Non-detected results are reported as less than the value of the sample quantitation limit (SQL) as defined by the TRRP rule.

Preservation and Holding Times
Samples were evaluated for agreement with the chain-of-custody. All samples were received in the appropriate containers and in good condition with the accompanying paperwork filled out properly. Sample receipt temperatures (1.7, 1.0 and 1.5 °C) were slightly below the acceptance criteria of 4 +/- 2 °C. Based on professional judgment, sample data was likely not affected by the slightly cooler temperature; therefore, qualifiers were not applied to the data. Samples were preserved in the field as specified in SW-846 Table 2-36. Samples were prepared and analyzed within holding times specified in SW-846 Table 2-36.

Calibrations
According to the LRCs, initial calibration and continuing calibration verification data met SW-846 method requirements for VOC and SVOC analyses. Instrument performance calibrations (GC/MS tunes) for VOC and SVOC analyses were satisfactory as noted in the LRCs.

Blanks
VOCs were not-detected in the method blank (MB).

SVOCs analyzed using SW-846 8270C SIM were not-detected in the MB.

The SVOC (SW-846 8270C LL) method blank (MB) analyzed on March 7, 2005 at 9:12 had a detection of 0.00085264 mg/L bis(2-ethylhexyl)phthalate and 0.00017895 mg/L di-n-butyl phthalate. Samples MW-8-1S05, MW-7-1S05, MW-5-1S05, MW-11B-1S05, MW-10B-1S05, and MW-10A-1S05 had reported di-n-butyl phthalate detections less than ten times the MB concentration and were qualified as not-detected (U). Sample MW-7-1S05 had a reported bis(2-ethylhexyl)phthalate detection less than ten times the MB concentration and was qualified as not-detected (U).

The SVOC (SW-846 8270C LL) preparation blank (PB) analyzed on March 7, 2005 at 11:34 had a detection of 0.00092614 mg/L bis(2-ethylhexyl)phthalate and 0.00024407 mg/L di-n-butyl phthalate. Samples MW-8-1S05, MW-7-1S05, MW-5-1S05, MW-11B-1S05, MW-10B-1S05, and MW-10A-1S05 had reported di-n-butyl phthalate detections less than ten times the PB concentration and were qualified as not-detected (U). Sample MW-7-1S05 had a reported bis(2-ethylhexyl)phthalate detection less than ten times the PB concentration and was qualified as not-detected (U).

No VOCs were detected above the MDL in the trip blank (TB-01-1S05).

No field blank was associated with this laboratory package.

Internal Standard and Surrogate Recoveries
Surrogate recoveries for ground water VOC and SVOC analyses were within the laboratory QC objectives.

According to the LRC, VOC internal standards were within method acceptance limits.

According to the LRC, SVOC internal standards were outside acceptance limits. Sample MW-10A-1S05 had naphthalene-d8, acenaphthene-d10, and perylene-d12 internal standards areas below acceptable limits. 2,4-Dimethylphenol, 2-chloronaphthalene, 2-methylnaphthalene, 4-nitrophenol, naphthalene, nitrobenzene, acenaphthene, acenaphthylene, dibenzofuran, and fluorene were reported as not-detected, and were qualified as not-detected at the estimated reporting limit (UJ).

Laboratory Control Samples
VOC and SVOC laboratory control sample recoveries met the laboratory QC objectives.

Matrix Spike/Matrix Spike Duplicates
Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy results were within laboratory QC acceptance criteria for VOC and SVOC analyses. The MS/MSD samples for VOC and SVOC (SW-846 8270C LL) analyses were not associated with the project site.

Field Precision
Field duplicates were not associated with this data package.

Field Procedures
Samples were collected using the TCEQ-approved Ground Water Sampling and Analysis Plan.

Summary
Ground water analytical data are usable for the purpose of determining constituent concentrations in ground water for comparison to PQLs or background. The user is advised that sample MW-7-1S05 was qualified as not-detected (U) for bis(2-ethylhexyl)phthalate due to method blank and preparation blank detections above the MDL. Samples MW-8-1S05, MW-7-1S05, MW-5-1S05, MW-11B-1S05, MW-10B-1S05, and MW-10A-1S05 were qualified as not-detected (U) for di-n-butyl phthalate due to method blank and preparation blank detections above the MDL. Sample MW-10A-1S05 was qualified as not-detected at the estimated reporting

limit (UJ) for 2,4-dimethylphenol, 2-chloronaphthalene, 2-methylnaphthalene, 4-nitrophenol, naphthalene, nitrobenzene, acenaphthene, acenaphthylene, dibenzofuran, and fluorene due to internal standards outside acceptance limits.

Table C-1 - Cross-Reference Field Sample Identification and Laboratory Identification

Field Identification	*Laboratory Identification*
MW-8-1S05	291381-1
MW-7-1S05	291381-2
MW-5-1S05	291381-3
MW-11B-1S05	291381-4
MW-10B-1S05	291381-5
MW-10A-1S05	291381-6
TB-01-1S05	291381-7
NOTES: TB-01-1S05 is a Trip Blank.	

Table C-2

Qualified Analytical Data
Laboratory Package 291381

Houston Wood Preserving Works Site
Union Pacific RailRoad

Field Identification	Analyte	Qualification	Reason for Qualification
MW-7-1S05	bis(2-ethylhexyl)phthalate	U	Analyte detected above MDL in Method Blank
MW-8-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Method Blank
MW-7-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Method Blank
MW-5-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Method Blank
MW-11B-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Method Blank
MW-10B-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Method Blank
MW-10A-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Method Blank
MW-7-1S05	bis(2-ethylhexyl)phthalate	U	Analyte detected above MDL in Preparation Blank
MW-8-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Preparation Blank
MW-7-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Preparation Blank
MW-5-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Preparation Blank
MW-11B-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Preparation Blank
MW-10B-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Preparation Blank
MW-10A-1S05	di-n-butyl phthalate	U	Analyte detected above MDL in Preparation Blank
MW-10A-1S05	2,4-dimethylphenol	UJ	Internal standard below acceptance limits.
MW-10A-1S05	2-methylnaphthalene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	naphthalene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	nitrobenzene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	acenaphthene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	acenaphthylene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	dibenzofuran	UJ	Internal standard below acceptance limits.
MW-10A-1S05	fluorene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	2-chloronaphthalene	UJ	Internal standard below acceptance limits.
MW-10A-1S05	4-nitrophenol	UJ	Internal standard below acceptance limits.

Notes:
UJ = The analyte was analyzed for but not detected above the reported sample quantitation limit. The associated valued is an estimate and may be inaccurate or imprecise.
U=not-detected

SEVERN TRENT STL

ANALYTICAL REPORT

JOB NUMBER: 291381
Project ID: UPRR-HWPW-0014419 60

Prepared For:

ERM Southwest, Inc.- Houston
15810 Park Ten Place
Suite 300
Houston, TX 77084

Attention: Chris Young

Date: 03/23/2005

Signature

Name: Sachin G. Kudchadkar

Title: Project Manager III

E-Mail: [redacted]

03/24/05
Date

Severn Trent Laboratories
6310 Rothway Drive
Houston, TX 77040

PHONE: 713-690-4444

TOTAL NO. OF PAGES 46

SEVERN TRENT STL

03/23/2005

Chris Young
ERM Southwest, Inc.- Houston
15810 Park Ten Place
Suite 300
Houston, TX 77084

Reference:
Project : UPRR-HWPW-0014419/60
Project No. : 291381
Date Received : 03/03/2005
STL Job : 291381

Dear Chris Young:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

1. MW-8-1S05
2. MW-7-1S05
3. MW-5-1S05
4. MW-11B-1S05
5. MW-10B-1S05
6. MW-10A-1S05
7. TB-01-1S05

All holding times were met for the tests performed on these samples.

Enclosed, please find the Quality Control Summary. All quality control results for the QC batch that are applicable to the sample(s) are acceptable except as noted in the QC batch reports.

The test results in this report meet all NELAP requirements for STL Houston's NELAP accredited parameters. Any exceptions to NELAP requirements will be noted and included in a case narrative as a part of this report.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Severn-Trent Laboratories to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely,

Sachin G. Kudchadkar
Project Manager

SEVERN TRENT STL

Table 1

Cross-Reference Field Sample Identifications and Laboratory Identifications

Field Identification	EPA Sample Number	Laboratory Identification	8260B	8270C	Comment
MW-8-1S05	MW-8-1S05	291381-1	X	X	
MW-7-1S05	MW-7-1S05	291381-2	X	X	
MW-5-1S05	MW-5-1S05	291381-3	X	X	
MW-11B-1S05	MW-11B-1S05	291381-4	X	X	
MW-10B-1S05	MW-10B-1S05	291381-5	X	X	
MW-10A-1S05	MW-10A-1S05	291381-6	X	X	
TB-01-1S05	TB-01-1S05	291381-7	X		Trip Blank

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Appendix A Laboratory Data Package Cover Page

This data package consists of:

- ☐ 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.
- ☐ The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

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 laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

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

Norman Flynn		Laboratory Director	3/24/05
Name (Printed)	Signature	Official Title (printed)	Date

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/04/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: ZFL	Prep Batch Number(s): 123882-VOA

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	2
		Were MS/MSD RPDs within laboratory QC limits?				X	2
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = 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).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/04/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: ZFL	Prep Batch Number(s): 123882-VOA

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 03/04/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: ZFL	Prep Batch Number(s): 123882-VOA

ER #[1]	DESCRIPTION
1	The temperatures of all coolers received by the laboratory on 03/02/05 were below the acceptable range of 2.0-6.0 °C.
2	The laboratory selected another client's sample to perform as the MS/MSD.

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

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/08/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: LG	Prep Batch Number(s): 123893-SV

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?		X			2
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				X	3
		Were MS/MSD RPDs within laboratory QC limits?				X	3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = 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).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/08/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: LG	Prep Batch Number(s): 123893-SV

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			4
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 03/08/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: LG	Prep Batch Number(s): 123893-SV

ER #[1]	DESCRIPTION
1	The temperatures of all coolers received by the laboratory on 03/02/05 were below the acceptable range of 2.0-6.0 °C.
2	Bis(2-ethylhexyl)phthalate was detected above the MQL in the extraction blank.
3	The laboratory selected another client's sample to perform as the MS/MSD.
4	The naphthalene-d8, acenaphthene-d10, and perylene-d12 internal standard areas in sample 291381-6 were below acceptance limits. Per method requirements, no corrective action was necessary.

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

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/11/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: LG	Prep Batch Number(s): 123894-SV SIM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = 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).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/11/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291381
Reviewer Name: LG	Prep Batch Number(s): 123894-SV SIM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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.
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Appendix A (cont'd): Laboratory Review Checklist: Exception Reports		
Laboratory Name: STL-Houston		LRC Date: 03/11/05
Project Name: UPRR-HWPW-0014419 60		Laboratory Job Number: 291381
Reviewer Name: LG		Prep Batch Number(s): 123894-SV SIM
ER #[1]	DESCRIPTION	
1	The temperatures of all coolers received by the laboratory on 03/02/05 were below the acceptable range of 2.0-6.0 °C.	

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

SEVERN TRENT **STL**

29138

CHAIN OF CUSTODY RECORD

Customer Information		Project Information			Analysis/Method	No. 57216-3
PO	726270	PROJECT NAME	99000484/HWPW	A B C D E F G H I J K L M N O P Q R S	8260 8270LL 8270SIM Level 2/ TRRP data package	
WO	0014419/60	LAB NUMBER	BOTTLE ORDER			
COMPANY	ERM Southwest, Inc.- Houston	BILL TO	Union Pacific Railroad			
SEND REPORT TO	Chris Young	INVOICE ATTN	Geoff Reeder			
ADDRESS	15810 Park Ten Place Suite 300	ADDRESS	24125 Aldine Westfield Road			
CITY/STATE/ZIP	Houston, TX 77084	CITY/STATE/ZIP	Spring, TX 77373-9015			
PHONE	281-600-1000	PHONE	281-350-7197			
FAX	281-600-1001	FAX	281-350-7362			

SAMP NO.	SAMPLE DESCRIPTION	PRESERVE	F	SAMPLE MATRIX	SAMPLE DATE	SAMPLE TIME	# CONTAINER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	MW-8-1505			Water	3-1-05	1548	7	X	X	X																
2	MW-7-1505			Water		1540	7	X	X	X																
3	MW-5-1505			Water		1700	7	X	X	X																
4	MW-11B-1505			Water		1538	7	X	X	X																
5	MW-10B-1505			Water		1658	7	X	X	X																
6	MW-10A-1505			Water		1658	7	X	X	X																
7	~~(AD) TB 030105~~ TB-01-1505			Water		—	2	X																		
8				Water																						

Sampler: Andy Dickinson

Shipment Method: Pickup @ ERM

Airbill No.:

Required TurnAround: 14 Days/28

1. Relinquished By:	Date 3/1/05	2. Relinquished By:	Date 3-2-05	3. Relinquished By:	Date
Company Name: ERM-SW	Time 1800	Company Name: STL	Time 3:47	Company Name:	Time
1. Received By:	Date 3-2-05	2. Received By: Todd Clauch	Date 03-02-05	3. Received By:	Date
Company Name: STL	Time 2:40	Company Name: STL	Time 15:47	Company Name:	Time

Severn Trent Laboratories 6310 Rothway Drive Houston, TX 77040 713-690-4444 FAX 713-690-5646

rpjsckl	Job Sample Receipt Checklist Report	V2

Job Number.: 291381 Location.: 57216 Check List Number.: 1 Description.:
Customer Job ID.....: Job Check List Date.: 03/03/2005 Date of the Report..: 03/03/2005
Project Number.: 99000484 Project Description.: UPRR-HWPW-0014419/60 Project Manager.....: sgk
Customer.....: ERM Southwest, Inc.- Houston Contact.: Chris Young

Questions ?	(Y/N)	Comments
Chain of Custody Received?.....	Y	
...If "yes", completed properly?.....	Y	
Custody seal on shipping container?.....	Y	
...If "yes", custody seal intact?.....	Y	
Custody seals on sample containers?.....	N	
...If "yes", custody seal intact?.....		
Samples chilled?.....	Y	
Temperature of cooler acceptable? (4 deg C +/- 2).	Y	1.7/1.0/1.5
...If "no", is sample an air matrix?(no temp req.)		
Thermometer ID.....	Y	405
Samples received intact (good condition)?.....	Y	
Volatile samples acceptable? (no headspace).....	Y	
Correct containers used?.....	Y	
Adequate sample volume provided?.....	Y	
Samples preserved correctly?.....	Y	
Samples received within holding-time?.....	Y	
Agreement between COC and sample labels?.....	Y	
Radioactivity at or below background levels?.....	Y	
Additional.....		
Comments.....		
Sample Custodian Signature/Date.....	Y	TFC

TC
03-03-05

STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: E-R - R

CARRIER/DRIVER NAME: FE

PROJECT:

UNPACKED BY:

DATE RECEIVED: 2005 MAR -2 PM 3:47

UNPACKED STAMP: 2005 MAR -3 AM 7:49

TOTAL # COOLERS RECEIVED: 3

COOLER CHECKLIST

COOLER ID	COC PRESENT (Y/N)	CUSTODY TAPE		COOLER TEMP (°C)	THERM ID	TEMP BLK PRESENT (Y/N)	List Sample Bottles in Each Cooler if out of Temperature
		PRESENT (Y/N)	INTACT (Y/N)				
Cw/32	Y	C Y	Y	1.7	405		
		B					
Bw/8	Y	C Y	Y	1.0	405		
		B					
Bw/155	Y	C Y	Y	1.5	405		
		B					

C = COOLER B = BOTTLES

COOLER(S) SCREENED FOR RADIATION? Yes ✓ No ___ IF TEMP BLK N, HOW WAS TEMP TAKEN: ___

SHORT HOLD / RUSH SAMPLES (include department delivered to and time delivered)

****

SPECIFIC PROJECT INFORMATION

JOB NUMBER: 291381

VOLATILE HEADSPACE ACCEPTABLE? Yes ✓ No ___ NA ___

(If ANY headspace is present, list details in INCONSISTENCIES section)

Marked As Preserved? Yes ___ No ___

Number of VOA Vials: 20

pH OF WATER SAMPLES

PRESERVATION	# BOTTLES	CORRECT pH (Y/N)	If N, List sample ID and Corresponding pH
H2SO4 (<2)			
HNO3 (<2)			
HCL (<2) (Not VOA Vials)			
NaOH – Cyanide (>12)			
NaOH/Zn Acetate – Sulfide (>9)			
Other NA2S2O3	24	✓	

OF NEAT BOTTLES: ___ # OF SOIL JARS: ___

INCONSISTENCIES – Place in Job Notes as well (CTRL F-12)

ACTION TAKEN

PERSON CONTACTED: ___ DATE: ___

RESOLUTION ___

NOTES ___

(Use back of sheet if necessary)

Project Manager ___

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-8-1S05
Date/Time Sampled .....: 3/1/2005 15:48
Date/Time Received .....: 3/2/2005 15:47

Laboratory Sample ID: 291381-001
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 19:30	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 19:30	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 19:30	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 19:30	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 19:30	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 19:30	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 19:30	123882	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-8-1S05 Laboratory Sample ID: 291381-001

Date/Time Sampled .....: 3/1/2005 15:48 Sample Matrix .....: Water

Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
2,4-Dimethylphenol	105-67-9	0.000300	U		0.000310	0.000500	0.000300	mg/L	3/7/2005 12:03	124059	1.00	lg1
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 12:03	124059	1.00	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U		0.000830	0.00150	0.000790	mg/L	3/7/2005 12:03	124059	1.00	lg1
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:03	124059	1.00	lg1
4-Nitrophenol	100-02-7	0.000530	U		0.000560	0.00150	0.000530	mg/L	3/7/2005 12:03	124059	1.00	lg1
Acenaphthene	83-32-9	0.000120	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:03	124059	1.00	lg1
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 12:03	124059	1.00	lg1
Anthracene	120-12-7	0.000150	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:03	124059	1.00	lg1
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/7/2005 12:03	124059	1.00	lg1
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/7/2005 12:03	124059	1.00	lg1
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/7/2005 12:03	124059	1.00	lg1
Dibenzofuran	132-64-9	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 12:03	124059	1.00	lg1
Di-n-butyl Phthalate	84-74-2	0.000190	J	U	0.000110	0.000500	0.000100	mg/L	3/7/2005 12:03	124059	1.00	lg1
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 12:03	124059	1.00	lg1

CMK 6/29/05

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-8-1S05
Laboratory Sample ID: 291381-001
Date/Time Sampled .....: 3/1/2005 15:48
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:03	124059	1.00	lg1
Naphthalene	91-20-3	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 12:03	124059	1.00	lg1
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/7/2005 12:03	124059	1.00	lg1
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/7/2005 12:03	124059	1.00	lg1
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 12:03	124059	1.00	lg1
Phenol	108-95-2	0.0000400	U		0.0000400	0.000500	0.0000400	mg/L	3/7/2005 12:03	124059	1.00	lg1
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 12:03	124059	1.00	lg1
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000100	U		0.0000110	0.000100	0.0000100	mg/L	3/9/2005 17:21	124355	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 17:21	124355	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/9/2005 17:21	124355	1.00	lg1
Benzo(a)pyrene	50-32-8	0.00000700	U		0.00000700	0.000100	0.00000700	mg/L	3/9/2005 17:21	124355	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 17:21	124355	1.00	lg1
Pentachlorophenol	87-86-5	0.0000380	U		0.0000400	0.000300	0.0000380	mg/L	3/9/2005 17:21	124355	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-7-1S05
Laboratory Sample ID: 291381-002
Date/Time Sampled .....: 3/1/2005 15:40
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 19:57	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 19:57	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 19:57	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 19:57	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 19:57	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 19:57	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 19:57	123882	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-7-1S05 Laboratory Sample ID: 291381-002

Date/Time Sampled .....: 3/1/2005 15:40 Sample Matrix .....: Water

Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
2,4-Dimethylphenol	105-67-9	0.000300	U		0.000310	0.000500	0.000300	mg/L	3/7/2005 12:31	124059	1.00	lg1
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 12:31	124059	1.00	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U		0.000830	0.00150	0.000790	mg/L	3/7/2005 12:31	124059	1.00	lg1
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:31	124059	1.00	lg1
4-Nitrophenol	100-02-7	0.000530	U		0.000560	0.00150	0.000530	mg/L	3/7/2005 12:31	124059	1.00	lg1
Acenaphthene	83-32-9	0.000100	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:31	124059	1.00	lg1
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 12:31	124059	1.00	lg1
Anthracene	120-12-7	0.000400	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:31	124059	1.00	lg1
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/7/2005 12:31	124059	1.00	lg1
bis(2-ethylhexyl)phthalate	117-81-7	0.000791		Ub	0.000370	0.000500	0.000350	mg/L	3/7/2005 12:31	124059	1.00	lg1 CMK 6/29/05
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/7/2005 12:31	124059	1.00	lg1
Dibenzofuran	132-64-9	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 12:31	124059	1.00	lg1
Di-n-butyl Phthalate	84-74-2	0.000160	J	L	0.000110	0.000500	0.000100	mg/L	3/7/2005 12:31	124059	1.00	lg1 CMK 6/29/05
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 12:31	124059	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-7-1S05 Laboratory Sample ID: 291381-002

Date/Time Sampled .....: 3/1/2005 15:40 Sample Matrix .....: Water

Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 12:31	124059	1.00	lg1
Naphthalene	91-20-3	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 12:31	124059	1.00	lg1
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/7/2005 12:31	124059	1.00	lg1
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/7/2005 12:31	124059	1.00	lg1
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 12:31	124059	1.00	lg1
Phenol	108-95-2	0.0000400	U		0.0000400	0.000500	0.0000400	mg/L	3/7/2005 12:31	124059	1.00	lg1
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 12:31	124059	1.00	lg1
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000110	U		0.0000110	0.000100	0.0000110	mg/L	3/9/2005 17:48	124355	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 17:48	124355	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/9/2005 17:48	124355	1.00	lg1
Benzo(a)pyrene	50-32-8	0.00000700	U		0.00000700	0.000100	0.00000700	mg/L	3/9/2005 17:48	124355	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 17:48	124355	1.00	lg1
Pentachlorophenol	87-86-5	0.0000390	U		0.0000400	0.000300	0.0000390	mg/L	3/9/2005 17:48	124355	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-5-1S05
Laboratory Sample ID: 291381-003
Date/Time Sampled .....: 3/1/2005 17:00
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 20:24	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 20:24	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 20:24	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 20:24	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 20:24	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 20:24	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 20:24	123882	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-5-1S05
Date/Time Sampled .....: 3/1/2005 17:00
Date/Time Received .....: 3/2/2005 15:47

Laboratory Sample ID: 291381-003
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
2,4-Dimethylphenol	105-67-9	0.000300	U		0.000310	0.000500	0.000300	mg/L	3/7/2005 13:00	124059	1.00	lg1
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:00	124059	1.00	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U		0.000830	0.00150	0.000790	mg/L	3/7/2005 13:00	124059	1.00	lg1
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:00	124059	1.00	lg1
4-Nitrophenol	100-02-7	0.000530	U		0.000560	0.00150	0.000530	mg/L	3/7/2005 13:00	124059	1.00	lg1
Acenaphthene	83-32-9	0.00176			0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:00	124059	1.00	lg1
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 13:00	124059	1.00	lg1
Anthracene	120-12-7	0.000140	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:00	124059	1.00	lg1
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/7/2005 13:00	124059	1.00	lg1
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/7/2005 13:00	124059	1.00	lg1
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/7/2005 13:00	124059	1.00	lg1
Dibenzofuran	132-64-9	0.000220	J		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:00	124059	1.00	lg1
Di-n-butyl Phthalate	84-74-2	0.000210	J	U	0.000110	0.000500	0.000100	mg/L	3/7/2005 13:00	124059	1.00	lg1 CMK 6/29/05
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:00	124059	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-5-1S05
Date/Time Sampled .....: 3/1/2005 17:00
Date/Time Received .....: 3/2/2005 15:47

Laboratory Sample ID: 291381-003
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.000350	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:00	124059	1.00	lg1
Naphthalene	91-20-3	0.00909			0.0000600	0.000500	0.0000600	mg/L	3/7/2005 13:00	124059	1.00	lg1
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/7/2005 13:00	124059	1.00	lg1
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/7/2005 13:00	124059	1.00	lg1
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 13:00	124059	1.00	lg1
Phenol	108-95-2	0.0000400	U		0.0000400	0.000500	0.0000400	mg/L	3/7/2005 13:00	124059	1.00	lg1
Pyrene	129-00-0	0.000150	J		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 13:00	124059	1.00	lg1
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000100	U		0.0000110	0.000100	0.0000100	mg/L	3/9/2005 18:14	124355	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 18:14	124355	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/9/2005 18:14	124355	1.00	lg1
Benzo(a)pyrene	50-32-8	0.00000700	U		0.00000700	0.000100	0.00000700	mg/L	3/9/2005 18:14	124355	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 18:14	124355	1.00	lg1
Pentachlorophenol	87-86-5	0.0000380	U		0.0000400	0.000300	0.0000380	mg/L	3/9/2005 18:14	124355	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11B-1S05
Laboratory Sample ID: 291381-004
Date/Time Sampled .....: 3/1/2005 15:38
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 20:50	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 20:50	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 20:50	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 20:50	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 20:50	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 20:50	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 20:50	123882	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11B-1S05
Date/Time Sampled .....: 3/1/2005 15:38
Date/Time Received .....: 3/2/2005 15:47

Laboratory Sample ID: 291381-004
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
2,4-Dimethylphenol	105-67-9	0.000310	U		0.000310	0.000500	0.000310	mg/L	3/7/2005 13:28	124059	1.00	lg1
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:28	124059	1.00	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000830	U		0.000830	0.00150	0.000830	mg/L	3/7/2005 13:28	124059	1.00	lg1
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:28	124059	1.00	lg1
4-Nitrophenol	100-02-7	0.000560	U		0.000560	0.00150	0.000560	mg/L	3/7/2005 13:28	124059	1.00	lg1
Acenaphthene	83-32-9	0.0131			0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:28	124059	1.00	lg1
Acenaphthylene	208-96-8	0.000310	J		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 13:28	124059	1.00	lg1
Anthracene	120-12-7	0.000250	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:28	124059	1.00	lg1
Benzo(a)anthracene	56-55-3	0.000120	U		0.000120	0.000500	0.000120	mg/L	3/7/2005 13:28	124059	1.00	lg1
bis(2-ethylhexyl)phthalate	117-81-7	0.000370	U		0.000370	0.000500	0.000370	mg/L	3/7/2005 13:28	124059	1.00	lg1
Chrysene	218-01-9	0.000130	U		0.000130	0.000500	0.000130	mg/L	3/7/2005 13:28	124059	1.00	lg1
Dibenzofuran	132-64-9	0.000270	J		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:28	124059	1.00	lg1
Di-n-butyl Phthalate	84-74-2	0.000300	J	U	0.000110	0.000500	0.000110	mg/L	3/7/2005 13:28	124059	1.00	lg1
Fluoranthene	206-44-0	0.000589			0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:28	124059	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11B-1S05
Laboratory Sample ID: 291381-004
Date/Time Sampled .....: 3/1/2005 15:38
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.000100	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:28	124059	1.00	lg1
Naphthalene	91-20-3	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 13:28	124059	1.00	lg1
Nitrobenzene	98-95-3	0.000110	U		0.000110	0.000500	0.000110	mg/L	3/7/2005 13:28	124059	1.00	lg1
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/7/2005 13:28	124059	1.00	lg1
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 13:28	124059	1.00	lg1
Phenol	108-95-2	0.0000400	U		0.0000400	0.000500	0.0000400	mg/L	3/7/2005 13:28	124059	1.00	lg1
Pyrene	129-00-0	0.000250	J		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 13:28	124059	1.00	lg1
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000110	U		0.0000110	0.000100	0.0000110	mg/L	3/9/2005 16:02	124355	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 16:02	124355	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000270	U		0.0000270	0.000100	0.0000270	mg/L	3/9/2005 16:02	124355	1.00	lg1
Benzo(a)pyrene	50-32-8	0.00000700	U		0.00000700	0.000100	0.00000700	mg/L	3/9/2005 16:02	124355	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 16:02	124355	1.00	lg1
Pentachlorophenol	87-86-5	0.0000400	U		0.0000400	0.000300	0.0000400	mg/L	3/9/2005 16:02	124355	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-10B-1S05
Date/Time Sampled .....: 3/1/2005 16:58
Date/Time Received .....: 3/2/2005 15:47

Laboratory Sample ID: 291381-005
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 21:17	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 21:17	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 21:17	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 21:17	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 21:17	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 21:17	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 21:17	123882	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-10B-1S05
Date/Time Sampled .....: 3/1/2005 16:58
Date/Time Received .....: 3/2/2005 15:47

Laboratory Sample ID: 291381-005
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
2,4-Dimethylphenol	105-67-9	0.000300	U		0.000310	0.000500	0.000300	mg/L	3/7/2005 13:57	124059	1.00	lg1
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:57	124059	1.00	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U		0.000830	0.00150	0.000790	mg/L	3/7/2005 13:57	124059	1.00	lg1
2-Methylnaphthalene	91-57-6	0.000120	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:57	124059	1.00	lg1
4-Nitrophenol	100-02-7	0.000530	U		0.000560	0.00150	0.000530	mg/L	3/7/2005 13:57	124059	1.00	lg1
Acenaphthene	83-32-9	0.0164			0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:57	124059	1.00	lg1
Acenaphthylene	208-96-8	0.000350	J		0.0000600	0.000500	0.0000600	mg/L	3/7/2005 13:57	124059	1.00	lg1
Anthracene	120-12-7	0.000995			0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:57	124059	1.00	lg1
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/7/2005 13:57	124059	1.00	lg1
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/7/2005 13:57	124059	1.00	lg1
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/7/2005 13:57	124059	1.00	lg1
Dibenzofuran	132-64-9	0.00482			0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:57	124059	1.00	lg1
Di-n-butyl Phthalate	84-74-2	0.000220	J	U	0.000110	0.000500	0.000100	mg/L	3/7/2005 13:57	124059	1.00	lg1
Fluoranthene	206-44-0	0.000941			0.0000800	0.000500	0.0000800	mg/L	3/7/2005 13:57	124059	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-10B-1S05
Laboratory Sample ID: 291381-005
Date/Time Sampled .....: 3/1/2005 16:58
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.00601			0.0000700	0.000500	0.0000700	mg/L	3/7/2005 13:57	124059	1.00	lg1
Naphthalene	91-20-3	0.00171			0.0000600	0.000500	0.0000600	mg/L	3/7/2005 13:57	124059	1.00	lg1
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/7/2005 13:57	124059	1.00	lg1
n-Nitrosodiphenylamine	86-30-6	0.00205			0.0000500	0.000500	0.0000500	mg/L	3/7/2005 13:57	124059	1.00	lg1
Phenanthrene	85-01-8	0.000544			0.0000900	0.000500	0.0000900	mg/L	3/7/2005 13:57	124059	1.00	lg1
Phenol	108-95-2	0.0000400	U		0.0000400	0.000500	0.0000400	mg/L	3/7/2005 13:57	124059	1.00	lg1
Pyrene	129-00-0	0.000410	J		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 13:57	124059	1.00	lg1
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000100	U		0.0000110	0.000100	0.0000100	mg/L	3/9/2005 18:41	124355	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 18:41	124355	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/9/2005 18:41	124355	1.00	lg1
Benzo(a)pyrene	50-32-8	0.00000700	U		0.00000700	0.000100	0.00000700	mg/L	3/9/2005 18:41	124355	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 18:41	124355	1.00	lg1
Pentachlorophenol	87-86-5	0.0000380	U		0.0000400	0.000300	0.0000380	mg/L	3/9/2005 18:41	124355	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-10A-1S05
Laboratory Sample ID: 291381-006
Date/Time Sampled .....: 3/1/2005 16:58
Sample Matrix .....: Water
Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 21:44	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 21:44	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 21:44	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 21:44	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 21:44	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 21:44	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 21:44	123882	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-10A-1S05 Laboratory Sample ID: 291381-006

Date/Time Sampled .....: 3/1/2005 16:58 Sample Matrix .....: Water

Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
2,4-Dimethylphenol	105-67-9	0.000300	U	UJ	0.000310	0.000500	0.000300	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
2-Chloronaphthalene	91-58-7	0.0000800	U	UJ	0.0000800	0.000500	0.0000800	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U		0.000830	0.00150	0.000790	mg/L	3/7/2005 14:25	124059	1.00	lg1
2-Methylnaphthalene	91-57-6	0.0000700	U	UJ	0.0000700	0.000500	0.0000700	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
4-Nitrophenol	100-02-7	0.000530	U	UJ	0.000560	0.00150	0.000530	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
Acenaphthene	83-32-9	0.0000700	U	UJ	0.0000700	0.000500	0.0000700	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
Acenaphthylene	208-96-8	0.0000600	U	UJ	0.0000600	0.000500	0.0000600	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
Anthracene	120-12-7	0.000130	J		0.0000700	0.000500	0.0000700	mg/L	3/7/2005 14:25	124059	1.00	lg1
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/7/2005 14:25	124059	1.00	lg1
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/7/2005 14:25	124059	1.00	lg1
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/7/2005 14:25	124059	1.00	lg1
Dibenzofuran	132-64-9	0.0000800	U	UJ	0.0000800	0.000500	0.0000800	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
Di-n-butyl Phthalate	84-74-2	0.000130	J	U	0.000110	0.000500	0.000100	mg/L	3/7/2005 14:25	124059	1.00	lg1 CMK 6/29/05
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/7/2005 14:25	124059	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-10A-1S05 Laboratory Sample ID: 291381-006

Date/Time Sampled .....: 3/1/2005 16:58 Sample Matrix .....: Water

Date/Time Received .....: 3/2/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.0000700	U	UJ	0.0000700	0.000500	0.0000700	mg/L	3/7/2005 14:25	124059	1.00	lg1 cmk 6/29/05
Naphthalene	91-20-3	0.0000600	U	UJ	0.0000600	0.000500	0.0000600	mg/L	3/7/2005 14:25	124059	1.00	lg1 cmk 6/29/05
Nitrobenzene	98-95-3	0.000100	U	UJ	0.000110	0.000500	0.000100	mg/L	3/7/2005 14:25	124059	1.00	lg1 cmk 6/29/05
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/7/2005 14:25	124059	1.00	lg1
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 14:25	124059	1.00	lg1
Phenol	108-95-2	0.0000400	U		0.0000400	0.000500	0.0000400	mg/L	3/7/2005 14:25	124059	1.00	lg1
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/7/2005 14:25	124059	1.00	lg1
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000100	U		0.0000110	0.000100	0.0000100	mg/L	3/9/2005 19:07	124355	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 19:07	124355	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/9/2005 19:07	124355	1.00	lg1
Benzo(a)pyrene	50-32-8	0.00000700	U		0.00000700	0.000100	0.00000700	mg/L	3/9/2005 19:07	124355	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.00000900	U		0.00000900	0.000100	0.00000900	mg/L	3/9/2005 19:07	124355	1.00	lg1
Pentachlorophenol	87-86-5	0.0000380	U		0.0000400	0.000300	0.0000380	mg/L	3/9/2005 19:07	124355	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291381 Date: 3/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: TB-01-1S05
Laboratory Sample ID: 291381-007
Date/Time Sampled .....: 3/1/2005 00:00
Sample Matrix .....: Trip Blank
Date/Time Received .....: 3/3/2005 15:47

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 22:11	123882	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/4/2005 22:11	123882	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/4/2005 22:11	123882	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/4/2005 22:11	123882	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/4/2005 22:11	123882	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/4/2005 22:11	123882	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/4/2005 22:11	123882	1.00	zfl

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 8270C Units.....: ug/L Analyst...: lg1
Method Description.: Semivolatile Organics - SIM Analysis Batch(s)...: 124355

LCS	Laboratory Control Sample	SVS020805A	123894		03/09/2005	1535

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.79637		1.00		79.6		30-130	
bis(2-chloroethoxy)methane, Water	0.72175		1.00		72.2		30-130	
2,4-Dinitrotoluene, Water	0.76768		1.00		76.8		60-140	
2,6-Dinitrotoluene, Water	0.80051		1.00		80.1		60-140	
Pentachlorophenol, Water	0.69671		1.00		69.7		50-150	
1,2-Diphenylhydrazine, Water	0.89065		1.00		89.1		30-130	

MB	Method Blank	SVS021105F	123894		03/09/2005	1509

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0							
bis(2-chloroethoxy)methane, Water	0							
2,4-Dinitrotoluene, Water	0							
2,6-Dinitrotoluene, Water	0							
Pentachlorophenol, Water	0							
1,2-Diphenylhydrazine, Water	0							

MS	Matrix Spike	SVS020805A	291381-4		03/09/2005	1628

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.82374		1.00	0	82		30-130	
bis(2-chloroethoxy)methane, Water	0.55477		1.00	0	55		30-130	
2,4-Dinitrotoluene, Water	0.82760		1.00	0	83		24-96	
2,6-Dinitrotoluene, Water	0.80960		1.00	0	81		30-130	
Pentachlorophenol, Water	0.63340		1.00	0	63		5-103	
1,2-Diphenylhydrazine, Water	0.78499		1.00	0	78		60-140	

MSD	Matrix Spike Duplicate	SVS020805A	291381-4		03/09/2005	1655

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.82353	0.82374	1.00	0	82		30.0-130.0	
					0.0		40.0	
bis(2-chloroethoxy)methane, Water	0.54995	0.55477	1.00	0	55		30.0-130.0	
					0.9		30.0	
2,4-Dinitrotoluene, Water	0.82720	0.82760	1.00	0	83		24.0-96.0	
					0.0		30.0	
2,6-Dinitrotoluene, Water	0.80843	0.80960	1.00	0	81		30.0-130.0	
					0.1		30.0	
Pentachlorophenol, Water	0.61202	0.63340	1.00	0	61		5.0-103.0	
					3.4		40.0	
1,2-Diphenylhydrazine, Water	0.79948	0.78499	1.00	0	80		60.0-140.0	
					1.8		40.0	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 8270C Units.....: ug/L Analyst...: lg1
Method Description.: Semivolatile Organics, Low Level Batch(s)...: 124059

LCS	Laboratory Control Sample	SVS022405A	123893		03/07/2005	0940

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	8.15263		10.0		81.5		32-165	
Acenaphthylene, Water	8.38004		10.0		83.8		10-150	
Anthracene, Water	9.07082		10.0		90.7		23-178	
Benzo(a)anthracene, Water	8.16472		10.0		81.6		25-180	
bis(2-ethylhexyl)phthalate, Water	8.09348		10.0		80.9		25-173	b
2-Chloronaphthalene, Water	8.00288		10.0		80.0		23-143	
Chrysene, Water	8.25587		10.0		82.6		23-180	
Dibenzofuran, Water	8.28936		10.0		82.9		35-153	
Di-n-butyl Phthalate, Water	8.47773		10.0		84.8		28-185	
Fluoranthene, Water	8.56406		10.0		85.6		28-180	
Fluorene, Water	8.62139		10.0		86.2		30-189	
2-Methylnaphthalene, Water	8.33598		10.0		83.4		26-168	
Naphthalene, Water	8.42935		10.0		84.3		36-139	
Nitrobenzene, Water	8.08861		10.0		80.9		17-163	
n-Nitrosodiphenylamine, Water	9.66692		10.0		96.7		58-174	
Phenanthrene, Water	8.49514		10.0		85.0		26-166	
Pyrene, Water	8.10764		10.0		81.1		28-173	
2,4-Dimethylphenol, Water	7.47586		10.0		74.8		23-157	
2-Methyl-4,6-dinitrophenol, Water	8.03869		10.0		80.4		10-164	
4-Nitrophenol, Water	3.41549		10.0		34.2		10-92	
Phenol, Water	4.01423		10.0		40.1		20-83	

MB	Method Blank	SVS021105F	123893		03/07/2005	0912

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	0							
Acenaphthylene, Water	0							
Anthracene, Water	0							
Benzo(a)anthracene, Water	0							
bis(2-ethylhexyl)phthalate, Water	0.85264							b
2-Chloronaphthalene, Water	0							
Chrysene, Water	0							
Dibenzofuran, Water	0							
Di-n-butyl Phthalate, Water	0.17895							
Fluoranthene, Water	0							
Fluorene, Water	0							
2-Methylnaphthalene, Water	0							
Naphthalene, Water	0							
Nitrobenzene, Water	0							
n-Nitrosodiphenylamine, Water	0							
Phenanthrene, Water	0							
Pyrene, Water	0							
2,4-Dimethylphenol, Water	0							
2-Methyl-4,6-dinitrophenol, Water	0							
4-Nitrophenol, Water	0							
Phenol, Water	0							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	SVS022405A	291390-1		03/07/2005	1037

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	7.28488		10.0	0	73		46-118	
Acenaphthylene, Water	7.32942		10.0	0	73		30-130	
Anthracene, Water	8.41175		10.0	0	84		30-130	
Benzo(a)anthracene, Water	7.53939		10.0	0.15565	74		60-140	
bis(2-ethylhexyl)phthalate, Water	7.31956		10.0	0.96066	64		60-140	b
2-Chloronaphthalene, Water	6.96914		10.0	0	70		30-130	
Chrysene, Water	7.63932		10.0	0	76		30-130	
Dibenzofuran, Water	7.47261		10.0	0.12002	74		30-130	
Di-n-butyl Phthalate, Water	7.93878		10.0	0.25281	77		30-130	
Fluoranthene, Water	7.89825		10.0	0	79		30-130	
Fluorene, Water	7.80259		10.0	0	78		30-130	
2-Methylnaphthalene, Water	8.03437		10.0	0	80		60-140	
Naphthalene, Water	8.01269		10.0	0.24611	78		30-130	
Nitrobenzene, Water	10.6480		10.0	0	106		30-130	
n-Nitrosodiphenylamine, Water	8.18538		10.0	0	82		30-130	
Phenanthrene, Water	7.36696		10.0	0	74		30-130	
Pyrene, Water	7.33195		10.0	0	73		26-115	
2,4-Dimethylphenol, Water	5.22415		10.0	0	52		30-130	
2-Methyl-4,6-dinitrophenol, Water	8.36303		10.0	0	84		30-130	
4-Nitrophenol, Water	6.03066		10.0	0	60		10-80	
Phenol, Water	3.48135		10.0	0	35		10-112	

MSD	Matrix Spike Duplicate	SVS022405A	291390-1		03/07/2005	1106

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	7.62499	7.28488	10.0	0	76		46-118	
					4.6		31.0	
Acenaphthylene, Water	7.45184	7.32942	10.0	0	75		30-130	
					1.7		50.0	
Anthracene, Water	8.28091	8.41175	10.0	0	83		30-130	
					1.6		50.0	
Benzo(a)anthracene, Water	7.54893	7.53939	10.0	0.15565	74		60-140	
					0.1		50.0	
bis(2-ethylhexyl)phthalate, Water	7.28054	7.31956	10.0	0.96066	63		60-140	b
					0.5		30.0	
2-Chloronaphthalene, Water	7.20642	6.96914	10.0	0	72		30-130	
					3.3		50.0	
Chrysene, Water	7.28925	7.63932	10.0	0	73		30-130	
					4.7		50.0	
Dibenzofuran, Water	7.61866	7.47261	10.0	0.12002	75		30-130	
					1.9		50.0	
Di-n-butyl Phthalate, Water	8.18990	7.93878	10.0	0.25281	79		30-130	
					3.1		50.0	
Fluoranthene, Water	8.27879	7.89825	10.0	0	83		30-130	
					4.7		50.0	
Fluorene, Water	7.88464	7.80259	10.0	0	79		30-130	
					1.0		50.0	
2-Methylnaphthalene, Water	7.98299	8.03437	10.0	0	80		60-140	
					0.6		30.0	
Naphthalene, Water	8.20342	8.01269	10.0	0.24611	80		30-130	
					2.4		50.0	
Nitrobenzene, Water	9.97593	10.6480	10.0	0	100		30-130	
					6.5		50.0	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	SVS022405A	291390-1		03/07/2005	1106

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
n-Nitrosodiphenylamine, Water	8.41094	8.18538	10.0	0	84		30-130	
					2.7		50.0	
Phenanthrene, Water	7.78129	7.36696	10.0	0	78		30-130	
					5.5		50.0	
Pyrene, Water	7.49872	7.33195	10.0	0	75		26-115	
					2.2		31.0	
2,4-Dimethylphenol, Water	5.33200	5.22415	10.0	0	53		30-130	
					2.0		50.0	
2-Methyl-4,6-dinitrophenol, Water	8.68946	8.36303	10.0	0	87		30-130	
					3.8		50.0	
4-Nitrophenol, Water	5.40793	6.03066	10.0	0	54		10-80	
					10.9		50.0	
Phenol, Water	3.71553	3.48135	10.0	0	37		10-112	
					6.5		23.0	

PB	Prep. Blank	SVS021105F	123893		03/07/2005	1134

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	0							
Acenaphthylene, Water	0							
Anthracene, Water	0							
Benzo(a)anthracene, Water	0							
bis(2-ethylhexyl)phthalate, Water	0.92614							b
2-Chloronaphthalene, Water	0							
Chrysene, Water	0							
Dibenzofuran, Water	0							
Di-n-butyl Phthalate, Water	0.24407							
Fluoranthene, Water	0							
Fluorene, Water	0							
2-Methylnaphthalene, Water	0							
Naphthalene, Water	0							
Nitrobenzene, Water	0							
n-Nitrosodiphenylamine, Water	0							
Phenanthrene, Water	0							
Pyrene, Water	0							
2,4-Dimethylphenol, Water	0							
2-Methyl-4,6-dinitrophenol, Water	0							
4-Nitrophenol, Water	0							
Phenol, Water	0							

Test Method.....: SW-846 8260B Units.....: ug/L Analyst...: zfl
Method Description.: Volatile Organics Batch(s)...: 123882

LCS	Laboratory Control Sample	VS022105E			03/04/2005	1220

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	44.7378		50.00	ND	89.5		68-127	
Chlorobenzene, Water	43.9965		50.00	ND	88.0		65-129	
1,2-Dichloroethane, Water	41.1588		50.00	ND	82.3		65-133	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	VS022105E			03/04/2005	1220

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Ethylbenzene, Water	44.0216		50.00	ND	88.0		64-132	
Methylene Chloride, Water	48.1704		50.00	ND	96.3		54-133	
Toluene, Water	45.1138		50.00	ND	90.2		63-127	
Xylenes (total), Water	132.783		150.0	ND	88.5		37-161	

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank	VS022105C			03/04/2005	1314

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	ND							
Chlorobenzene, Water	ND							
1,2-Dichloroethane, Water	ND							
Ethylbenzene, Water	ND							
Methylene Chloride, Water	ND							
Toluene, Water	ND							
Xylenes (total), Water	ND							

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	VS022105E	290927-10		03/04/2005	1809

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	44.2458		50.00	ND	88		65-125	
Chlorobenzene, Water	42.1054		50.00	ND	84		74-122	
1,2-Dichloroethane, Water	36.0765		50.00	ND	72		60-140	
Ethylbenzene, Water	43.0777		50.00	ND	86		60-140	
Methylene Chloride, Water	43.3968		50.00	ND	87		60-140	
Toluene, Water	42.7468		50.00	ND	85		76-125	
Xylenes (total), Water	128.207		150.0	3.61482	83		60-140	

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	VS022105E	290927-10		03/04/2005	1836

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	43.5054	44.2458	50.00	ND	87		65.0-125.0	
					1.7		30.0	
Chlorobenzene, Water	42.8873	42.1054	50.00	ND	86		74.0-122.0	
					1.8		30.0	
1,2-Dichloroethane, Water	39.0893	36.0765	50.00	ND	78		60.0-140.0	
					8.0		30.0	
Ethylbenzene, Water	42.9088	43.0777	50.00	ND	86		60.0-140.0	
					0.4		30.0	
Methylene Chloride, Water	41.9701	43.3968	50.00	ND	84		60.0-140.0	
					3.3		30.0	
Toluene, Water	43.2251	42.7468	50.00	ND	86		76.0-125.0	
					1.1		30.0	
Xylenes (total), Water	129.147	128.207	150.0	3.61482	84		60.0-140.0	
					0.7		30.0	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SURROGATE RECOVERIES REPORT

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Method.....: Volatile Organics Method Code...: 8260 Prep Batch....:
Batch(s).....: 123882 Test Matrix...: Water Equipment Code: GCMSVOA04

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
123882--21	LCS		03/04/2005	95.1	101.2	103.1	101.5
123882--21	MB		03/04/2005	97.9	106.4	100.8	100.8
290927- 10	MS	737 COKER	03/04/2005	79.5	100.6	90.1	95.3
290927- 10	MSD	737 COKER	03/04/2005	82.5	101.8	88.5	100.6
291381- 1		MW-8-1S05	03/04/2005	77.9	108.7	93.3	101.6
291381- 2		MW-7-1S05	03/04/2005	81.6	103.0	88.0	98.5
291381- 3		MW-5-1S05	03/04/2005	88.9	108.1	94.8	106.4
291381- 4		MW-11B-1S05	03/04/2005	83.3	103.2	89.4	102.2
291381- 5		MW-10B-1S05	03/04/2005	75.4	104.8	88.7	99.3
291381- 6		MW-10A-1S05	03/04/2005	76.7	101.1	85.6	102.5
291381- 7		TB-01-1S05	03/04/2005	77.7	104.1	91.8	103.4

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4	70 - 130
BRFLBE	4-Bromofluorobenzene	70 - 130
DBRFLM	Dibromofluoromethane	70 - 130
TOLD8	Toluene-d8	70 - 130

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SURROGATE RECOVERIES REPORT

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: 483648 PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Method.....: Semivolatile Organics, Low Level Method Code...: 8270LL Prep Batch....: 123893
Batch(s).....: 124059 Test Matrix...: Water Equipment Code: EGCMS07

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	2FLUPH	NITRD5	PHEND6	TERD14
291381- 1		MW-8-1S05	03/07/2005	101.3	61.6	25.5	65.1	20.1	87.2
291381- 2		MW-7-1S05	03/07/2005	97.1	62.5	37.7	75.4	23.3	80.5
291381- 3		MW-5-1S05	03/07/2005	97.5	68.8	37.4	75.8	20.3	92.0
291381- 4		MW-11B-1S05	03/07/2005	79.3	52.5	32.0	53.7	25.9	68.6
291381- 5		MW-10B-1S05	03/07/2005	105.0	69.1	39.7	74.2	23.1	85.6
291381- 6		MW-10A-1S05	03/07/2005	105.0	60.2	35.1	65.5	22.1	94.2
291390- 1	MS	MW-1-GW-0305	03/07/2005	99.0	76.5	53.3	85.7	36.4	79.6
291390- 1	MSD	MW-1-GW-0305	03/07/2005	102.5	79.4	59.5	87.4	38.5	79.3
123893--21	LCS		03/07/2005	96.3	85.9	46.0	87.4	35.8	85.7
123893--21	MB		03/07/2005	86.7	80.8	47.7	82.2	32.9	88.3
123893--21	PB		03/07/2005	82.1	69.3	58.2	80.8	44.7	81.2

Test	Test Description	Limits
246TBP	2,4,6-Tribromophenol	10 - 123
2FLUBP	2-Fluorobiphenyl	43 - 116
2FLUPH	2-Fluorophenol	21 - 100
NITRD5	Nitrobenzene-d5	35 - 114
PHEND6	Phenol-d6	10 - 94
TERD14	Terphenyl-d14	33 - 141

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SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 291381 Report Date.: 03/23/2005

CUSTOMER: 483648 PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Method.....: Semivolatile Organics - SIM Analysis Method Code...: 8270SI Prep Batch....: 123894
Batch(s).....: 124355 Test Matrix...: Water Equipment Code: EGCMS08

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	NITRD5	TERD14
291381- 1		MW-8-1S05	03/09/2005	74.8	77.1	67.9	89.4
291381- 2		MW-7-1S05	03/09/2005	70.3	82.4	72.8	81.5
291381- 3		MW-5-1S05	03/09/2005	73.1	71.5	75.5	90.3
291381- 4		MW-11B-1S05	03/09/2005	71.9	64.7	52.0	68.8
291381- 4	MS	MW-11B-1S05	03/09/2005	77.6	77.2	61.6	90.4
291381- 4	MSD	MW-11B-1S05	03/09/2005	80.5	75.0	61.4	87.4
291381- 5		MW-10B-1S05	03/09/2005	86.6	80.3	74.9	88.7
291381- 6		MW-10A-1S05	03/09/2005	95.0	67.0	68.7	91.7
123894--21	LCS		03/09/2005	89.4	91.3	86.9	88.7
123894--21	MB		03/09/2005	80.7	91.0	84.0	94.5

Test	Test Description	Limits
246TBP	2,4,6-Tribromophenol	10 - 123
2FLUBP	2-Fluorobiphenyl	43 - 116
NITRD5	Nitrobenzene-d5	35 - 114
TERD14	Terphenyl-d14	33 - 141

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SEVERN TRENT STL

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 03/23/2005

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
3) According to 40CFR Part 136.3, pH, Chlorine Residual, and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field,(e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.
4) For all USACE projects, the QC limits are based on "mean +/- 2 sigma", which are the warning limits.

General Information:

- Cresylic Acid is the combination of o,m and p-Cresol. The combination is reportesd as the final result.
- m-Cresol and p-Cresol co-elute. The result of the two is reported as either m&p-cresol or as p-cresol.
- m-Xylene and p-Xylene co-elute. The result of the two is reported as m,p-Xylene.
- N-Nitrosodiphenylamine decomposes in the gas chromatograph inlet forming dipheylamine and, consequently, may be detected as diphenylamine.
- Methylene Chloride and Acetone are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
- Trimethysilyl(Diazomethane) is used to esterify acid herbicides in Method SW-846 8151A.
- For Inorganic analyses, duplicate QC limits are determined as follows: If the sample result is less than or equal to 5 times the reporting limit, the RPD limit is equal to the reporting limit. If the sample result is greater than 5 times the reporting limit, the RPD limit is the method defined RPD.

Explanation of Qualifiers:

U - This qualifier indicates that the analyte was analyzed but not detected.
J - (Organics only) This qualifier indicates that the analyte is an estimated value between the RL and the MDL.
B - (Inorganics only) This Qualifier indicates that the analyte is an estimated value between the RL and the MDL.
N - (Organics only) This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic charachterization of a TIC, such as "chlorinated hydrocarbon", the "N" flag is not used.

Explanation of General QC Outliers:

A - Matrix interference present in sample.
a - MS/MSD analyses yielded comparable poor recoveries, indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recoveries.
b - Target analyte was found in the method blank.
M - QC sample analysis yielded recoveries outside QC acceptance criteria. This sample was reanalyzed.
L - LCS analysis yielded high recoveries, indicating a potential high bias. No target analytes were observed above the RL in the associated samples.
G - Marginal outlier within 1% of acceptance criteria.
r - RPD value is outside method acceptance criteria.
C - Poor RPD values observed due to the non-homogenous nature of the sample.
O - Sample required dilution due to matrix interference.
D - Sample reported from a dilution.
d - Spike and/or surrogate diluted.
P - The recovery of this analyte is outside default QC limits. The data is accepted and will be used to calculate in-house statistical limits.
E - The reported concentration exceeds the instrument calibration.
F - The analyte is outside QC limits. The sample data is accepted since this analyte is not reported in associated samples.
H - Continuing Calibration Verification (CCV) standard is not associated with the samples reported.
q - See the subcontract final report for qualifier explanation.

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W - The MS/MSD recoveries are outside QC acceptance criteria because the amount spiked is much less than the amount found in the sample.
K - High recovery will not affect the quality of reported results.
Z - See case narrative.

Explanation of Organic QC Outliers:

e - Method blank analysis yielded phthalate concentrations above the RL. Phthlates are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
S - Sample reanalyzed/reextracted due to poor surrogate recovery. Reanalysis confirmed original analysis indicating a possible matrix interference.
T - Sample analysis yielded poor surrogate recovery.
R - The RPD between the two GC columns is greater than 40% and no anomalies are present. The higher result is reported as per EPA Method 8000B.
I - The RPD between the two GC columns is greater than 40% and anomalies are present. The lower of the two results has been reported.
X - Gaseous compound. In-house QC limits are advisory.
Y - Ketone compounds have poor purge efficiency. In-house QC limits are advisory.
f - Surrogate not associated with reported analytes.

Explanation of Inorganic QC Outliers:

Q - Method blank analysis yielded target analytes above the RL. Associated sample results are greater than 10 times the concentrations observed in the method blank.
V - The RPD control limit for sample results less than 5 times the RL is +/- the RL value. Sample and duplicate results are within method acceptance criteria.
e - Serial dilution failed due to matrix interference.
g - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficent for the MSA is greater than or equal to 0.995.
s - BOD/cBOD seed value is not within method acceptance criteria. Due to the nature of the test method, the sample cannot be reanalyzed.
l - BOD/cBOD LCS value is not within method acceptance criteria. Due to the nature of the test method, sample cannot be reanalyzed.
N - Spiked sample recovery is not within control limits.
n - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficient for the MSA is less than 0.995.
* - Duplicate analysis is not within control limits.

Abbreviations:

Batch - Designation given to identify a specific extraction, digestion, preparation, or analysis set.
CCV - Continuing Calibration Verification
CRA - Low level standard check - GFAA, Mercury
CRI - Low level standard check - ICP
Dil Fac - Dilution Factor - Secondary dilution analysis
DLFac - Detection Limit Factor
DU - Duplicate
EB - Extraction Blank (TCLP, SPLP, etc.)
ICAL - Initial Calibration
ICB - Initial Calibration Blank
ICV - Initial Calibration Verification
ISA - Interference Check Sample A - ICP
ISB - Interference Check Sample B - ICP
LCD - Laboratory Control Duplicate
LCS - Laboratory Control Sample
MB - Method Blank

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MD - Method Duplicate
MDL - Method Detection Limit
MQL - Method Quantitation Limit (TRRP)
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ND - Not Detected
PB - Preparation Blank
PREPF - Preparation Factor
RL - Reporting Limit
RPD - Relative Percent Difference
RRF - Relative Response Factor
RT - Retention Time
SQL - Sample Quantitation Limit (TRRP)
TIC - Tentatively Identified Compound

Method References:

(1) EPA 600/4-79-020 Methods for the Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-94-111 Methods for the Determination of METals in Environmental Samples, Supplement I, May 1994.
(3) EPA SW846 Test Methods for Evaluating Solid Waste, Third Edition, September 1986; Update I July 1992; Update II, September 1994, Update IIA August 1993; Update IIB, January 1995; Update III, December 1996, Update IVA January 1998, Update IVB November 2000.
(4) Standard Methods for the Examination of Water and Wastewater, 16th Edition (1985), 17th Edition (1989), 18th Edition (1992), 19th Edition (1995), 20th Edition (1998).
(5) HACH Water Analysis Handbook 3rd Edition (1997).
(6) Federal Register, July 1, 1990 (40 CFR Part 136 Appendix A).
(7) Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, 2nd Edition, January 1997.
(8) ASTM Annual Book of Methods (Various Years)
(9) Diagnosis and Improvement of Saline and Alkali Soils, Agriculture Handbook No. 60, United States Department of Agriculture, 1954.

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LABORATORY CHRONICLE

Job Number: 291381 Date: 03/23/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Lab ID: 291381-1 Client ID: MW-8-1S05 Date Recvd: 03/02/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
	Data Package Validation	1	125328		03/23/2005 0000	
	Electronic Data Deliverables	1	81662		03/16/2005 0815	
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123894		03/04/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123893		03/04/2005 0800	
	GC/MS Semi-Volatile Package Production	1	124356		03/11/2005 0830	
	GC/MS Volatiles Data Package Production	1	124065		03/08/2005 0824	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124355	123894	03/09/2005 1721	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124059	123893	03/07/2005 1203	1.00000
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 1930	1.00000

Lab ID: 291381-2 Client ID: MW-7-1S05 Date Recvd: 03/02/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123894		03/04/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123893		03/04/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124355	123894	03/09/2005 1748	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124059	123893	03/07/2005 1231	1.00000
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 1957	1.00000

Lab ID: 291381-3 Client ID: MW-5-1S05 Date Recvd: 03/02/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123894		03/04/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123893		03/04/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124355	123894	03/09/2005 1814	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124059	123893	03/07/2005 1300	1.00000
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 2024	1.00000

Lab ID: 291381-4 Client ID: MW-11B-1S05 Date Recvd: 03/02/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123894		03/04/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123893		03/04/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124355	123894	03/09/2005 1602	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124059	123893	03/07/2005 1328	1.00000
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 2050	1.00000

Lab ID: 291381-5 Client ID: MW-10B-1S05 Date Recvd: 03/02/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123894		03/04/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123893		03/04/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124355	123894	03/09/2005 1841	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124059	123893	03/07/2005 1357	1.00000
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 2117	1.00000

Lab ID: 291381-6 Client ID: MW-10A-1S05 Date Recvd: 03/02/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123894		03/04/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123893		03/04/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124355	123894	03/09/2005 1907	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124059	123893	03/07/2005 1425	1.00000
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 2144	1.00000

Lab ID: 291381-7 Client ID: TB-01-1S05 Date Recvd: 03/03/2005 Sample Date: 03/01/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 8260B	Volatile Organics	1	123882		03/04/2005 2211	1.00000

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ECS Environmental Chemistry Services

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DATA USABILITY SUMMARY

UNION PACIFIC RAILROAD
HOUSTON WOOD PRESERVING WOODS

MARCH 3-4, 2005
SAMPLING EVENT

Prepared for ERM-SW
Houston, Texas
June 28, 2005

Prepared by
Nancy K. Toole
ECS Environmental Chemistry Services
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APPENDIX A: Qualified Analytical Data

APPENDIX B: Quality Control Data

APPENDIX C: Laboratory Review Checklists and Exception Reports

APPENDIX D: Chain of Custody Forms

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1.0 Introduction

This Data Usability Summary (DUS) contains the results of the data review and validation conducted for samples collected March 3 and 4, 2005 from the Union Pacific Railroad Houston Wood Preserving Works Site. ECS Environmental Chemistry Services (ECS) reviewed and validated one SIM semivolatile analytical batch, one low level semivolatile analytical batch, and one volatile analytical batch analyzed by Severn Trent Laboratories, Inc. in Houston, Texas. The following data are covered by this report:

DATA PACKAGE	LAB SAMPLE ID	FIELD SAMPLE ID	DATE COLL.	MEDIA	PARAMETER
291538	291538-1	P-10-1S05	03/03/05	Water	VOL, SV, SIM
	291538-2	MW-9-1S05	03/03/05	Water	VOL, SV, SIM
	291538-3	MW-11A-1S05	03/03/05	Water	VOL, SV, SIM
	291538-4	MW-11AD-1S05	03/03/05	Water	VOL, SV, SIM
	291538-5	FB-030305	03/03/05	Water	VOL, SV, SIM
	291538-6	MW-4-1S05	03/03/05	Water	VOL, SV, SIM
	291538-7	MW-4MS-1S05	03/03/05	Water	VOL, SV, SIM
	291538-8	MW-4MSD-1S05	03/03/05	Water	VOL, SV, SIM
	291538-9	MW-P11-1S05	03/03/05	Water	VOL, SV, SIM
	291538-10	MW-P12-1S05	03/03/05	Water	VOL, SV, SIM
	291538-11	MW-01A-1S05	03/04/05	Water	VOL, SV, SIM
	291538-12	MW-3-1S05	03/04/05	Water	VOL, SV, SIM
	291538-13	MW-2-1S05	03/04/05	Water	VOL, SV, SIM
	291538-14	MW-2D-1S05	03/04/05	Water	VOL, SV, SIM
	291538-15	TB-02-1S05	03/04/05	Water	VOL

VOL=SW-846 8260 - Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)
SV=SW-846 8270 - Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry Low Level (GC/MS)
SIM=SW-846 8270 - Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry SIMS (GC/MS)

The following field QC samples are covered by this DUS:

DATA PACKAGE	LAB SAMPLE ID	FIELD QC SAMPLE ID	FIELD QC SAMPLE TYPE	ASSOCIATED SAMPLES
291538	291538-4	MW-11AD-1S05	Field Duplicate	291538-3
	291538-5	FB-030305	Field Blank	291538-1-4, 6-14
	291538-7/8	MW-4MS/MSD-1S05	Matrix Spike/Matrix Spike Duplicate	291538-6
	291538-14	MW-2D-1S05	Field Duplicate	291538-13
	291538-15	TB-02-1S05	Trip Blank	291538-1-4, 6-14

Analytical data were evaluated for conformance to the requirements of *Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW-846)* and the Texas Commission on

Environmental Quality (TCEQ) Texas Risk Reduction Program Regulatory Guidance document 13 (TRRP 13). The purpose of this sampling event was to provide concentrations of volatile and semivolatile constituents in the ground water for comparison to Practical Quantitation Limits (PQLs) or background.

This Data Usability Report consists of the DUS elements as described in the TCEQ QAPP: The review process contained in this Data Usability Summary (DUS) includes an evaluation of the Laboratory Review Checklist (LRCs), Exception Reports (ERs) and reportable data. Validation included a review of the supporting data, recalculations and checks for transcription errors on 10% of the volatile and semivolatile data.

2.0 Laboratory Review Checklist Review Criteria

The Laboratory Review Checklist (LRC) review covers a review of the laboratory performance items for the TCEQ QAPP evaluation criteria listed below.

PARAMETER/ METHOD	LAB PERFORMANCE REVIEW ITEM	EVALUATION CRITERIA
Volatiles/8260	Initial Calibration	Table B5.1.9-3
	Continuing Calibration	Table B5.1.9-3
	GC/MS Tuning	Section B5.1.9
	Internal Standards	Table B.5.1.9-3
Semivolatiles/ 8270	Initial Calibration	Table B5.1.10-3
	Continuing Calibration	Table B5.1.10-3
	GC/MS Tuning	Section B5.1.10
	Internal Standards	Table B.5.1.10-3

Results not meeting the evaluation criteria were documented in the LRCs and ERs presented in Appendix C. The independent review of these items is covered in Section 6.0 of this DUS.

3.0 Laboratory Data Package Review Criteria

The laboratory data package review covers a review of the sample-specific items for the TCEQ QAPP criteria listed below.

PARAMETER/ METHOD	SAMPLE-SPECIFIC REVIEW ITEM	EVALUATION CRITERIA
Volatiles/8260	Holding Time/Preservation Requirements	Table B2-1
	Blanks	Section D 2.1.2.2.2.2
	Laboratory Control Sample	Table D-1
	Surrogates	Table D-1
	Matrix Spike/Matrix Spike Duplicate	Table D-1
	Field Duplicate	D.2.1.2.2.2.7
Semivolatiles/ 8270	Holding Time/Preservation Requirements	Table B2-1
	Blanks	Section D 2.1.2.2.2.2
	Laboratory Control Sample	Table D-1

PARAMETER/ METHOD	SAMPLE-SPECIFIC REVIEW ITEM	EVALUATION CRITERIA
Semivolatiles/ 8270	Surrogates	Table D-1
	Matrix Spike/Matrix Spike Duplicate	Table D-1
	Field Duplicate	Section D.2.1.2.2.2.7

The independent review of these items is covered in Section 5.0 of this DUS.

4.0 Data Validation Criteria

Data validation was performed on 10% of the data. Laboratory Quality Control Summary sheets were reviewed to confirm that QC problems were properly reported on the Laboratory Control Checklist (LRC). Raw data were checked for calculation and transcription errors.

The following laboratory performance criteria (supporting data) were evaluated as part of this data validation:

- Initial Calibration
- Initial and Continuing Calibration Verifications
- Instrument Tuning
- Internal Standards

The independent data validation is covered in Section 6.0 of this DUS.

5.0 Data Review Results

Items identified in the LRC as outside of control limits for laboratory performance criteria were evaluated for the data packages covered by this report. The evaluation of the sample specific items is covered below.

All samples were received in good condition. A copy of the original C-O-C and airbill receipt were present in the data packages. Custody seals were present. The data package included all requested analyses on the C-O-C. One sample was listed incorrectly on the C-O-C as MW-4-IS05. The correct sample ID, MW-3-IS05, was used by the laboratory at the request of ERM-SW.

Items identified in the LRC as outside of control limits for laboratory performance criteria were evaluated for the data packages covered by this report. The evaluation of the sample specific items is covered below.

5.1 Volatile Organic Compounds

For volatile data, the following items are reviewed in this section:

- Holding Time/Preservation Requirements
- Blanks
- Laboratory Control Samples

- Surrogates
- Matrix Spike/Matrix Spike Duplicates
- Field Duplicates

The following sections specify the reasons for the data validation qualifiers that are presented in Appendix A.

5.1.1 Holding Times/Preservation Requirements

The maximum holding time from date of collection to date of analysis for volatiles in aqueous samples that have been preserved to a pH less than 2 and kept a 4°C + or- 2°C is 14 days. The maximum holding time from date of collection to date of analysis for volatiles in aqueous samples that have not been preserved to a pH less than 2 is 7 days. These holding times were met for all of the samples in this data set. None of the volatile data were qualified based on holding time.

5.1.2 Blanks

All associated blanks were free of any reportable concentration for all reported analytes with the following exception:

SDG	BLANK ID	COMPOUND	CONC (MG/L)	SAMPLE WITH LIISTED COMPOUND QUALIFIED AS NOT DETECTED
291538	MB	Methylene Chloride	0.002209	None

If a common laboratory contaminant (methylene chloride, acetone, 2-butanone, cyclohexane) is detected in a blank and is also detected in an associated sample in a concentration less than 10 times the concentration found in the blank, the sample data are qualified as non detected for that compound. Also, if any other volatile compound is detected in a blank and is also detected in an associated sample in a concentration less than 5 times the concentration found in the blank, the sample data are qualified as non detected for that compound. Samples that had compounds qualified as NOT detected with a "U" qualifier based on these criteria are listed in the previous table.

5.1.3 Laboratory Control Samples (LCS)

The LCS review criteria for volatile data are as follows:

ACCURACY (%R)	PRECISION (RELATIVE PERCENT DIFFERENC)
60%-140%	40%

One LCS was analyzed with each analytical batch. These criteria were met for all the samples in this data set. None of the volatile data were qualified based on LCS data.

5.1.4 Surrogates

The surrogate review criteria for volatile data are as follows:

ACCURACY (%R)	PRECISION (RELATIVE PERCENT DIFFERENC)
60%-140%	40%

Each sample, standard and method blank was spiked with the appropriate surrogates. These criteria were met for all the samples in this data set. None of the volatile data were qualified based on surrogate data.

5.1.5 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

The MS/MSD review criteria for volatile data are as follows:

ACCURACY (%R)	PRECISION (RELATIVE PERCENT DIFFERENC)
60%-140%	40%

One MS/MSD set was analyzed with every analytical batch. These criteria were met for all the MS/MSD in this data set. None of the volatile data were qualified based on MS/MSD data.

5.1.6 Field Duplicates

For aqueous samples, when both the original and duplicate result are greater than 5 times the method quantitation limit (MQL), the Relative Percent Differences (RPD) was equal to or less than 30%. For aqueous samples, when one or both of the original and duplicate results are less than 5 times the MQL, the results agree within 2 times the greater MQL. These criteria were met for the field duplicate for this data set. None of the volatile data were qualified based on field duplicate data.

5.2 Semivolatile Organic Compounds

For semivolatile data, the following items are reviewed in this section:

- Holding Time/Preservation Requirements
- Blanks
- Laboratory Control Samples
- Surrogates
- Matrix Spike/Matrix Spike Duplicates
- Field Duplicates

The following sections specify the reasons for the data validation qualifiers that are presented in Appendix A.

5.2.1 Holding Times/Preservation Requirements

The maximum holding time from date of collection to date of extraction for semivolatiles in aqueous samples is 7 days. The maximum holding time from date of extraction to date of analysis for semivolatiles in aqueous samples is 40 days. These holding times were met for all of the samples in this data set. None of the semivolatile data were qualified based on holding times.

5.2.2 Blanks

One method blank was analyzed with each analytical batch. All associated blanks were free of any reportable concentration for all reported analytes with the following exceptions:

SDG	BLANK ID	COMPOUND	CONC (MG/L)	SAMPLE WITH LIISTED COMPOUND QUALIFIED AS NOT DETECTED
291538	FB-030305	Di-n-butyl phthalate	0.000150	291538-1-4, 6, 10-14
	MB LL	bis (2-Ethylhexyl) phthalate	0.000828	291538-1, 3, 4, 6, 12, 14
		Di-n-butyl phthalate	0.000177	291538-1-4, 6, 10-14

If a common laboratory contaminant (phthalate) is detected in a blank and is also detected in an associated sample in a concentration less than 10 times the concentration found in the blank, the sample data are qualified as non detected for that compound. Also, if any other semivolatile compound is detected in a blank and is also detected in an associated sample in a concentration less than 5 times the concentration found in the blank, the sample data are qualified as non detected for that compound. Samples that had compounds qualified as NOT detected with a "U" qualifier based on these criteria are listed in the previous table.

5.2.3 Laboratory Control Samples (LCS)

The LCS review criteria for semivolatile data are as follows:

ACCURACY (%R)	PRECISION (RELATIVE PERCENT DIFFERENC)
60%-140%	40%

One LCS/LCSD set was analyzed with every analytical batch. These criteria were met for all the LCS/LCSD in this data set with the following exceptions:

BATCH	LCS ID	COMPOUND	LCS %R	CONTROL LIMIT	ASSOC. SAMPLES
291538	LCS-LL	2-Methyl-4,6-dinitrophenol	44	60-140	291538-01LL-14LL
		4-Nitrophenol	26	60-140	291538-01LL-14LL
		Phenol	38	60-140	291538-01LL-14LL

The compounds listed above in all field samples in the analytical batch for the LCS were qualified as follows:

	Detected results	Non-Detected Results
% R greater than 140%	JH-LCS	No qualifier
% R less than 60% but greater than 30%	JL-LCS	UJL-LCS
% R less than 10%	JL-LCS	R-LCS

5.2.4 Surrogates

The surrogate review criteria for semivolatile data are as follows:

ACCURACY (%R)	PRECISION (RELATIVE PERCENT DIFFERENC)
60%-140%	40%

Each sample, standard and method blank was spiked with the appropriate surrogates. These criteria were met for all the samples in this data with the following exceptions:

DATA PACKAGE	SAMPLE ID	SURROGATE	ACID (AC) OR BASE/NEUTRAL (BN)	%R
291538	291538-1 LL	2-Fluorobiphenyl	BN	50
		2-Fluorophenol	AC	34
		Phenol-d6	AC	18
	291538-2 LL	2-Fluorophenol	AC	34
		Phenol-d6	AC	18
	291538-3 LL	2-Fluorobiphenyl	BN	50
		2-Fluorophenol	AC	34
		Phenol-d6	AC	19
	291538-4 LL	2-Fluorobiphenyl	BN	52
		2-Fluorophenol	AC	41
		Phenol-d6	AC	23
	291538-5 LL	2-Fluorophenol	AC	42
		Phenol-d6	AC	25
	291538-6 LL	2-Fluorophenol	AC	34
		Phenol-d6	AC	21
	291538-7 LL	2-Fluorobiphenyl	BN	59
		2-Fluorophenol	AC	31
		Phenol-d6	AC	21
	291538-8 LL	2-Fluorobiphenyl	BN	58
		2-Fluorophenol	AC	29
		Phenol-d6	AC	20
	291538-9 LL	2-Fluorophenol	AC	41
		Phenol-d6	AC	25
	291538-9DL LL	2-Fluorophenol	AC	49

DATA PACKAGE	SAMPLE ID	SURROGATE	ACID (AC) OR BASE/NEUTRAL (BN)	%R
291538	291538-9DL LL	Phenol-d6	AC	32
	291538-10 LL	2-Fluorobiphenyl	BN	58
		2-Fluorophenol	AC	31
		Phenol-d6	AC	16
	291538-11 LL	2-Fluorophenol	AC	38
		Phenol-d6	AC	29
	291538-11DL LL	2-Fluorophenol	AC	36
		Phenol-d6	AC	32
	291538-12 LL	2-Fluorobiphenyl	BN	55
		2-Fluorophenol	AC	32
		Phenol-d6	AC	21
	291538-13 LL	2-Fluorophenol	AC	32
		Phenol-d6	AC	21
	291538-14 LL	2-Fluorobiphenyl	BN	52
		2-Fluorophenol	AC	32
		Phenol-d6	AC	22
	291538-1 SIM	2,4,6-Tribromophenol	AC	51
	291538-5 SIM	2,4,6-Tribromophenol	AC	58
	291538-9 SIM	2,4,6-Tribromophenol	AC	37
	291538-12 SIM	2,4,6-Tribromophenol	AC	52

The semivolatile results for the samples and fractions listed above were qualified as follows if two or more surrogates per fraction (acid extractables or base/neutral extractables) for low level semivolatiles and one acid extractable surrogate for SIM semivolatiles (since only one was analyzed) met the following criteria:

	Detected results	Non-Detected Results
% R greater than 140%	JH-SUR	No qualification
% R less than 60% but greater than 10%	JL-SUR	UJL-SUR
% R less than 10%	JL-SUR	R-SUR

5.2.5 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

The MS/MSD review criteria for semivolatile data are as follows:

ACCURACY (%R)	PRECISION (RELATIVE PERCENT DIFFERENC)
60%-140%	40%

One MS/MSD set was analyzed with every analytical batch. These criteria were met for all the MS/MSD in this data set with the following exceptions:

SDG	MS/MSD ID	COMPOUND	MS %R	MSD %R	CONT. LIMITS	RPD	CONT. LIMIT
291538	291538-6 SIM	bis (2-Chlorethoxy) methane	64	50	60-140	24	40
		Pentachlorphenol	76	0	60-140	200	40
	291538-6 LL	Acenaphthene	59	70	60-140	17	40
		Acenaphthylene	55	69	60-140	23	40
		2-Chloronaphthalene	54	63	60-140	14	40
		2,4-Dimethylphenol	46	43	60-140	6	40
		4-Nitrophenol	44	37	60-140	19	40
		Phenol	21	21	60-140	3	40

The parent samples for the MS/MSDs listed above were qualified as follows:

	Detected results	Non-Detected Results
% R greater than 140%	JH-MS/SD	No qualifier
% R less than 60% but greater than 10%	JL-MS/SD	UJL-MS/SD
% R less than 10%	JL-MS/SD	R-MS/SD

5.2.6 Field Duplicates

For aqueous samples, when both the original and duplicate result are greater than 5 times the method quantitation limit (MQL), the Relative Percent Differences (RPD) was equal to or less than 30%. For aqueous samples, when one or both of the original and duplicate results are less than 5 times the MQL, the results agree within 2 times the greater MQL. These criteria were met for the field duplicates for this data set with the following exceptions:

DATA PACKAGE	DUPLICATE PAIR	ANALYTE	ORIGINAL RESULT (mg/l)	DUPLICATE RESULT (mg/l)	QC RESULT	CRITERIA
291538	291538-3/4	Acenaphthene	0.0139	0.0388	RPD: 95%	< or = 30%
		Anthracene	0.000833	0.00211	DIF: 0.00128	< or = 0.001
		Dibenzofuran	0.00451	0.0115	RPD: 87%	< or = 30%
		Fluoranthene	0.000786	0.00192	DIF: 0.00113	< or = 0.001
		Fluorene	0.00663	0.0197	DIF: 0.0131	< or = 0.001
		Naphthalene	0.0110	0.0479	RPD: 125%	< or = 30%
		Phenanthrene	0.00023	0.00332	DIF: 0.00309	< or = 0.001

The results for both the original sample and its duplicate were qualified with a "J-FD" qualifier to denote an estimated concentration based on poor field duplicate precision.

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6.0 Data Validation Results

The laboratory used for this project appears to have adequate QA systems in place that are designed to ensure the accurate reporting of analytical results generated by the laboratory. No transcription or calculation errors were found. All instances in which the analytical QC results fell outside .the acceptance criteria were fully and correctly reported in the Laboratory Review Checklist.

6.1 Volatile Organic Compounds

For volatile data, the following items are reviewed in this section:

- Initial Calibration
- Continuing Calibration
- GC/MS Instrument Tuning
- Internal Standards

The following sections specify the reasons for the data validation qualifiers that are presented in Appendix A.

6.1.1 Initial Calibration

Initial Calibrations were performed at the proper frequency and met the criteria specified in Table B5.1.9-3 of the TCEQ QAPP. None of the volatile data were qualified based on initial calibration data.

6.1.2 Continuing Calibration

Continuing Calibrations were performed at the proper frequency and met the criteria specified in Table B5.1.9-3 of the TCEQ QAPP with the following exception:

SDG	CCV ID	COMPOUND	%D	CONT. LIMIT	ASSOCIATED SAMPLES
291538	CCV1	Methylene Chloride	26%	< OR = 20%	All Samples in this SDG

The associated methylene chloride results were qualified as estimated with "JI-CCAL" qualifier. The associated methylene chloride detection limits for non-detects were qualified as estimated with " UJI-CCAL" qualifier.

6.1.3 GC/MS Instrument Tuning

GC/MS instrument tunes for volatiles met the ion abundance criteria specified in section B.5.1.9 of the TCEQ QAPP. GC/MS tunes were conducted at the proper frequency (1 every 12 hours) for this data set. None of the volatile data were qualified based on tuning data.

6.1.4 Internal Standards

The sample-specific precision and accuracy QC review criteria for semivolatile data are specified in the table B5.1.10-3 of the TCEQ QAPP. All internal standard area counts for the samples in this report were less than a factor of + OR- 50% from the associated calibration standard. The internal standard retention times for the samples did not vary more than + or- 30 seconds from the retention time of the associated calibration standard. None of the volatile data were qualified based on internal standard data.

6.2 Semivolatile Organic Compounds

For semivolatile data, the following items are reviewed in this section:

- Initial Calibration
- Continuing Calibration
- GC/MS Instrument Tuning
- Internal Standards

The following sections specify the reasons for the data validation qualifiers that are presented in Appendix A.

6.2.1 Initial Calibration

Initial Calibrations were performed at the proper frequency and met the criteria specified in Table B.5.1.10-3 of the TCEQ QAPP. None of the semivolatile data were qualified based on initial calibration data.

6.2.2 Continuing Calibration

Continuing Calibrations were performed at the proper frequency and met the criteria a specified in Table B.5.1.10-3 of the TCEQ QAPP. None of the semivolatile data were qualified based on continuing calibration data.

6.2.3 GC/MS Instrument Tuning

GC/MS instrument tunes for semivolatiles met the ion abundance criteria specified in section B.5.1.10 of the TCEQ QAPP. GC/MS tunes were conducted at the proper frequency (1 every 12 hours) for this data set. None of the semivolatile data were qualified based on tuning data.

6.2.4 Internal Standards

The sample-specific precision and accuracy QC review criteria for volatile data are specified in the table B.5.1.9-3 of the TCEQ QAPP. All internal standard area counts for reported data in this report were less than a factor of + OR- 50% from the associated calibration standard with the following exceptions:

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SDG	Field Sample ID	Internal Standard	Area	Area Control Limits
291538	291538-1LL	Acenapthene-d10	406927	434794-1739176
	291538-3LL	Naphthalene-d8	746098	823162-3292646
	291538-4LL	1,4-Dichlorobenzene	192227	203314-813258
		Naphthalene-d8	644364	823162-3292646
		Acenaphthene-d10	339340	434794-1739176
		Phenanathrene-d10	635043	695684-2782736
		Chrysene-d12	439915	541102-2164408
		Perylene-d12	404538	457098-1828394
	291538-6 LL	Acenaphthene-d10	434452	434794-1739176
	291538-10 LL	Naphthalene-d8	707116	823162-3292646
		Acenaphthene-d10	316192	434794-1739176
		Chrysene-d12	495970	541102-2164408
		Perylene-d12	442585	457098-1828394
	291538-11 LL	1,4-Dichlorobenzene	196445	203314-813258
		Naphthalene-d8	763621	823162-3292646
		Chrysene-d12	527530	541102-2164408
	291538-12 LL	Naphthalene-d8	810168	823162-3292646
	291538-13 LL	Naphthalene-d8	656858	823162-3292646
		Acenaphthene-d10	376055	434794-1739176
		Chrysene-d12	530950	541102-2164408
	291538-14 LL	1,4-Dichlorobenzene	187524	203314-813258
		Naphthalene-d8	597046	823162-3292646
		Acenaphthene-d10	322924	434794-1739176
		Phenanathrene-d10	630868	695684-2782736
		Chrysene-d12	429228	541102-2164408
		Perylene-d12	388018	457098-1828394
	291538-1 SIM	Chrysene-d12	3261999	773702-3094810
		Perylene-d12	2926748	616623-2466492
	291538-2 SIM	Perylene-d12	2510388	616623-2466492
	291538-3 SIM	Perylene-d12	2617259	616623-2466492
	291538-4 SIM	Perylene-d12	2706198	616623-2466492
	291538-6 SIM	Phenanathrene-d10	6357480	1457243-5828972
		Chrysene-d12	4146759	773702-3094810
		Perylene-d12	3585059	616623-2466492

All samples and parameters listed above were qualified based on out of control internal standards because the laboratory did not reanalyze the samples that were out of control internal standards. The samples and parameters listed above were qualified as follows:

	Detected results	Non-Detected Results
% R greater than 140%	JI-IS	UJI-IS
% R less than 60% but greater than 10%	No qualifier	UJL-IS

The internal standard retention times for the samples did not vary more than + or- 30 seconds from the retention time of the associated calibration standard.

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7.0 Conclusions

The chemical data covered by this Data Usability Report are considered usable for meeting the project objective of providing the concentrations of volatile and semivolatile constituents in the ground water for comparison to Practical Quantitation Limits (PQL) or background.

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APPENDIX A

QUALIFIED ANALYTICAL DATA

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ANALYTICAL REPORT

JOB NUMBER: 291538
Project ID: UPRR-HWPW-0014419 60

Prepared For:

ERM Southwest, Inc.- Houston
15810 Park Ten Place
Suite 300
Houston, TX 77084

Attention: Chris Young

Date: 03/24/2005

Signature

Name: Sachin G. Kudchadkar

Title: Project Manager III

E-Mail: [redacted]

03/24/05
Date

Severn Trent Laboratories
6310 Rothway Drive
Houston, TX 77040

PHONE: 713-690-4444

TOTAL NO. OF PAGES 75

SEVERN TRENT STL

03/24/2005

Chris Young
ERM Southwest, Inc.- Houston
15810 Park Ten Place
Suite 300
Houston, TX 77084

Reference:
Project : UPRR-HWPW-0014419/60
Project No. : 291538
Date Received : 03/04/2005
STL Job : 291538

Dear Chris Young:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

1. P-10-1S05	2. MW-9-1S05	3. MW-11A-1S05
4. MW-11AD-1S05	5. FB-030305	6. MW-4-1S05
7. MW-4MS-1S05	8. MW-4MSD-1S05	9. MW-P11-1S05
10. MW-P12-1S05	11. MW-01A-1S05	12. MW-3-1S05
13. MW-2-1S05	14. MW-2D-1S05	15. TB-02-1S05

All holding times were met for the tests performed on these samples.

Enclosed, please find the Quality Control Summary. All quality control results for the QC batch that are applicable to the sample(s) are acceptable except as noted in the QC batch reports.

The test results in this report meet all NELAP requirements for STL Houston's NELAP accredited parameters. Any exceptions to NELAP requirements will be noted and included in a case narrative as a part of this report.

If the report is acceptable, please approve the enclosed invoice and forward it for payment.

Thank you for selecting Severn-Trent Laboratories to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

Sincerely,

S Kudchadkar

Sachin G. Kudchadkar
Project Manager

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Table 1

Cross-Reference Field Sample Identifications and Laboratory Identifications

Field Identification	EPA Sample Number	Laboratory Identification	8260B	8270C	Comment
P-10-1S05	P-10-1S05	291538-1	X	X	
MW-9-1S05	MW-9-1S05	291538-2	X	X	
MW-11A-1S05	MW-11A-1S05	291538-3	X	X	
MW-11AD-1S05	MW-11AD-1S05	291538-4	X	X	
FB-030305	FB-030305	291538-5	X	X	Field Blank
MW-4-1S05	MW-4-1S05	291538-6	X	X	
MW-4MS-1S05	MW-4MS-1S05	291538-7	X	X	Matrix Spike of MW-4-1S05
MW-4MSD-1S05	MW-4MSD-1S05	291538-8	X	X	Matrix Spike Duplicate of MW-4-1S05
MW-P11-1S05	MW-P11-1S05	291538-9	X	X	
MW-P12-1S05	MW-P12-1S05	291538-10	X	X	
MW-01A-1S05	MW-01A-1S05	291538-11	X	X	
MW-3-1S05	MW-3-1S05	291538-12	X	X	
MW-2-1S05	MW-2-1S05	291538-13	X	X	
MW-2D-1S05	MW-2D-1S05	291538-14	X	X	
TB-02-1S05	TB-02-1S05	291538-15	X		Trip Blank

2

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Pages 3 through 18 of
STL Analytical Report (Job # 291538)
can be found in Appendix C
Laboratory Review Checklist Exception Reports

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: P-10-1S05
Date/Time Sampled .....: 3/3/2005 08:23
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-001
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 16:16	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 16:16	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 16:16	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 16:16	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 16:16	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 16:16	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 16:16	124050	1.00	zfl

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: P-10-1S05 Laboratory Sample ID: 291538-001

Date/Time Sampled .....: 3/3/2005 08:23 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR	0.000310	0.000500	0.000300	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U	JL-SUR	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-SUR LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:05	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR LCS, IS	0.000560	0.00150	0.000530	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.00453			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:05	124310	1.00	acn	
Acenaphthylene	208-96-8	0.0000800	J		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 15:05	124310	1.00	acn	
Anthracene	120-12-7	0.000150	J		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:05	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/8/2005 15:05	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000836		U-MB	0.000370	0.000500	0.000350	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/8/2005 15:05	124310	1.00	acn	
Dibenzofuran	132-64-9	0.000892			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 15:05	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000280	J	U-MB, FB	0.000110	0.000500	0.000100	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.000150	J		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 15:05	124310	1.00	acn	

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: P-10-1S05
Date/Time Sampled .....: 3/3/2005 08:23
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-001
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.000723			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:05	124310	1.00	acn	
Naphthalene	91-20-3	0.0142			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 15:05	124310	1.00	acn	
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/8/2005 15:05	124310	1.00	acn	
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 15:05	124310	1.00	acn	
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 15:05	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR (LCS)	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 15:05	124310	1.00	acn	ECS
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 15:05	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 10:29	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 10:29	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 10:29	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U	JI-IS	0.0000250	0.000100	0.0000240	mg/L	3/14/2005 10:29	124804	1.00	lg1	ECS
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 10:29	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U	JL-SUR	0.0000690	0.000300	0.0000660	mg/L	3/14/2005 10:29	124804	1.00	lg1	ECS

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-9-1S05
Date/Time Sampled .....: 3/3/2005 09:58
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-002
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 16:43	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 16:43	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 16:43	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 16:43	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 16:43	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 16:43	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 16:43	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-9-1S05
Date/Time Sampled .....: 3/3/2005 09:58
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-002
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR	0.000310	0.000500	0.000300	mg/L	3/8/2005 15:33	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 15:33	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-SUR, LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 15:33	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:33	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 15:33	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:33	124310	1.00	acn	
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 15:33	124310	1.00	acn	
Anthracene	120-12-7	0.000280	J		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:33	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/8/2005 15:33	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/8/2005 15:33	124310	1.00	acn	
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/8/2005 15:33	124310	1.00	acn	
Dibenzofuran	132-64-9	0.000260	J		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 15:33	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000220	J	U-FB, MB	0.000110	0.000500	0.000100	mg/L	3/8/2005 15:33	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 15:33	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-9-1S05 Laboratory Sample ID: 291538-002

Date/Time Sampled .....: 3/3/2005 09:58 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 15:33	124310	1.00	acn	
Naphthalene	91-20-3	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 15:33	124310	1.00	acn	
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/8/2005 15:33	124310	1.00	acn	
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 15:33	124310	1.00	acn	
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 15:33	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUB LCS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 15:33	124310	1.00	acn	ECS
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 15:33	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 10:55	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 10:55	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 10:55	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U	JI-15	0.0000250	0.000100	0.0000240	mg/L	3/14/2005 10:55	124804	1.00	lg1	ECS
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 10:55	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 10:55	124804	1.00	lg1	

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11A-1S05
Laboratory Sample ID: 291538-003
Date/Time Sampled .....: 3/3/2005 11:38
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 17:10	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 17:10	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 17:10	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 17:10	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 17:10	124050	1.00	zfl EC
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 17:10	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 17:10	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11A-1S05
Laboratory Sample ID: 291538-003
Date/Time Sampled .....: 3/3/2005 11:38
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	J L-SUR, LCS	0.000310	0.000500	0.000300	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:02	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	J L-SUR, LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.000160	J		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:02	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	J L-SUR, LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0139		J1-FD	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 16:02	124310	1.00	acn	
Anthracene	120-12-7	0.000833		J1-FD	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/8/2005 16:02	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000806	U-MB		0.000370	0.000500	0.000350	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/8/2005 16:02	124310	1.00	acn	
Dibenzofuran	132-64-9	0.00451		J1-FD	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Di-n-butyl Phthalate	84-74-2	0.000130	J	U-FB, MB	0.000110	0.000500	0.000100	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.000786		J1-FD	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11A-1S05
Laboratory Sample ID: 291538-003
Date/Time Sampled .....: 3/3/2005 11:38
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.00663		JI-FD	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Naphthalene	91-20-3	0.0110		JI-FD	0.0000600	0.000500	0.0000600	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Nitrobenzene	98-95-3	0.000100	U	JL-IS	0.000110	0.000500	0.000100	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 16:02	124310	1.00	acn	
Phenanthrene	85-01-8	0.000230	J	I-FD	0.0000900	0.000500	0.0000900	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Phenol	108-95-2	0.0000400	U	JL-SUR LCS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 16:02	124310	1.00	acn	ECS
Pyrene	129-00-0	0.000160	J		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 16:02	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 11:22	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 11:22	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 11:22	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U	JI-IS	0.0000250	0.000100	0.0000240	mg/L	3/14/2005 11:22	124804	1.00	lg1	ECS
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 11:22	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 11:22	124804	1.00	lg1	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11AD-1S05
Laboratory Sample ID: 291538-004
Date/Time Sampled .....: 3/3/2005 12:00
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 17:37	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 17:37	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 17:37	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 17:37	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 17:37	124050	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 17:37	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 17:37	124050	1.00	zfl

ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11AD-1S05 Laboratory Sample ID: 291538-004

Date/Time Sampled .....: 3/3/2005 12:00 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR, IS	0.000310	0.000500	0.000300	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U	JL-IS	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-SUR, LCS, IS	0.000830	0.00150	0.000790	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.00154			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:30	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS, IS	0.000560	0.00150	0.000530	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0388		JI-FD	0.0000700	0.000500	0.000300	mg/L	3/9/2005 19:25	124310	4.00	acn	ECS
Acenaphthylene	208-96-8	0.000517			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 16:30	124310	1.00	acn	
Anthracene	120-12-7	0.00211		JI-FD	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Benzo(a)anthracene	56-55-3	0.000110	U	JL-IS	0.000120	0.000500	0.000110	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
bis(2-ethylhexyl)phthalate	117-81-7	0.000778	U	JL-, MB, IS	0.000370	0.000500	0.000350	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U	JL-IS	0.000130	0.000500	0.000120	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Dibenzofuran	132-64-9	0.0115		JI-FD	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Di-n-butyl Phthalate	84-74-2	0.000130	U	JL-, FB, MB, IS	0.000110	0.000500	0.000100	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.00192		JI-FD	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-11AD-1S05 Laboratory Sample ID: 291538-004

Date/Time Sampled .....: 3/3/2005 12:00 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0197		JI-FD	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Naphthalene	91-20-3	0.0479		JI-FD	0.0000600	0.000500	0.000200	mg/L	3/9/2005 19:25	124310	4.00	acn	ECS
Nitrobenzene	98-95-3	0.000100	U	JL-IS	0.000110	0.000500	0.000100	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U	JL-IS	0.0000500	0.000500	0.0000500	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Phenanthrene	85-01-8	0.00332		JI-FD	0.0000900	0.000500	0.0000900	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Phenol	108-95-2	0.0000400	U	JL-SUR, LCS, IS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 16:30	124310	1.00	acn	ECS
Pyrene	129-00-0	0.000688			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 16:30	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 11:48	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 11:48	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 11:48	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U	JI-IS	0.0000250	0.000100	0.0000240	mg/L	3/14/2005 11:48	124804	1.00	lg1	ECS
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 11:48	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 11:48	124804	1.00	lg1	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.-Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: FB-030305
Date/Time Sampled .....: 3/3/2005 12:30
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-005
Sample Matrix .....: Field Blank

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 14:28	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 14:28	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 14:28	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 14:28	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 14:28	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 14:28	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 14:28	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: FB-030305 Laboratory Sample ID: 291538-005

Date/Time Sampled .....: 3/3/2005 12:30 Sample Matrix .....: Field Blank

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR	0.000310	0.000500	0.000300	mg/L	3/8/2005 16:58	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:58	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-SUR, LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 16:58	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:58	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 16:58	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:58	124310	1.00	acn	
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 16:58	124310	1.00	acn	
Anthracene	120-12-7	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:58	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/8/2005 16:58	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/8/2005 16:58	124310	1.00	acn	
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/8/2005 16:58	124310	1.00	acn	
Dibenzofuran	132-64-9	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:58	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000150	J		0.000110	0.000500	0.000100	mg/L	3/8/2005 16:58	124310	1.00	acn	
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 16:58	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: FB-030305
Laboratory Sample ID: 291538-005
Date/Time Sampled .....: 3/3/2005 12:30
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 16:58	124310	1.00	acn	
Naphthalene	91-20-3	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 16:58	124310	1.00	acn	
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/8/2005 16:58	124310	1.00	acn	
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 16:58	124310	1.00	acn	
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 16:58	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR, ECS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 16:58	124310	1.00	acn	ES
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 16:58	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 12:15	124804	1.00	lgl	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 12:15	124804	1.00	lgl	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 12:15	124804	1.00	lgl	
Benzo(a)pyrene	50-32-8	0.0000240	U		0.0000250	0.000100	0.0000240	mg/L	3/14/2005 12:15	124804	1.00	lgl	
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 12:15	124804	1.00	lgl	
Pentachlorophenol	87-86-5	0.0000660	U	JL-SUR	0.0000690	0.000300	0.0000660	mg/L	3/14/2005 12:15	124804	1.00	lgl	ECS

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4-1S05 Laboratory Sample ID: 291538-006

Date/Time Sampled .....: 3/3/2005 15:08 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 14:54	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 14:54	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 14:54	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 14:54	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 14:54	124050	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 14:54	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 14:54	124050	1.00	zfl

ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4-1S05 Laboratory Sample ID: 291538-006

Date/Time Sampled .....: 3/3/2005 15:08 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR, MS,SD	0.000310	0.000500	0.000300	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U	JL-IS, MS,SD	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-LCS, SUR	0.000830	0.00150	0.000790	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 11:33	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS, IS, MS,SD	0.000560	0.00150	0.000530	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0000700	U	JL-IS, MS-SD	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Acenaphthylene	208-96-8	0.0000600	U	JL-IS, MS-SD	0.0000600	0.000500	0.0000600	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Anthracene	120-12-7	0.000360	J		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 11:33	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U		0.000120	0.000500	0.000110	mg/L	3/8/2005 11:33	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000815		U-MB	0.000370	0.000500	0.000350	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U		0.000130	0.000500	0.000120	mg/L	3/8/2005 11:33	124310	1.00	acn	
Dibenzofuran	132-64-9	0.0000800	U	JL-IS	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Di-n-butyl Phthalate	84-74-2	0.000190	J	U-FB MB	0.000110	0.000500	0.000100	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 11:33	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4-1S05 Laboratory Sample ID: 291538-006

Date/Time Sampled .....: 3/3/2005 15:08 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0000700	U	JL-IS	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Naphthalene	91-20-3	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 11:33	124310	1.00	acn	
Nitrobenzene	98-95-3	0.000100	U		0.000110	0.000500	0.000100	mg/L	3/8/2005 11:33	124310	1.00	acn	
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 11:33	124310	1.00	acn	
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 11:33	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR, LCS MS/SD	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 11:33	124310	1.00	acn	ECS
Pyrene	129-00-0	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 11:33	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U	JI-IS	0.0000340	0.000100	0.0000320	mg/L	3/14/2005 09:09	124804	1.00	lg1	ECS
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 09:09	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 09:09	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U	JI-IS	0.0000250	0.000100	0.0000240	mg/L	3/14/2005 09:09	124804	1.00	lg1	ECS
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U	JL- MS/SD	0.0000140	0.000100	0.0000130	mg/L	3/14/2005 09:09	124804	1.00	lg1	ECS
Pentachlorophenol	87-86-5	0.0000660	U	R-MS/SD	0.0000690	0.000300	0.0000660	mg/L	3/14/2005 09:09	124804	1.00	lg1	ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4MS-1S05
Laboratory Sample ID: 291538-007
Date/Time Sampled .....: 3/3/2005 15:18
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.0549			0.00136	0.00500	0.00136	mg/L	3/7/2005 15:22	124050	1.00	zfl
Benzene	71-43-2	0.0543			0.00143	0.00500	0.00143	mg/L	3/7/2005 15:22	124050	1.00	zfl
Chlorobenzene	108-90-7	0.0490			0.00155	0.00500	0.00155	mg/L	3/7/2005 15:22	124050	1.00	zfl
Ethylbenzene	100-41-4	0.0537			0.00137	0.00500	0.00137	mg/L	3/7/2005 15:22	124050	1.00	zfl
Methylene Chloride	75-09-2	0.0569	J	I-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 15:22	124050	1.00	zfl ECS
Toluene	108-88-3	0.0540			0.00136	0.00500	0.00136	mg/L	3/7/2005 15:22	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.160			0.00441	0.0150	0.00441	mg/L	3/7/2005 15:22	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4MS-1S05 Laboratory Sample ID: 291538-007

Date/Time Sampled .....: 3/3/2005 15:18 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.00436		JL-SVR	0.000310	0.000500	0.000300	mg/L	3/8/2005 12:01	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.00518			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 12:01	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.00621		JL-SVR LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 12:01	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.00584			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:01	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.00421		JL-SVR LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 12:01	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.00559			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:01	124310	1.00	acn	
Acenaphthylene	208-96-8	0.00521			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 12:01	124310	1.00	acn	
Anthracene	120-12-7	0.00951			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:01	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.00703			0.000120	0.000500	0.000110	mg/L	3/8/2005 12:01	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.00710		b	0.000370	0.000500	0.000350	mg/L	3/8/2005 12:01	124310	1.00	acn	
Chrysene	218-01-9	0.00717			0.000130	0.000500	0.000120	mg/L	3/8/2005 12:01	124310	1.00	acn	
Dibenzofuran	132-64-9	0.00721			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 12:01	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.00818			0.000110	0.000500	0.000100	mg/L	3/8/2005 12:01	124310	1.00	acn	
Fluoranthene	206-44-0	0.00802			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 12:01	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-4MS-1S05
Date/Time Sampled .....: 3/3/2005 15:18
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-007
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.00760			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:01	124310	1.00	acn	
Naphthalene	91-20-3	0.00606			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 12:01	124310	1.00	acn	
Nitrobenzene	98-95-3	0.00595			0.000110	0.000500	0.000100	mg/L	3/8/2005 12:01	124310	1.00	acn	
n-Nitrosodiphenylamine	86-30-6	0.00898			0.0000500	0.000500	0.0000500	mg/L	3/8/2005 12:01	124310	1.00	acn	
Phenanthrene	85-01-8	0.00708			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 12:01	124310	1.00	acn	
Phenol	108-95-2	0.00201		JL-SUB 6.5	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 12:01	124310	1.00	acn	ECS
Pyrene	129-00-0	0.00699			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 12:01	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.000618			0.0000340	0.000100	0.0000320	mg/L	3/14/2005 09:35	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.000679			0.0000420	0.000100	0.0000400	mg/L	3/14/2005 09:35	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.000649			0.0000270	0.000100	0.0000260	mg/L	3/14/2005 09:35	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.000831		JI-LS	0.0000250	0.000100	0.0000240	mg/L	3/14/2005 09:35	124804	1.00	lg1	ECS
bis(2-chloroethoxy)methane	111-91-1	0.000608			0.0000140	0.000100	0.0000130	mg/L	3/14/2005 09:35	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.000728			0.0000690	0.000300	0.0000660	mg/L	3/14/2005 09:35	124804	1.00	lg1	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4MSD-1S05
Laboratory Sample ID: 291538-008
Date/Time Sampled .....: 3/3/2005 15:28
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.0529			0.00136	0.00500	0.00136	mg/L	3/7/2005 15:49	124050	1.00	zfl
Benzene	71-43-2	0.0531			0.00143	0.00500	0.00143	mg/L	3/7/2005 15:49	124050	1.00	zfl
Chlorobenzene	108-90-7	0.0482			0.00155	0.00500	0.00155	mg/L	3/7/2005 15:49	124050	1.00	zfl
Ethylbenzene	100-41-4	0.0523			0.00137	0.00500	0.00137	mg/L	3/7/2005 15:49	124050	1.00	zfl
Methylene Chloride	75-09-2	0.0574	J	I-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 15:49	124050	1.00	zfl
Toluene	108-88-3	0.0529			0.00136	0.00500	0.00136	mg/L	3/7/2005 15:49	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.159			0.00441	0.0150	0.00441	mg/L	3/7/2005 15:49	124050	1.00	zfl

ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4MSD-1S05
Laboratory Sample ID: 291538-008
Date/Time Sampled .....: 3/3/2005 15:28
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.00409		JL-SVL	0.000310	0.000500	0.000300	mg/L	3/8/2005 12:30	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.00598			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 12:30	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.00540		JL-SVL LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 12:30	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.00570			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:30	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.00348		JL-SVL LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 12:30	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.00664			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:30	124310	1.00	acn	
Acenaphthylene	208-96-8	0.00659			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 12:30	124310	1.00	acn	
Anthracene	120-12-7	0.00868			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:30	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.00674			0.000120	0.000500	0.000110	mg/L	3/8/2005 12:30	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.00659		b	0.000370	0.000500	0.000350	mg/L	3/8/2005 12:30	124310	1.00	acn	
Chrysene	218-01-9	0.00669			0.000130	0.000500	0.000120	mg/L	3/8/2005 12:30	124310	1.00	acn	
Dibenzofuran	132-64-9	0.00698			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 12:30	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.00758			0.000110	0.000500	0.000100	mg/L	3/8/2005 12:30	124310	1.00	acn	
Fluoranthene	206-44-0	0.00761			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 12:30	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-4MSD-1S05 Laboratory Sample ID: 291538-008

Date/Time Sampled .....: 3/3/2005 15:28 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.00746			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 12:30	124310	1.00	acn
Naphthalene	91-20-3	0.00612			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 12:30	124310	1.00	acn
Nitrobenzene	98-95-3	0.00608			0.000110	0.000500	0.000100	mg/L	3/8/2005 12:30	124310	1.00	acn
n-Nitrosodiphenylamine	86-30-6	0.00824			0.0000500	0.000500	0.0000500	mg/L	3/8/2005 12:30	124310	1.00	acn
Phenanthrene	85-01-8	0.00696			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 12:30	124310	1.00	acn
Phenol	108-95-2	0.00195		JL-SUR LCS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 12:30	124310	1.00	acn
Pyrene	129-00-0	0.00691			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 12:30	124310	1.00	acn
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.000631			0.0000340	0.000100	0.0000320	mg/L	3/14/2005 10:02	124804	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.000639			0.0000420	0.000100	0.0000400	mg/L	3/14/2005 10:02	124804	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.000746			0.0000270	0.000100	0.0000260	mg/L	3/14/2005 10:02	124804	1.00	lg1
Benzo(a)pyrene	50-32-8	0.000801			0.0000250	0.000100	0.0000240	mg/L	3/14/2005 10:02	124804	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000479			0.0000140	0.000100	0.0000130	mg/L	3/14/2005 10:02	124804	1.00	lg1
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 10:02	124804	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-P11-1S05
Date/Time Sampled .....: 3/3/2005 13:20
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-009
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 18:04	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 18:04	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 18:04	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 18:04	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 18:04	124050	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 18:04	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 18:04	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-P11-1S05 Laboratory Sample ID: 291538-009

Date/Time Sampled .....: 3/3/2005 13:20 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000310	U	JL-SUR	0.000310	0.000500	0.000310	mg/L	3/8/2005 17:27	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 17:27	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.000820	U	JL-SUR LCS	0.000830	0.00150	0.000820	mg/L	3/8/2005 17:27	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.00254			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 17:27	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000550	U	JL-SUR LCS	0.000560	0.00150	0.000550	mg/L	3/8/2005 17:27	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.133			0.0000700	0.000500	0.00200	mg/L	3/9/2005 20:22	124310	25.0	acn	
Acenaphthylene	208-96-8	0.0000600	U		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 17:27	124310	1.00	acn	
Anthracene	120-12-7	0.00697			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 17:27	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000120	U		0.000120	0.000500	0.000120	mg/L	3/8/2005 17:27	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000370	U		0.000370	0.000500	0.000370	mg/L	3/8/2005 17:27	124310	1.00	acn	
Chrysene	218-01-9	0.000130	U		0.000130	0.000500	0.000130	mg/L	3/8/2005 17:27	124310	1.00	acn	
Dibenzofuran	132-64-9	0.0130			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 17:27	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000110	U		0.000110	0.000500	0.000110	mg/L	3/8/2005 17:27	124310	1.00	acn	
Fluoranthene	206-44-0	0.00706			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 17:27	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-P11-1S05
Date/Time Sampled .....: 3/3/2005 13:20
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-009
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0536			0.0000700	0.000500	0.000300	mg/L	3/9/2005 19:53	124310	5.00	acn	
Naphthalene	91-20-3	0.198			0.0000600	0.000500	0.00100	mg/L	3/9/2005 20:22	124310	25.0	acn	
Nitrobenzene	98-95-3	0.000110	U		0.000110	0.000500	0.000110	mg/L	3/8/2005 17:27	124310	1.00	acn	
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 17:27	124310	1.00	acn	
Phenanthrene	85-01-8	0.0392			0.0000900	0.000500	0.000400	mg/L	3/9/2005 19:53	124310	5.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR (LCS)	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 17:27	124310	1.00	acn	ECS
Pyrene	129-00-0	0.00402			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 17:27	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000340	U		0.0000340	0.000100	0.0000340	mg/L	3/14/2005 12:41	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000420	U		0.0000420	0.000100	0.0000420	mg/L	3/14/2005 12:41	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000270	U		0.0000270	0.000100	0.0000270	mg/L	3/14/2005 12:41	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000250	U		0.0000250	0.000100	0.0000250	mg/L	3/14/2005 12:41	124804	1.00	lg1	
bis(2-chloroethoxy)methane	111-91-1	0.0000140	U		0.0000140	0.000100	0.0000140	mg/L	3/14/2005 12:41	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000680	U	JL-SUR	0.0000690	0.000300	0.0000680	mg/L	3/14/2005 12:41	124804	1.00	lg1	ECS

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-P12-1S05
Laboratory Sample ID: 291538-010
Date/Time Sampled .....: 3/3/2005 14:45
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 18:31	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 18:31	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 18:31	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 18:31	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 18:31	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 18:31	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 18:31	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-P12-1S05 Laboratory Sample ID: 291538-010

Date/Time Sampled .....: 3/3/2005 14:45 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR, IS	0.000310	0.000500	0.000300	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U	JL-IS	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-LCS SUR	0.000830	0.00150	0.000790	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0000700	U	JL-IS	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS, IS	0.000560	0.00150	0.000530	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0000700	U	JL-IS	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Acenaphthylene	208-96-8	0.0000600	U	JL-IS	0.0000600	0.000500	0.0000600	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Anthracene	120-12-7	0.0000700	U		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 17:55	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U	JL-IS	0.000120	0.000500	0.000110	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U		0.000370	0.000500	0.000350	mg/L	3/8/2005 17:55	124310	1.00	acn	
Chrysene	218-01-9	0.000120	U	JL-IS	0.000130	0.000500	0.000120	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Dibenzofuran	132-64-9	0.0000800	U	JL-IS	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Di-n-butyl Phthalate	84-74-2	0.000130	J	U-FB, MB	0.000110	0.000500	0.000100	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 17:55	124310	1.00	acn	

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-P12-1S05 Laboratory Sample ID: 291538-010

Date/Time Sampled .....: 3/3/2005 14:45 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0000700	U	JL-IS	0.0000700	0.000500	0.0000700	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Naphthalene	91-20-3	0.0000600	U	JL-IS	0.0000600	0.000500	0.0000600	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Nitrobenzene	98-95-3	0.000100	U	JL-IS	0.000110	0.000500	0.000100	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 17:55	124310	1.00	acn	
Phenanthrene	85-01-8	0.0000900	U		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 17:55	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SCR, LCS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 17:55	124310	1.00	acn	ECS
Pyrene	129-00-0	0.00592			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 17:55	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 13:08	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 13:08	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 13:08	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U		0.0000250	0.000100	0.0000240	mg/L	3/14/2005 13:08	124804	1.00	lg1	
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 13:08	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 13:08	124804	1.00	lg1	

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-01A-1S05
Laboratory Sample ID: 291538-011
Date/Time Sampled .....: 3/4/2005 08:53
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 18:58	124050	1.00	zfl
Benzene	71-43-2	0.00416	J		0.00143	0.00500	0.00143	mg/L	3/7/2005 18:58	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 18:58	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00209	J		0.00137	0.00500	0.00137	mg/L	3/7/2005 18:58	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 18:58	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 18:58	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00777	J		0.00441	0.0150	0.00441	mg/L	3/7/2005 18:58	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419.60 ATTN: Chris Young

Customer Sample ID: MW-01A-1S05 Laboratory Sample ID: 291538-011

Date/Time Sampled .....: 3/4/2005 08:53 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.0128		JL-SUR	0.000310	0.000500	0.000300	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 18:23	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-SUR, LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0882			0.0000700	0.000500	0.000700	mg/L	3/9/2005 20:50	124310	10.0	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.224			0.0000700	0.000500	0.000700	mg/L	3/9/2005 20:50	124310	10.0	acn	
Acenaphthylene	208-96-8	0.00326			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 18:23	124310	1.00	acn	
Anthracene	120-12-7	0.00754			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 18:23	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U	JL-IS	0.000120	0.000500	0.000110	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U	JL-B	0.000370	0.000500	0.000350	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U	JL-IS	0.000130	0.000500	0.000120	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
Dibenzofuran	132-64-9	0.101			0.0000800	0.000500	0.000800	mg/L	3/9/2005 20:50	124310	10.0	acn	
Di-n-butyl Phthalate	84-74-2	0.000200	J	V-FB, MB	0.000110	0.000500	0.000100	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.00935			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 18:23	124310	1.00	acn	

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-01A-1S05
Laboratory Sample ID: 291538-011
Date/Time Sampled .....: 3/4/2005 08:53
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.124			0.0000700	0.000500	0.000700	mg/L	3/9/2005 20:50	124310	10.0	acn	
Naphthalene	91-20-3	0.120			0.0000600	0.000500	0.000600	mg/L	3/9/2005 20:50	124310	10.0	acn	
Nitrobenzene	98-95-3	0.000100	U	JL-1S	0.000110	0.000500	0.000100	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 18:23	124310	1.00	acn	
Phenanthrene	85-01-8	0.0182			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 18:23	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR LCS, 1S	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 18:23	124310	1.00	acn	ECS
Pyrene	129-00-0	0.00362			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 18:23	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 13:34	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 13:34	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 13:34	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U		0.0000250	0.000100	0.0000240	mg/L	3/14/2005 13:34	124804	1.00	lg1	
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 13:34	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 13:34	124804	1.00	lg1	

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-3-1S05
Date/Time Sampled .....: 3/4/2005 10:28
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-012
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 19:25	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 19:25	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 19:25	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 19:25	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 19:25	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 19:25	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 19:25	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-3-1S05 Laboratory Sample ID: 291538-012

Date/Time Sampled .....: 3/4/2005 10:28 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR, IS	0.000310	0.000500	0.000300	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U		0.0000800	0.000500	0.0000800	mg/L	3/8/2005 18:52	124310	1.00	acn	
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-SUR, LCS	0.000830	0.00150	0.000790	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.00181			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 18:52	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS	0.000560	0.00150	0.000530	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.117			0.0000700	0.000500	0.000300	mg/L	3/9/2005 21:47	124310	5.00	acn	
Acenaphthylene	208-96-8	0.000948			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 18:52	124310	1.00	acn	
Anthracene	120-12-7	0.00390			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 18:52	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000230	J		0.000120	0.000500	0.000110	mg/L	3/8/2005 18:52	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000797	U-MB		0.000370	0.000500	0.000350	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000210	J		0.000130	0.000500	0.000120	mg/L	3/8/2005 18:52	124310	1.00	acn	
Dibenzofuran	132-64-9	0.0347			0.0000800	0.000500	0.000400	mg/L	3/9/2005 21:47	124310	5.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000290	J	U-FB, MB	0.000110	0.000500	0.000100	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.0137			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 18:52	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-3-1S05 Laboratory Sample ID: 291538-012

Date/Time Sampled .....: 3/4/2005 10:28 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0637			0.0000700	0.000500	0.000300	mg/L	3/9/2005 21:47	124310	5.00	acn	
Naphthalene	91-20-3	0.0500			0.0000600	0.000500	0.000300	mg/L	3/9/2005 21:47	124310	5.00	acn	
Nitrobenzene	98-95-3	0.000100	U	JL-1S	0.000110	0.000500	0.000100	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 18:52	124310	1.00	acn	
Phenanthrene	85-01-8	0.0104			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 18:52	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR	0.0000400 LCS	0.000500	0.0000400	mg/L	3/8/2005 18:52	124310	1.00	acn	ECS
Pyrene	129-00-0	0.00578			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 18:52	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 14:01	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 14:01	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 14:01	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U		0.0000250	0.000100	0.0000240	mg/L	3/14/2005 14:01	124804	1.00	lg1	
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 14:01	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U	JL-SUR	0.0000690	0.000300	0.0000660	mg/L	3/14/2005 14:01	124804	1.00	lg1	ECS

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-2-1S05
Laboratory Sample ID: 291538-013
Date/Time Sampled .....: 3/4/2005 09:35
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 19:52	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 19:52	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 19:52	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 19:52	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 19:52	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 19:52	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 19:52	124050	1.00	zfl

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TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-2-1S05
Date/Time Sampled .....: 3/4/2005 09:35
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-013
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR, IS	0.000310	0.000500	0.000300	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U	JL-IS	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-LCS, SUR	0.000830	0.00150	0.000790	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.0000800	J		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 19:20	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS, IS	0.000560	0.00150	0.000530	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0394			0.0000700	0.000500	0.000300	mg/L	3/9/2005 22:43	124310	4.00	acn	
Acenaphthylene	208-96-8	0.000400	J		0.0000600	0.000500	0.0000600	mg/L	3/8/2005 19:20	124310	1.00	acn	
Anthracene	120-12-7	0.00114			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 19:20	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000110	U	JL-IS	0.000120	0.000500	0.000110	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
bis(2-ethylhexyl)phthalate	117-81-7	0.000350	U	JL-IS	0.000370	0.000500	0.000350	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U	JL-IS	0.000130	0.000500	0.000120	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
Dibenzofuran	132-64-9	0.0152			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 19:20	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000310	J	U-MB, FB	0.000110	0.000500	0.000100	mg/L	3/8/2005 19:20	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.00421			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 19:20	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-2-1S05
Date/Time Sampled .....: 3/4/2005 09:35
Date/Time Received .....: 3/4/2005 14:39

Laboratory Sample ID: 291538-013
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Fluorene	86-73-7	0.0268			0.0000700	0.000500	0.000300	mg/L	3/9/2005 22:43	124310	4.00	acn
Naphthalene	91-20-3	0.00161			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 19:20	124310	1.00	acn
Nitrobenzene	98-95-3	0.000100	U	JL-LS	0.000110	0.000500	0.000100	mg/L	3/8/2005 19:20	124310	1.00	acn ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U		0.0000500	0.000500	0.0000500	mg/L	3/8/2005 19:20	124310	1.00	acn
Phenanthrene	85-01-8	0.000240	J		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 19:20	124310	1.00	acn
Phenol	108-95-2	0.0000400	U	JL-SQ LCS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 19:20	124310	1.00	acn ECS
Pyrene	129-00-0	0.00183			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 19:20	124310	1.00	acn
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 14:27	124804	1.00	lg1
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 14:27	124804	1.00	lg1
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 14:27	124804	1.00	lg1
Benzo(a)pyrene	50-32-8	0.0000240	U		0.0000250	0.000100	0.0000240	mg/L	3/14/2005 14:27	124804	1.00	lg1
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 14:27	124804	1.00	lg1
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 14:27	124804	1.00	lg1

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-2D-1S05
Laboratory Sample ID: 291538-014
Date/Time Sampled .....: 3/4/2005 07:30
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 20:19	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 20:19	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 20:19	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 20:19	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U	J1-CCAL	0.00130	0.00500	0.00130	mg/L	3/7/2005 20:19	124050	1.00	zfl ECS
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 20:19	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 20:19	124050	1.00	zfl

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.-Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-2D-1S05
Laboratory Sample ID: 291538-014
Date/Time Sampled .....: 3/4/2005 07:30
Sample Matrix .....: Water
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Method: SW-846 8270C, Water													
2,4-Dimethylphenol	105-67-9	0.000300	U	JL-SUR, IS	0.000310	0.000500	0.000300	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
2-Chloronaphthalene	91-58-7	0.0000800	U	JL-IS	0.0000800	0.000500	0.0000800	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
2-Methyl-4,6-dinitrophenol	534-52-1	0.000790	U	JL-LCS, SUR, IS	0.000830	0.00150	0.000790	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
2-Methylnaphthalene	91-57-6	0.000110	J		0.0000700	0.000500	0.0000700	mg/L	3/8/2005 19:49	124310	1.00	acn	
4-Nitrophenol	100-02-7	0.000530	U	JL-SUR, LCS, IS	0.000560	0.00150	0.000530	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
Acenaphthene	83-32-9	0.0436			0.0000700	0.000500	0.000300	mg/L	3/9/2005 23:12	124310	4.00	acn	
Acenaphthylene	208-96-8	0.000490			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 19:49	124310	1.00	acn	
Anthracene	120-12-7	0.00141			0.0000700	0.000500	0.0000700	mg/L	3/8/2005 19:49	124310	1.00	acn	
Benzo(a)anthracene	56-55-3	0.000140	J		0.000120	0.000500	0.000110	mg/L	3/8/2005 19:49	124310	1.00	acn	
bis(2-ethylhexyl)phthalate	117-81-7	0.000766	U	JL-MB, IS	0.000370	0.000500	0.000350	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
Chrysene	218-01-9	0.000120	U	JL-IS	0.000130	0.000500	0.000120	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
Dibenzofuran	132-64-9	0.0162			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 19:49	124310	1.00	acn	
Di-n-butyl Phthalate	84-74-2	0.000280	J	JL U-FB, MB, IS	0.000110	0.000500	0.000100	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
Fluoranthene	206-44-0	0.00416			0.0000800	0.000500	0.0000800	mg/L	3/8/2005 19:49	124310	1.00	acn	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: MW-2D-1S05 Laboratory Sample ID: 291538-014

Date/Time Sampled .....: 3/4/2005 07:30 Sample Matrix .....: Water

Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst	
Fluorene	86-73-7	0.0292			0.0000700	0.000500	0.000300	mg/L	3/9/2005 23:12	124310	4.00	acn	
Naphthalene	91-20-3	0.00232			0.0000600	0.000500	0.0000600	mg/L	3/8/2005 19:49	124310	1.00	acn	
Nitrobenzene	98-95-3	0.000100	U	JL-IS	0.000110	0.000500	0.000100	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
n-Nitrosodiphenylamine	86-30-6	0.0000500	U	JL-IS	0.0000500	0.000500	0.0000500	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
Phenanthrene	85-01-8	0.000240	J		0.0000900	0.000500	0.0000900	mg/L	3/8/2005 19:49	124310	1.00	acn	
Phenol	108-95-2	0.0000400	U	JL-SUR, LCS IS	0.0000400	0.000500	0.0000400	mg/L	3/8/2005 19:49	124310	1.00	acn	ECS
Pyrene	129-00-0	0.00195			0.0000900	0.000500	0.0000900	mg/L	3/8/2005 19:49	124310	1.00	acn	
Method: SW-846 8270C, Water													
1,2-Diphenylhydrazine	122-66-7	0.0000320	U		0.0000340	0.000100	0.0000320	mg/L	3/14/2005 14:54	124804	1.00	lg1	
2,4-Dinitrotoluene	121-14-2	0.0000400	U		0.0000420	0.000100	0.0000400	mg/L	3/14/2005 14:54	124804	1.00	lg1	
2,6-Dinitrotoluene	606-20-2	0.0000260	U		0.0000270	0.000100	0.0000260	mg/L	3/14/2005 14:54	124804	1.00	lg1	
Benzo(a)pyrene	50-32-8	0.0000240	U		0.0000250	0.000100	0.0000240	mg/L	3/14/2005 14:54	124804	1.00	lg1	
bis(2-chloroethoxy)methane	111-91-1	0.0000130	U		0.0000140	0.000100	0.0000130	mg/L	3/14/2005 14:54	124804	1.00	lg1	
Pentachlorophenol	87-86-5	0.0000660	U		0.0000690	0.000300	0.0000660	mg/L	3/14/2005 14:54	124804	1.00	lg1	

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SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 291538 Date: 3/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Customer Sample ID: TB-02-1S05
Laboratory Sample ID: 291538-015
Date/Time Sampled .....: 3/3/2005 00:00
Sample Matrix .....: Trip Blank
Date/Time Received .....: 3/4/2005 14:39

TEST METHOD	CAS #	RESULT	Q	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 14:01	124050	1.00	zfl
Benzene	71-43-2	0.00143	U		0.00143	0.00500	0.00143	mg/L	3/7/2005 14:01	124050	1.00	zfl
Chlorobenzene	108-90-7	0.00155	U		0.00155	0.00500	0.00155	mg/L	3/7/2005 14:01	124050	1.00	zfl
Ethylbenzene	100-41-4	0.00137	U		0.00137	0.00500	0.00137	mg/L	3/7/2005 14:01	124050	1.00	zfl
Methylene Chloride	75-09-2	0.00130	U		0.00130	0.00500	0.00130	mg/L	3/7/2005 14:01	124050	1.00	zfl
Toluene	108-88-3	0.00136	U		0.00136	0.00500	0.00136	mg/L	3/7/2005 14:01	124050	1.00	zfl
Xylenes (total)	1330-20-7	0.00441	U		0.00441	0.0150	0.00441	mg/L	3/7/2005 14:01	124050	1.00	zfl

6/28/05

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ECS Environmental Chemistry Services

PO Box 79782 Houston, TX 77279 ♦ Voice/Fax:(713) 935-0222 ♦ ecschem@sbcglobal.net

APPENDIX B

QUALITY CONTROL DATA

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 8270C Units.....: ug/L Analyst...: lg1
Method Description.: Semivolatile Organics - SIM Analysis Batch(s)...: 124804

LCS	Laboratory Control Sample	SVS030705C	123987		03/14/2005	0842

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.82054		1.00		82.1		30-130	
bis(2-chloroethoxy)methane, Water	0.80887		1.00		80.9		30-130	
2,4-Dinitrotoluene, Water	0.75554		1.00		75.6		60-140	
2,6-Dinitrotoluene, Water	0.79493		1.00		79.5		60-140	
Pentachlorophenol, Water	0.79975		1.00		80.0		50-150	
1,2-Diphenylhydrazine, Water	0.95916		1.00		95.9		30-130	

MB	Method Blank	SVS021105F	123987		03/14/2005	0816

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0							
bis(2-chloroethoxy)methane, Water	0							
2,4-Dinitrotoluene, Water	0							
2,6-Dinitrotoluene, Water	0							
Pentachlorophenol, Water	0							
1,2-Diphenylhydrazine, Water	0							

MS	Matrix Spike	SVS030705C	291538-7		03/14/2005	0935

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.87239		1.00	0	87		30-130	
bis(2-chloroethoxy)methane, Water	0.63866		1.00	0	64		30-130	
2,4-Dinitrotoluene, Water	0.71275		1.00	0	71		24-96	
2,6-Dinitrotoluene, Water	0.68211		1.00	0	68		30-130	
Pentachlorophenol, Water	0.76442		1.00	0	76		5-103	
1,2-Diphenylhydrazine, Water	0.64883		1.00	0	65		60-140	

MSD	Matrix Spike Duplicate	SVS030705C	291538-8		03/14/2005	1002

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.84114	0.87239	1.00	0	84		30.0-130.0	
					3.6		40.0	
bis(2-chloroethoxy)methane, Water	0.50333	0.63866	1.00	0	50		30.0-130.0	
					23.7		30.0	
2,4-Dinitrotoluene, Water	0.67151	0.71275	1.00	0	67		24.0-96.0	
					6.0		30.0	
2,6-Dinitrotoluene, Water	0.78392	0.68211	1.00	0	78		30.0-130.0	
					13.9		30.0	
Pentachlorophenol, Water	0	0.76442	1.00	0	0		5.0-103.0	A
					200.0		40.0	r
1,2-Diphenylhydrazine, Water	0.66243	0.64883	1.00	0	66		60.0-140.0	
					2.1		40.0	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: SW-846 8270C Units.....: ug/L Analyst...: acn
Method Description.: Semivolatile Organics, Low Level Batch(s)...: 124183 124310

LCS	Laboratory Control Sample	SVS022405A	123980		03/08/2005	1104

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	7.80242		10.0		78.0		32-165	
Acenaphthylene, Water	7.93372		10.0		79.3		10-150	
Anthracene, Water	8.61961		10.0		86.2		23-178	
Benzo(a)anthracene, Water	7.75852		10.0		77.6		25-180	
bis(2-ethylhexyl)phthalate, Water	7.73067		10.0		77.3		25-173	b
2-Chloronaphthalene, Water	7.60956		10.0		76.1		23-143	
Chrysene, Water	7.85694		10.0		78.6		23-180	
Dibenzofuran, Water	7.85428		10.0		78.5		35-153	
Di-n-butyl Phthalate, Water	7.82526		10.0		78.3		28-185	
Fluoranthene, Water	8.14686		10.0		81.5		28-180	
Fluorene, Water	8.18073		10.0		81.8		30-189	
2-Methylnaphthalene, Water	8.12558		10.0		81.3		26-168	
Naphthalene, Water	8.07947		10.0		80.8		36-139	
Nitrobenzene, Water	7.85118		10.0		78.5		17-163	
n-Nitrosodiphenylamine, Water	9.23128		10.0		92.3		58-174	
Phenanthrene, Water	8.04057		10.0		80.4		26-166	
Pyrene, Water	7.58324		10.0		75.8		28-173	
2,4-Dimethylphenol, Water	7.19638		10.0		72.0		23-157	
2-Methyl-4,6-dinitrophenol, Water	4.40030		10.0		44.0		10-164	
4-Nitrophenol, Water	2.58073		10.0		25.8		10-92	
Phenol, Water	3.78249		10.0		37.8		20-83	

MB	Method Blank	SVS021105F	123980		03/08/2005	1036

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	0							
Acenaphthylene, Water	0							
Anthracene, Water	0							
Benzo(a)anthracene, Water	0							
bis(2-ethylhexyl)phthalate, Water	0.82768							b
2-Chloronaphthalene, Water	0							
Chrysene, Water	0							
Dibenzofuran, Water	0							
Di-n-butyl Phthalate, Water	0.17676							
Fluoranthene, Water	0							
Fluorene, Water	0							
2-Methylnaphthalene, Water	0							
Naphthalene, Water	0							
Nitrobenzene, Water	0							
n-Nitrosodiphenylamine, Water	0							
Phenanthrene, Water	0							
Pyrene, Water	0							
2,4-Dimethylphenol, Water	0							
2-Methyl-4,6-dinitrophenol, Water	0							
4-Nitrophenol, Water	0							
Phenol, Water	0							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	SVS022405A	291538-7		03/08/2005	1201

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	5.87141		10.0	0	59		46-118	
Acenaphthylene, Water	5.47713		10.0	0	55		30-130	
Anthracene, Water	9.99062		10.0	0.37772	96		30-130	
Benzo(a)anthracene, Water	7.37964		10.0	0	74		60-140	
bis(2-ethylhexyl)phthalate, Water	7.45327		10.0	0.85632	66		60-140	b
2-Chloronaphthalene, Water	5.43851		10.0	0	54		30-130	
Chrysene, Water	7.53515		10.0	0	75		30-130	
Dibenzofuran, Water	7.57506		10.0	0	76		30-130	
Di-n-butyl Phthalate, Water	8.59131		10.0	0.19689	84		30-130	
Fluoranthene, Water	8.41934		10.0	0	84		30-130	
Fluorene, Water	7.98708		10.0	0	80		30-130	
2-Methylnaphthalene, Water	6.13896		10.0	0	61		60-140	
Naphthalene, Water	6.36366		10.0	0	64		30-130	
Nitrobenzene, Water	6.24806		10.0	0	62		30-130	
n-Nitrosodiphenylamine, Water	9.42918		10.0	0	94		30-130	
Phenanthrene, Water	7.43246		10.0	0	74		30-130	
Pyrene, Water	7.34534		10.0	0	73		26-115	
2,4-Dimethylphenol, Water	4.58251		10.0	0	46		30-130	
2-Methyl-4,6-dinitrophenol, Water	6.51803		10.0	0	65		30-130	
4-Nitrophenol, Water	4.41773		10.0	0	44		10-80	
Phenol, Water	2.10931		10.0	0	21		10-112	

MSD	Matrix Spike Duplicate	SVS022405A	291538-8		03/08/2005	1230

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	6.97638	5.87141	10.0	0	70		46.0-118.0	
					17.2		31.0	
Acenaphthylene, Water	6.92425	5.47713	10.0	0	69		30.0-130.0	
					23.3		50.0	
Anthracene, Water	9.11827	9.99062	10.0	0.37772	87		30.0-130.0	
					9.1		50.0	
Benzo(a)anthracene, Water	7.07492	7.37964	10.0	0	71		60.0-140.0	
					4.2		50.0	
bis(2-ethylhexyl)phthalate, Water	6.91858	7.45327	10.0	0.85632	61		60.0-140.0	b
					7.4		30.0	
2-Chloronaphthalene, Water	6.28137	5.43851	10.0	0	63		30.0-130.0	
					14.4		50.0	
Chrysene, Water	7.02430	7.53515	10.0	0	70		30.0-130.0	
					7.0		50.0	
Dibenzofuran, Water	7.33021	7.57506	10.0	0	73		30.0-130.0	
					3.3		50.0	
Di-n-butyl Phthalate, Water	7.96520	8.59131	10.0	0.19689	78		30.0-130.0	
					7.6		50.0	
Fluoranthene, Water	7.98956	8.41934	10.0	0	80		30.0-130.0	
					5.2		50.0	
Fluorene, Water	7.83815	7.98708	10.0	0	78		30.0-130.0	
					1.9		50.0	
2-Methylnaphthalene, Water	5.98411	6.13896	10.0	0	60		60.0-140.0	
					2.6		30.0	
Naphthalene, Water	6.43041	6.36366	10.0	0	64		30.0-130.0	
					1.0		50.0	
Nitrobenzene, Water	6.38653	6.24806	10.0	0	64		30.0-130.0	
					2.2		50.0	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	SVS022405A	291538-8		03/08/2005	1230

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
n-Nitrosodiphenylamine, Water	8.65618	9.42918	10.0	0	87		30.0-130.0	
					8.5		50.0	
Phenanthrene, Water	7.30609	7.43246	10.0	0	73		30.0-130.0	
					1.7		50.0	
Pyrene, Water	7.25767	7.34534	10.0	0	73		26.0-115.0	
					1.2		31.0	
2,4-Dimethylphenol, Water	4.30090	4.58251	10.0	0	43		30.0-130.0	
					6.3		50.0	
2-Methyl-4,6-dinitrophenol, Water	5.66924	6.51803	10.0	0	57		30.0-130.0	
					13.9		50.0	
4-Nitrophenol, Water	3.65984	4.41773	10.0	0	37		10.0-80.0	
					18.8		50.0	
Phenol, Water	2.05161	2.10931	10.0	0	21		10.0-112.0	
					2.8		23.0	

Test Method.....: SW-846 8260B Units.....: ug/L Analyst...: zfl
Method Description.: Volatile Organics Batch(s)...: 124050

LCS	Laboratory Control Sample	VS030705E			03/07/2005	1146

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	55.7281		50.00	ND	111.5		68-127	
Chlorobenzene, Water	49.4721		50.00	ND	98.9		65-129	
1,2-Dichloroethane, Water	54.5524		50.00	ND	109.1		65-133	
Ethylbenzene, Water	54.5694		50.00	ND	109.1		64-132	
Methylene Chloride, Water	61.3150		50.00	2.20930	122.6		54-133	
Toluene, Water	54.5824		50.00	ND	109.2		63-127	
Xylenes (total), Water	162.384		150.0	ND	108.3		37-161	

MB	Method Blank	VS030705C			03/07/2005	1240

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	ND							
Chlorobenzene, Water	ND							
1,2-Dichloroethane, Water	ND							
Ethylbenzene, Water	ND							
Methylene Chloride, Water	2.20930							
Toluene, Water	ND							
Xylenes (total), Water	ND							

MS	Matrix Spike	VS030705E	291538-7		03/07/2005	1522

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	54.2736		50.00	ND	109		65-125	
Chlorobenzene, Water	49.0318		50.00	ND	98		74-122	
1,2-Dichloroethane, Water	54.8849		50.00	ND	110		60-140	
Ethylbenzene, Water	53.6849		50.00	ND	107		60-140	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	VS030705E	291538-7		03/07/2005	1522

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Methylene Chloride, Water	56.8553		50.00	ND	114		60-140	
Toluene, Water	54.0172		50.00	ND	108		76-125	
Xylenes (total), Water	159.840		150.0	ND	107		60-140	

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	VS030705E	291538-8		03/07/2005	1549

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	53.1337	54.2736	50.00	ND	106		65.0-125.0	
					2.1		30.0	
Chlorobenzene, Water	48.2429	49.0318	50.00	ND	96		74.0-122.0	
					1.6		30.0	
1,2-Dichloroethane, Water	52.9409	54.8849	50.00	ND	106		60.0-140.0	
					3.6		30.0	
Ethylbenzene, Water	52.2985	53.6849	50.00	ND	105		60.0-140.0	
					2.6		30.0	
Methylene Chloride, Water	57.4180	56.8553	50.00	ND	115		60.0-140.0	
					1.0		30.0	
Toluene, Water	52.8697	54.0172	50.00	ND	106		76.0-125.0	
					2.1		30.0	
Xylenes (total), Water	159.454	159.840	150.0	ND	106		60.0-140.0	
					0.2		30.0	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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SURROGATE RECOVERIES REPORT

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Method.....: Volatile Organics Method Code...: 8260 Prep Batch....:
Batch(s).....: 124050 Test Matrix...: Water Equipment Code: GCMSVOA07

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
124050--21	LCS		03/07/2005	102.0	109.4	98.3	106.7
124050--21	MB		03/07/2005	118.5	91.6	114.8	94.6
291538- 1		P-10-1S05	03/07/2005	124.1	95.9	121.1	97.9
291538- 2		MW-9-1S05	03/07/2005	124.7	88.3	119.6	95.5
291538- 3		MW-11A-1S05	03/07/2005	126.6	90.0	120.0	94.2
291538- 4		MW-11AD-1S05	03/07/2005	123.8	88.7	118.1	93.4
291538- 5		FB-030305	03/07/2005	125.2	101.6	118.7	97.9
291538- 6		MW-4-1S05	03/07/2005	128.7	91.2	121.9	92.6
291538- 7		MW-4MS-1S05	03/07/2005	103.0	110.2	97.2	109.9
291538- 7	MS	MW-4MS-1S05	03/07/2005	103.0	110.2	97.2	109.9
291538- 8		MW-4MSD-1S05	03/07/2005	104.2	110.9	99.3	109.5
291538- 8	MSD	MW-4MSD-1S05	03/07/2005	104.2	110.9	99.3	109.5
291538- 9		MW-P11-1S05	03/07/2005	127.6	88.5	122.2	93.0
291538- 10		MW-P12-1S05	03/07/2005	123.8	90.2	112.7	95.6
291538- 11		MW-01A-1S05	03/07/2005	119.5	89.7	113.3	97.6
291538- 12		MW-3-1S05	03/07/2005	115.1	92.8	111.8	96.3
291538- 13		MW-2-1S05	03/07/2005	115.0	96.4	111.5	96.0
291538- 14		MW-2D-1S05	03/07/2005	116.0	95.5	110.9	93.6
291538- 15		TB-02-1S05	03/07/2005	124.9	93.8	118.9	95.3

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4	70 - 130
BRFLBE	4-Bromofluorobenzene	70 - 130
DBRFLM	Dibromofluoromethane	70 - 130
TOLD8	Toluene-d8	70 - 130

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SURROGATE RECOVERIES REPORT

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: 483648 PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Method.....: Semivolatile Organics, Low Level Method Code...: 8270LL Prep Batch....: 123980
Batch(s).....: 124183 124310 Test Matrix...: Water Equipment Code: EGCMS07

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	2FLUPH	NITRD5	PHEND6	TERD14
291538- 1		P-10-1S05	03/08/2005	114.9	50.0	34.0	68.5	18.1	79.4
291538- 2		MW-9-1S05	03/08/2005	97.2	74.4	34.0	78.4	18.2	83.5
291538- 3		MW-11A-1S05	03/08/2005	103.2	49.6	34.0	79.7	18.6	84.0
291538- 4		MW-11AD-1S05	03/08/2005	102.7	51.7	40.7	75.4	22.7	84.1
291538- 4		MW-11AD-1S05	03/09/2005	94.5	82.7	32.6	74.7	26.3	91.5
291538- 5		FB-030305	03/08/2005	101.4	66.7	42.1	81.8	24.7	91.0
291538- 6		MW-4-1S05	03/08/2005	116.5	72.2	33.7	68.0	20.8	75.0
291538- 7		MW-4MS-1S05	03/08/2005	90.9	59.0	30.5	67.3	20.5	75.7
291538- 7	MS	MW-4MS-1S05	03/08/2005	90.9	59.0	30.5	67.3	20.5	75.7
291538- 8		MW-4MSD-1S05	03/08/2005	85.4	58.1	29.3	69.5	20.0	75.7
291538- 8	MSD	MW-4MSD-1S05	03/08/2005	85.4	58.1	29.3	69.5	20.0	75.7
291538- 9		MW-P11-1S05	03/08/2005	89.8	73.3	40.8	72.3	25.1	80.9
291538- 9		MW-P11-1S05	03/09/2005	89.4	83.9	49.1	80.6	31.6	90.1
291538- 9		MW-P11-1S05	03/09/2005	0.0d	90.1	0.0d	94.9	0.0d	87.2
291538- 10		MW-P12-1S05	03/08/2005	104.6	57.8	31.0	67.6	15.7	93.7
291538- 11		MW-01A-1S05	03/08/2005	97.9	74.3	39.0	75.0	27.2	79.3
291538- 11		MW-01A-1S05	03/09/2005	95.8	93.3	36.0	82.2	32.3	88.2
291538- 12		MW-3-1S05	03/08/2005	87.5	52.0	33.1	67.2	21.2	84.7
291538- 12		MW-3-1S05	03/09/2005	87.2	76.5	34.1	66.9	23.3	87.0
291538- 13		MW-2-1S05	03/08/2005	108.3	59.6	32.0	74.1	20.5	81.0
291538- 13		MW-2-1S05	03/09/2005	74.2	79.4	29.4	65.7	19.1	87.5
291538- 14		MW-2D-1S05	03/08/2005	105.9	52.1	32.4	71.1	21.6	84.9
291538- 14		MW-2D-1S05	03/09/2005	81.3	75.2	35.1	65.3	23.4	84.9
123980--21	LCS		03/08/2005	70.7	80.4	35.5	84.8	33.7	81.8
123980--21	MB		03/08/2005	74.7	70.4	43.0	75.6	31.7	76.5

Test	Test Description	Limits
246TBP	2,4,6-Tribromophenol	10 - 123
2FLUBP	2-Fluorobiphenyl	43 - 116
2FLUPH	2-Fluorophenol	21 - 100
NITRD5	Nitrobenzene-d5	35 - 114
PHEND6	Phenol-d6	10 - 94
TERD14	Terphenyl-d14	33 - 141

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SURROGATE RECOVERIES REPORT

Job Number.: 291538 Report Date.: 03/24/2005

CUSTOMER: 483648 PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Method.....: Semivolatile Organics - SIM Analysis Method Code...: 8270SI Prep Batch....: 123987
Batch(s).....: 124804 Test Matrix...: Water Equipment Code: EGCMS08

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	NITRD5	TERD14
291538- 1		P-10-1S05	03/14/2005	50.7	70.4	80.8	87.7
291538- 2		MW-9-1S05	03/14/2005	86.9	82.2	82.6	87.8
291538- 3		MW-11A-1S05	03/14/2005	89.3	59.5	82.0	87.2
291538- 4		MW-11AD-1S05	03/14/2005	90.8	64.5	82.6	86.0
291538- 5		FB-030305	03/14/2005	58.4	69.2	93.0	86.9
291538- 6		MW-4-1S05	03/14/2005	74.5	83.7	73.6	81.0
291538- 7		MW-4MS-1S05	03/14/2005	87.5	91.1	86.0	96.3
291538- 7	MS	MW-4MS-1S05	03/14/2005	87.5	91.1	86.0	96.3
291538- 8		MW-4MSD-1S05	03/14/2005	59.7	78.7	80.5	94.2
291538- 8	MSD	MW-4MSD-1S05	03/14/2005	59.7	78.7	80.5	94.2
291538- 9		MW-P11-1S05	03/14/2005	37.2	77.3	76.1	88.4
291538- 10		MW-P12-1S05	03/14/2005	32.9	47.5	79.9	86.6
291538- 11		MW-01A-1S05	03/14/2005	74.5	84.0	79.5	82.7
291538- 12		MW-3-1S05	03/14/2005	52.1	71.7	72.7	89.1
291538- 13		MW-2-1S05	03/14/2005	64.7	75.5	72.4	85.4
291538- 14		MW-2D-1S05	03/14/2005	72.4	68.8	74.1	86.6
123987--21	LCS		03/14/2005	92.6	99.8	94.6	100.2
123987--21	MB		03/14/2005	71.5	84.2	77.6	81.4

Test	Test Description	Limits
246TBP	2,4,6-Tribromophenol	10 - 123
2FLUBP	2-Fluorobiphenyl	43 - 116
NITRD5	Nitrobenzene-d5	35 - 114
TERD14	Terphenyl-d14	33 - 141

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SEVERN TRENT STL

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 03/24/2005

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
3) According to 40CFR Part 136.3, pH, Chlorine Residual, and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field,(e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.
4) For all USACE projects, the QC limits are based on "mean +/- 2 sigma", which are the warning limits.

General Information:

- Cresylic Acid is the combination of o,m and p-Cresol. The combination is reportesd as the final result.
- m-Cresol and p-Cresol co-elute. The result of the two is reported as either m&p-cresol or as p-cresol.
- m-Xylene and p-Xylene co-elute. The result of the two is reported as m,p-Xylene.
- N-Nitrosodiphenylamine decomposes in the gas chromatograph inlet forming dipheylamine and, consequently, may be detected as diphenylamine.
- Methylene Chloride and Acetone are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
- Trimethysilyl(Diazomethane) is used to esterify acid herbicides in Method SW-846 8151A.
- For Inorganic analyses, duplicate QC limits are determined as follows: If the sample result is less than or equal to 5 times the reporting limit, the RPD limit is equal to the reporting limit. If the sample result is greater than 5 times the reporting limit, the RPD limit is the method defined RPD.

Explanation of Qualifiers:

U - This qualifier indicates that the analyte was analyzed but not detected.
J - (Organics only) This qualifier indicates that the analyte is an estimated value between the RL and the MDL.
B - (Inorganics only) This Qualifier indicates that the analyte is an estimated value between the RL and the MDL.
N - (Organics only) This flag indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds (TICs), where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic charachterization of a TIC, such as "chlorinated hydrocarbon", the "N" flag is not used.

Explanation of General QC Outliers:

A - Matrix interference present in sample.
a - MS/MSD analyses yielded comparable poor recoveries, indicating a possible matrix interference. Method performance is demonstrated by acceptable LCS recoveries.
b - Target analyte was found in the method blank.
M - QC sample analysis yielded recoveries outside QC acceptance criteria. This sample was reanalyzed.
L - LCS analysis yielded high recoveries, indicating a potential high bias. No target analytes were observed above the RL in the associated samples.
G - Marginal outlier within 1% of acceptance criteria.
r - RPD value is outside method acceptance criteria.
C - Poor RPD values observed due to the non-homogenous nature of the sample.
O - Sample required dilution due to matrix interference.
D - Sample reported from a dilution.
d - Spike and/or surrogate diluted.
P - The recovery of this analyte is outside default QC limits. The data is accepted and will be used to calculate in-house statistical limits.
E - The reported concentration exceeds the instrument calibration.
F - The analyte is outside QC limits. The sample data is accepted since this analyte is not reported in associated samples.
H - Continuing Calibration Verification (CCV) standard is not associated with the samples reported.
q - See the subcontract final report for qualifier explanation.

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QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 03/24/2005

W - The MS/MSD recoveries are outside QC acceptance criteria because the amount spiked is much less than the amount found in the sample.
K - High recovery will not affect the quality of reported results.
Z - See case narrative.

Explanation of Organic QC Outliers:

e - Method blank analysis yielded phthalate concentrations above the RL. Phthlates are recognized potential laboratory contaminants. Its presence in the sample up to five times the amount reported in the blank may be attributed to laboratory contamination.
S - Sample reanalyzed/reextracted due to poor surrogate recovery. Reanalysis confirmed original analysis indicating a possible matrix interference.
T - Sample analysis yielded poor surrogate recovery.
R - The RPD between the two GC columns is greater than 40% and no anomalies are present. The higher result is reported as per EPA Method 8000B.
I - The RPD between the two GC columns is greater than 40% and anomalies are present. The lower of the two results has been reported.
X - Gaseous compound. In-house QC limits are advisory.
Y - Ketone compounds have poor purge efficiency. In-house QC limits are advisory.
f - Surrogate not associated with reported analytes.

Explanation of Inorganic QC Outliers:

Q - Method blank analysis yielded target analytes above the RL. Associated sample results are greater than 10 times the concentrations observed in the method blank.
V - The RPD control limit for sample results less than 5 times the RL is +/- the RL value. Sample and duplicate results are within method acceptance criteria.
e - Serial dilution failed due to matrix interference.
g - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficent for the MSA is greater than or equal to 0.995.
s - BOD/cBOD seed value is not within method acceptance criteria. Due to the nature of the test method, the sample cannot be reanalyzed.
l - BOD/cBOD LCS value is not within method acceptance criteria. Due to the nature of the test method, sample cannot be reanalyzed.
N - Spiked sample recovery is not within control limits.
n - Sample result quantitated by Method of Standard Additions (MSA) due to the analytical spike recovery being below 85 percent. The correlation coefficient for the MSA is less than 0.995.
* - Duplicate analysis is not within control limits.

Abbreviations:

Batch - Designation given to identify a specific extraction, digestion, preparation, or analysis set.
CCV - Continuing Calibration Verification
CRA - Low level standard check - GFAA, Mercury
CRI - Low level standard check - ICP
Dil Fac - Dilution Factor - Secondary dilution analysis
DLFac - Detection Limit Factor
DU - Duplicate
EB - Extraction Blank (TCLP, SPLP, etc.)
ICAL - Initial Calibration
ICB - Initial Calibration Blank
ICV - Initial Calibration Verification
ISA - Interference Check Sample A - ICP
ISB - Interference Check Sample B - ICP
LCD - Laboratory Control Duplicate
LCS - Laboratory Control Sample
MB - Method Blank

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QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 03/24/2005

MD - Method Duplicate
MDL - Method Detection Limit
MQL - Method Quantitation Limit (TRRP)
MS - Matrix Spike
MSD - Matrix Spike Duplicate
ND - Not Detected
PB - Preparation Blank
PREPF - Preparation Factor
RL - Reporting Limit
RPD - Relative Percent Difference
RRF - Relative Response Factor
RT - Retention Time
SQL - Sample Quantitation Limit (TRRP)
TIC - Tentatively Identified Compound

Method References:

(1) EPA 600/4-79-020 Methods for the Analysis of Water and Wastes, March 1983.
(2) EPA 600/R-94-111 Methods for the Determination of MEtals in Environmental Samples, Supplement I, May 1994.
(3) EPA SW846 Test Methods for Evaluating Solid Waste, Third Edition, September 1986; Update I July 1992; Update II, September 1994, Update IIA August 1993; Update IIB, January 1995; Update III, December 1996, Update IVA January 1998, Update IVB November 2000.
(4) Standard Methods for the Examination of Water and Wastewater, 16th Edition (1985), 17th Edition (1989), 18th Edition (1992), 19th Edition (1995), 20th Edition (1998).
(5) HACH Water Analysis Handbook 3rd Edition (1997).
(6) Federal Register, July 1, 1990 (40 CFR Part 136 Appendix A).
(7) Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air, 2nd Edition, January 1997.
(8) ASTM Annual Book of Methods (Various Years)
(9) Diagnosis and Improvement of Saline and Alkali Soils, Agriculture Handbook No. 60, United States Department of Agriculture, 1954.

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LABORATORY CHRONICLE

Job Number: 291538 Date: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Lab ID: 291538-1 Client ID: P-10-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
	Data Package Validation	1	125469		03/24/2005 0000	
	Electronic Data Deliverables	1	81662		03/16/2005 0815	
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
	GC/MS Semi-Volatile Package Production	1	124323		03/10/2005 0000	
	GC/MS Volatiles Data Package Production	1	124065		03/08/2005 1448	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 1029	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1505	1.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1616	1.00000

Lab ID: 291538-2 Client ID: MW-9-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 1055	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1533	1.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1643	1.00000

Lab ID: 291538-3 Client ID: MW-11A-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 1122	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1602	1.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1710	1.00000

Lab ID: 291538-4 Client ID: MW-11AD-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 1148	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1630	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/09/2005 1925	4.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1737	1.00000

Lab ID: 291538-5 Client ID: FB-030305 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 1215	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1658	1.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1428	1.00000

Lab ID: 291538-6 Client ID: MW-4-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 0909	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1133	1.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1454	1.00000

Lab ID: 291538-7 Client ID: MW-4MS-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123980		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123987		03/07/2005 0800	

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LABORATORY CHRONICLE

Job Number: 291538 Date: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Lab ID: 291538-7 Client ID: MW-4MS-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	0935	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1201	1.00000
SW-846 8260B	Volatile Organics	1	124050			03/07/2005	1522	1.00000

Lab ID: 291538-8 Client ID: MW-4MSD-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123980			03/07/2005	0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123987			03/07/2005	0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	1002	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1230	1.00000
SW-846 8260B	Volatile Organics	1	124050			03/07/2005	1549	1.00000

Lab ID: 291538-9 Client ID: MW-P11-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987			03/07/2005	0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980			03/07/2005	0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	1241	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1727	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/09/2005	1953	5.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/09/2005	2022	25.0000
SW-846 8260B	Volatile Organics	1	124050			03/07/2005	1804	1.00000

Lab ID: 291538-10 Client ID: MW-P12-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987			03/07/2005	0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980			03/07/2005	0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	1308	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1755	1.00000
SW-846 8260B	Volatile Organics	1	124050			03/07/2005	1831	1.00000

Lab ID: 291538-11 Client ID: MW-01A-1S05 Date Recvd: 03/04/2005 Sample Date: 03/04/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987			03/07/2005	0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980			03/07/2005	0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	1334	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1823	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/09/2005	2050	10.0000
SW-846 8260B	Volatile Organics	1	124050			03/07/2005	1858	1.00000

Lab ID: 291538-12 Client ID: MW-3-1S05 Date Recvd: 03/04/2005 Sample Date: 03/04/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987			03/07/2005	0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980			03/07/2005	0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	1401	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1852	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/09/2005	2147	5.00000
SW-846 8260B	Volatile Organics	1	124050			03/07/2005	1925	1.00000

Lab ID: 291538-13 Client ID: MW-2-1S05 Date Recvd: 03/04/2005 Sample Date: 03/04/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987			03/07/2005	0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980			03/07/2005	0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987		03/14/2005	1427	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/08/2005	1920	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980		03/09/2005	2243	4.00000

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LABORATORY CHRONICLE

Job Number: 291538 Date: 03/24/2005

CUSTOMER: ERM Southwest, Inc.- Houston PROJECT: UPRR-HWPW-0014419 60 ATTN: Chris Young

Lab ID: 291538-13 Client ID: MW-2-1S05 Date Recvd: 03/04/2005 Sample Date: 03/04/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1952	1.00000

Lab ID: 291538-14 Client ID: MW-2D-1S05 Date Recvd: 03/04/2005 Sample Date: 03/04/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	123987		03/07/2005 0800	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	123980		03/07/2005 0800	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	124804	123987	03/14/2005 1454	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/08/2005 1949	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	124310	123980	03/09/2005 2312	4.00000
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 2019	1.00000

Lab ID: 291538-15 Client ID: TB-02-1S05 Date Recvd: 03/04/2005 Sample Date: 03/03/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 8260B	Volatile Organics	1	124050		03/07/2005 1401	1.00000

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ECS Environmental Chemistry Services

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APPENDIX C

LABORATORY REVIEW CHECKLIST

EXCEPTION REPORTS

Appendix A Laboratory Data Package Cover Page

This data package consists of:

- 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.
- The Exception Report for every "No" or "Not Reviewed (NR)" item in laboratory review checklist.

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 laboratory in the attached exception reports. By me signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld that would affect the quality of the data.

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

Norman Flynn		Laboratory Director	3/28/2005
Name (Printed)	Signature	Official Title (printed)	Date

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/07/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: ZFL	Prep Batch Number(s): 124050-VOA

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1,2
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?		X			3
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = 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).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/07/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: ZFL	Prep Batch Number(s): 124050-VOA

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: STL-Houston	LRC Date: 03/07/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: ZFL	Prep Batch Number(s): 124050-VOA

ER #[1]	DESCRIPTION
1	The temperatures all coolers received by the laboratory on 03/04/05, with the exception of B/W 11, were below the acceptable range of 2.0-6.0 °C.
2	Per client's email on 03/04/05, sample ID MW-4-1S05 collected at 10:28 was changed to MW-3-1S05.
3	Methylene chloride was detected above the MQL in the method blank

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

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/10/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: LG	Prep Batch Number(s): 123980-SV

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1,2
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			3
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?		X			4
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	X				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. = 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).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/10/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: LG	Prep Batch Number(s): 123980-SV

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			5
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports		
Laboratory Name: STL-Houston		LRC Date: 03/10/05
Project Name: UPRR-HWPW-0014419 60		Laboratory Job Number: 291538
Reviewer Name: LG		Prep Batch Number(s): 123980-SV
ER #[1]	DESCRIPTION	
1	The temperatures all coolers received by the laboratory on 03/04/05, with the exception of B/W 11, were below the acceptable range of 2.0-6.0 °C.	
2	Per client's email on 03/04/05, sample ID MW-4-1S05 collected at 10:28 was changed to MW-3-1S05.	
3	The 2,4,6-tribromophenol, 2-fluorobiphenyl, and phenol-d6 surrogate recoveries in sample 291538-9(25X) were below acceptance limits due to the dilution necessary for analysis.	
4	Bis(2-ethylhexyl)phthalate was detected above the MQL in the extraction blank.	
5	All of the internal standard areas in samples 291538-4 and 14 were below acceptance limits. The acenaphthene-d10 internal standard areas in samples 291538-1 and 6 were below acceptance limits. The naphthalene-d8, acenaphthene-d10, chrysene-d12, and perylene-d12 internal standard areas in sample 291538-10 were below acceptance limits. The 1,4-dichlorobenzene-d4, naphthalene-d8, and chrysene-d12 internal standard areas in sample 291538-11 were below acceptance limits. The naphthalene-d8 internal standard area in sample 291538-12 was below acceptance limits. The naphthalene-d8, acenaphthene-d10, and chrysene-d12 internal standard areas in sample 291538-13 were below acceptance limits. Per method requirements, no corrective action was necessary.	

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

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/17/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: LG	Prep Batch Number(s): 123987-SV SIM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X			1,2
		Were all departures from standard conditions described in an exception report?	X				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	X				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample quantitation limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		If required for the project, TICs reported?			X		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SQLs?			X		
		Was the LCSD RPD within QC limits?			X		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		X			3
		Were MS/MSD RPDs within laboratory QC limits?		X			4
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Were all necessary corrective actions performed for the reported data?	X				
		Was applicable and available technology used to lower the SQL to minimize the matrix interference affects on the sample results?	X				

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
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5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: STL-Houston	LRC Date: 03/17/05
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 291538
Reviewer Name: LG	Prep Batch Number(s): 123987-SV SIM

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	X				
		Were percent differences for each analyte within the method-required QC limits?	X				
		Was the ICAL curve verified for each analyte?	X				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?			X		
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?	X				
		Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?		X			5
S5	OI	**Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			X		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

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).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports		
Laboratory Name: STL-Houston		LRC Date: 03/17/05
Project Name: UPRR-HWPW-0014419 60		Laboratory Job Number: 291538
Reviewer Name: LG		Prep Batch Number(s): 123987-SV SIM
ER #[1]	DESCRIPTION	
1	The temperatures all coolers received by the laboratory on 03/04/05, with the exception of B/W 11, were below the acceptable range of 2.0-6.0 °C.	
2	Per client's email on 03/04/05, sample ID MW-4-1S05 collected at 10:28 was changed to MW-3-1S05.	
3	The pentachlorophenol recovery in the MSD was below acceptance limits due to matrix interference.	
4	The pentachlorophenol RPD was above acceptance limits due to matrix interference.	
5	The chrysene-d12 and perylene-d12 internal standard areas in sample 291538-1 were above acceptance limits. The phenanthrene-d10, chrysene-d12, and perylene-d12 internal standard areas in sample 291538-6 were above acceptance limits. The perylene-d12 internal standard areas in samples 2, 3, 4, and 7 were above acceptance limits. Per method requirements, no corrective action was necessary.	

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

ECS Environmental Chemistry Services

PO Box 79782 Houston, TX 77279 ♦ Voice/Fax:(713) 935-0222 ♦ ecschem@sbcglobal.net

APPENDIX D

CHAIN-OF-CUSTODY FORMS

SEVERN TRENT **STL**

291538

Page 1 of 2

CHAIN OF CUSTODY RECORD

Customer Information		Project Information			Analysis/Method	No. 57216-10
PO	726270	PROJECT NAME	99000484/HWPW	A	8260	
WO	0014419/60	LAB NUMBER	BOTTLE ORDER	B	8270LL	
COMPANY	ERM Southwest, Inc.- Houston	BILL TO	Union Pacific Railroad	C	8270SIM	
SEND REPORT TO	Chris Young	INVOICE ATTN	Geoff Reeder	D		
ADDRESS	15810 Park Ten Place	ADDRESS	24125 Aldine Westfield Road	E	Level 2/ TRRP data package	
	Suite 300			F		
				G		
CITY/STATE/ZIP	Houston, TX 77084	CITY/STATE/ZIP	Spring, TX 77373-9015	H		
PHONE	281-600-1000	PHONE	281-350-7197	I		
FAX	281-600-1001	FAX	281-350-7362	J		
				K		
				L		
				M		
				N		
				O		
				P		
				Q		
				R		
				S		

SAMP NO.	SAMPLE DESCRIPTION	PRESERVE	F	SAMPLE MATRIX	SAMPLE DATE	SAMPLE TIME	# CONTAINER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	P-10-1505			Water	3-3-05	823	7	X	X	X																
2	MW-9-1505			Water		958	7	X	X	X																
3	MW-11A-1505			Water		1138	7	X	X	X																
4	MW-11AD-1505			Water		1200	7	X	X	X																
5	FB-030305			Water		1230	7	X	X	X																
6	MW-4-1505			Water		1508	7	X	X	X																
7	MW-4MS-1505			Water		1518	7	X	X	X																
8	MW-4MSD-1505			Water		1528	7	X	X	X																

Sampler: Andy Dickinger, Carman J Leggett IV

Shipment Method: Hand Delivery

Airbill No.:

Required TurnAround: 14 Days/28

1. Relinquished By: Carman J Leggett IV	Date 3.4.05	2. Relinquished By:	Date	3. Relinquished By:	Date
Company Name: ERM	Time 14:39	Company Name:	Time	Company Name:	Time
1. Received By: Jan P. Wolcott	Date 3.4.05	2. Received By:	Date	3. Received By:	Date
Company Name: STL	Time 14:39	Company Name:	Time	Company Name:	Time

SEVERN TRENT **STL**

291539

CHAIN OF CUSTODY RECORD

Customer Information		Project Information			Analysis/Method	No. 57216-9
PO	726270	PROJECT NAME	99000484/HWPW	A	8260	
WO	0014419/60	LAB NUMBER	BOTTLE ORDER	B	8270LL	
COMPANY	ERM Southwest, Inc.- Houston	BILL TO	Union Pacific Railroad	C	8270SIM	
SEND REPORT TO	Chris Young	INVOICE ATTN	Geoff Reeder	D		
ADDRESS	15810 Park Ten Place	ADDRESS	24125 Aldine Westfield Road	E	Level 2/ TRRP data package	
	Suite 300			F		
				G		
CITY/STATE/ZIP	Houston, TX 77084	CITY/STATE/ZIP	Spring, TX 77373-9015	H		
PHONE	281-600-1000	PHONE	281-350-7197	I		
FAX	281-600-1001	FAX	281-350-7362	J		
				K		
				L		
				M		
				N		
				O		
				P		
				Q		
				R		
				S		

SAMP NO.	SAMPLE DESCRIPTION	PRESERVE	F	SAMPLE MATRIX	SAMPLE DATE	SAMPLE TIME	# CONTAINER	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	· MW-P11-1S05			Water	3-3-05	1320	7	X	X	X																
2	· MW-P12-1S05			Water	↓	1445	7	X	X	X																
3	· MW-01A-1S05			Water	3-4-05	853	7	X	X	X																
4	· MW-4-1S05			Water		1028	7	X	X	X																
5	· MW-3-1S05			Water		935	7	X	X	X																
6	· MW-2D-1S05			Water		730	7	X	X	X																
7	· TB-02-1S05			Water	↓	—	2	X																		
8	·			Water																						

Sampler: Andy Ribbon Carmen Zagata III

Shipment Method: Hand Delivery

Airbill No.:

Required TurnAround: 14 Days/28

1. Relinquished By: Carmen Zagata III	Date 3-4-05	2. Relinquished By:	Date	3. Relinquished By:	Date
Company Name: ERM	Time 14:30	Company Name:	Time	Company Name:	Time
1. Received By: Jan Q. Wells	Date 3-4-05	2. Received By:	Date	3. Received By:	Date
Company Name: STL	Time 1439	Company Name:	Time	Company Name:	Time

Severn Trent Laboratories 6310 Rothway Drive Houston, TX 77040 713-690-4444 FAX 713-690-5646

rpjsckl	Job Sample Receipt Checklist Report	V2

Job Number.: 291538 Location.: 57216 Check List Number.: 1 Description.:
Customer Job ID.....: Job Check List Date.: 03/04/2005 Date of the Report..: 03/04/2005
Project Number.: 99000484 Project Description.: UPRR-HWPW-0014419/60 Project Manager.....: sgk
Customer.....: ERM Southwest, Inc.- Houston Contact.: Chris Young

Questions ?	(Y/N)	Comments
Chain of Custody Received?.....	Y	
...If "yes", completed properly?.....	Y	
Custody seal on shipping container?.....	Y	
...If "yes", custody seal intact?.....	Y	
Custody seals on sample containers?.....	N	
...If "yes", custody seal intact?.....		
Samples chilled?.....	Y	
Temperature of cooler acceptable? (4 deg C +/- 2).	Y	1.2 2.0 1.8 1.0 1.4
...If "no", is sample an air matrix?(no temp req.)		
Thermometer ID.....	Y	368 369
Samples received intact (good condition)?.....	Y	
Volatile samples acceptable? (no headspace).....	Y	
Correct containers used?.....	Y	
Adequate sample volume provided?.....	Y	
Samples preserved correctly?.....	Y	
Samples received within holding-time?.....	Y	
Agreement between COC and sample labels?.....	Y	
Radioactivity at or below background levels?.....	Y	
Additional.....		
Comments.....		
Sample Custodian Signature/Date.....	Y	mt

3.4.10 K

Page 1

STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: ERMSW

CARRIER/DRIVER NAME: Client

PROJECT:

UNPACKED BY: MJ

DATE RECEIVED:

UNPACKED TIME: 2005 MAR -4 PM 2:55

TOTAL # COOLERS RECEIVED: 2005 MAR -4 PM 2:59

COOLER CHECKLIST

COOLER ID	COC PRESENT (Y/N)	CUSTODY TAPE		COOLER TEMP (°C)	THERM ID	TEMP BLK PRESENT (Y/N)	List Sample Bottles in Each Cooler if out of Temperature
		PRESENT (Y/N)	INTACT (Y/N)				
RW 109	Y	C Y	N	1.2	368		
		B N	N				
BW 11	Y	C Y	N	2.0	368		
		B N	N				
BW	Y	C Y	N	1.8	368		
		B N	N				

C = COOLER B = BOTTLES

COOLER(S) SCREENED FOR RADIATION? Yes X No ___ IF TEMP BLK N, HOW WAS TEMP TAKEN: ___

SHORT HOLD / RUSH SAMPLES (include department delivered to and time delivered)

****

SPECIFIC PROJECT INFORMATION

JOB NUMBER: 291530

VOLATILE HEADSPACE ACCEPTABLE? Yes X No ___ NA ___
(If ANY headspace is present, list details in INCONSISTENCIES section)

Marked As Preserved? Yes X No ___

Number of VOA Vials: 45

pH OF WATER SAMPLES

PRESERVATION	# BOTTLES	CORRECT pH (Y/N)	If N, List sample ID and Corresponding pH
H2SO4 (<2)			
HNO3 (<2)			
HCL (<2) (Not VOA Vials)			
NaOH – Cyanide (>12)			
NaOH/Zn Acetate – Sulfide (>9)			
Other	66	Y	

OF NEAT BOTTLES: ___ # OF SOIL JARS: ___

INCONSISTENCIES – Place in Job Notes as well (CTRL F-12)

Sample MW-3 label on COC MW4

ACTION TAKEN

PERSON CONTACTED: ___ DATE: ___

RESOLUTION ___

NOTES ___

(Use back of sheet if necessary)

Project Manager ___

STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: Enviro Sci CARRIER/DRIVER NAME: Client

PROJECT: _____ UNPACKED BY: _____

DATE RECEIVED 3/4/05 14:39 UNPACKED STAMP: _____

TOTAL # COOLERS RECEIVED: 5 2005 MAR -4 PM 2:55

COOLER CHECKLIST

COOLER ID	COC PRESENT (Y/N)	CUSTODY TAPE		COOLER TEMP (°C)	THERM ID	TEMP BLK PRESENT (Y/N)	List Sample Bottles in Each Cooler if out of Temperature
		PRESENT (Y/N)	INTACT (Y/N)				
Green	Y	C Y	Y	1.0	369		
		B Y					
BLUE	Y	C Y	Y	1.4	369		
		B Y					
	Y	C					
		B					

C = COOLER B = BOTTLES

COOLER(S) SCREENED FOR RADIATION? Yes X No ___ IF TEMP BLK N, HOW WAS TEMP TAKEN: _____

SHORT HOLD / RUSH SAMPLES (include department delivered to and time delivered)

_____

_____

****

SPECIFIC PROJECT INFORMATION

JOB NUMBER: _____

VOLATILE HEADSPACE ACCEPTABLE? Yes ___ No ___ NA ___ Marked As Preserved? Yes___ No ___

(If ANY headspace is present, list details in INCONSISTENCIES section) Number of VOA Vials: _____

pH OF WATER SAMPLES

PRESERVATION	# BOTTLES	CORRECT pH (Y/N)	If N, List sample ID and Corresponding pH
H2SO4 (<2)			
HNO3 (<2)			
HCL (<2) (Not VOA Vials)			
NaOH – Cyanide (>12)			
NaOH/Zn Acetate – Sulfide (>9)			
Other			

OF NEAT BOTTLES: _____ # OF SOIL JARS: _____

INCONSISTENCIES – Place in Job Notes as well (CTRL F-12)

_____

_____

_____

_____

ACTION TAKEN

PERSON CONTACTED: _____ DATE: _____

RESOLUTION _____

_____

_____

NOTES _____

_____

_____

(Use back of sheet if necessary)

Project Manager _____

Kudchadkar, Sachin

From: [redacted]
Sent: Friday, March 04, 2005 4:33 PM
To: Kudchadkar, Sachin
Cc: [redacted]
Subject: Please revise COC for Union Pacific Railroad site
Attachments: Revised COC.pdf

Sachin,

Please find attached the revised COC for the sampling event that just took place at Union Pacific's HWPW site (99000484/HWPW).

We inadvertently labeled the sample collected on 3/4/05 at 1028 a.m. as "MW-4-1S05". **It should be "MW-3-1S05".**

[Please note that there is another sample labeled "MW-4-1S05" which has corresponding MS/MSD]

If you have any questions please contact Chris Young at 281-600-1079

Thanks!
Lisa

Lisa M. Peters
ERM-Southwest, Inc.
15810 Park Ten Place, Ste 300
Houston, Texas 77084-5140
281.600.1070 (direct)
281.600.1000 (general)
281.600.1001 (fax)
[redacted]

Updated Compliance Schedule

Appendix D

July 18, 2005
Project No. 0014419

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084
(281) 600-1000

APPENDIX D

Section X (Compliance Schedule) of Compliance Plan No. 50343 dated June 10, 2005 requires that a schedule summarizing all activities required by the Compliance Plan submitted to the Executive Director within 60 days of issuance. This new schedule will be submitted under separate cover and will be supplied and revised (if necessary) in subsequent submittals of the Semiannual reports under the new Compliance Plan.