Semiannual Monitoring Report: First Semiannual Event 2004

Houston Wood Preserving Works
Houston, Texas

Union Pacific Railroad Company

July 21, 2004

www.erm.com

Delivering sustainable solutions in a more competitive world

ERM

T / F / IHW 31547 CO RP

WWC COMM # 10692897
PROJ. MGR. M. Arthur

Suite 300
Houston, Texas 77084
(281) 600-1000
(281) 600-1001 (fax)

July 21, 2004

Received
JUL 22 2004
Remediation Division
Corrective Action Section

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

ERM

Subject: Transmittal of the Semiannual Monitoring Report: First Semiannual Event 2004
Houston Wood Preserving Works, Houston, Texas

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. IHW 31547

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.

GBR/jan
Enclosures

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

G:\2004\006287\0014419\5706Hltr(uprr).doc

Semiannual Monitoring Report: First Semiannual Event 2004

Houston Wood Preserving Works
Houston, Texas

Union Pacific Railroad Company

July 21, 2004

www.erm.com

Union Pacific Railroad Company

Semiannual Monitoring Report: First Semiannual Event 2004

Houston Wood Preserving Works

Houston, Texas

July 21, 2004

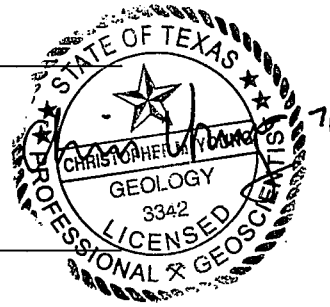
Project No. 0014419

Paul A. Stefan, P.G.
Principal

Christopher M. Young, P.G.
Project Manager

For:
Christopher A. Cunningham, E.I.T.
Project Scientist

Environmental Resources Management
15810 Park Ten Place, Suite 300
Houston, Texas 77084-5140
T: 281-600-1000
F: 281-600-1001



7/20/04

TABLE OF CONTENTS

APPENDICES

TABLE OF CONTENTS (CONT'D)

List of Tables

List of Figures

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 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 2004 and fulfill the semiannual reporting requirements described in the CP, Section VII.B.2.

On March 15 and March 17, 2004, 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 requires that a specific list of provisions be included in each semiannual report. As such, each provision listed below is addressed by number in Section 2 of this report. Some of the provisions listed in the CP refer to evaluation of a recovery system, if present. As of July 21, 2004, a recovery system had not been installed at this facility. Therefore, the few instances where a provision refers to a recovery system (i.e., provisions 5, 7, and 11) are notated in the text. The provisions as they relate to recovery wells were not addressed in this report. The following provisions are required for the semiannual report, pursuant to CP Section VII.B.2:

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.

2.0 FIRST SEMIANNUAL GROUND WATER SAMPLING EVENT FOR 2004

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 FIRST 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.
- 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 15, 2004 and June 8 and 30, 2004 and ground water monitoring activities on March 15 through March 17, 2004. 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, which had been preserved previously by the laboratory, were sealed and packed in coolers with sufficient ice to maintain a sample temperature of approximately 4°C. The coolers with Union Pacific Railroad's (UPRR) samples 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 performed on the A-TZ and B-TZ ground water samples collected during the first semiannual sampling event of 2004 are summarized in Tables 2-1 and 2-2, respectively. Those compounds reported by the laboratory at concentrations greater than 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 MEASUREMENT*

The following measurements were collected at each well in order:

Before Sampling

- light non-aqueous phase liquids (LNAPLs); and
- depth to ground water.

After Sampling

- dense non-aqueous phase liquids (DNAPLs); and
- total well depths.

Table 2-4 provides a summary of these measurements. LNAPL and DNAPL were not apparent in any CP well.

2.4 *POTENTIOMETRIC SURFACE MAPS*

The ground water elevation data described in Section 2.3 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 slightly toward the northeast with an estimated gradient of 0.00625 feet/foot (ft/ft) in the A-TZ. The flow in the B-TZ is toward the northwest with a gradient of 0.005 ft/ft (Figure 2-2).

2.5 *POTENTIOMETRIC SURFACE MAPS FOR RECOVERY SYSTEM*

As of June 30, 2004, a recovery system had not been installed at the closed surface impoundment. Therefore, this provision is not applicable.

2.6 *NON-AQUEOUS PHASE LIQUIDS*

As mentioned above, no LNAPL or DNAPL was apparent in any of the CP wells.

2.7 *NAPL RECOVERIES*

As of June 30, 2004, a recovery system had not been installed at the closed surface impoundment. Therefore, this item is not addressed herein.

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 to 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 to 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.

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. To facilitate generation of the contours, locations with results

reported as *Not Detected* were assigned a value equal to one-half of the reported detection limit for contouring purposes. Figures 2-3 through 2-8 illustrate these data.

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, 2003.

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

The monitor well network was resurveyed on April 21 and 28, 2004. Table 2-4 and Figures 2-1 through 2-8 reflect the new survey locations and top of casing.

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 and is awaiting issuance of the final permit. At this time, no changes are recommended.

2.13 *OTHER REQUESTED ITEMS*

To date, no other items have been requested by the Executive Director.

Tables

July 21, 2004
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 2004

Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)	Monitor Well ID: / Sample Date:	MW-01A 3/17/04	MW-02 3/17/04	MW-03 3/17/04	MW-04 3/16/04	MW-05 3/16/04	MW-07 3/16/04	MW-08 3/16/04	MW-09 3/15/04	MW-10A 3/16/04	MW-11A 3/16/04
Volatile Organic Constituents												
Benzene	0.005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	0.005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	0.005		ND	0.0122 J	ND	ND	ND	ND	ND	ND	ND	ND
Semivolatile Organic Constituents												
Acenaphthene	0.010		0.04226	0.03018	0.1104	ND	0.000283 J	0.000285 J	ND	ND	ND	0.002777
Acenaphthylene	0.010		0.000785	0.000418 J	0.000833 JL	ND	ND	ND	ND	ND	ND	ND
Anthracene	0.010		0.001854	0.001494	0.00129 JL	0.00026 J	0.000251 J	0.000219 J	ND	ND	ND	0.000321 J
Benzo(a)anthracene	0.010		ND	ND	0.000379 J JL	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010		ND	ND	0.000511	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.010		0.0194	0.01945	ND	ND	ND	ND	ND	ND	ND	0.000463 J
Di-n-butyl phthalate	0.010		0.000691 Ub	0.000792 U	0.000654 Ub	ND	.000253 J Ub	.000199 J Ub	.000268 J Ub	.00033 J Ub	ND	0.000521 Ub
2,4-Dimethylphenol	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010		0.000973 U	ND U	0.000943 U	0.001025	ND	ND	ND	ND	0.000916	0.001042
Fluoranthene	0.010		0.003337	0.001861	0.01034 JL	ND	ND	ND	ND	ND	ND	0.000394 J
Fluorene	0.010		0.02334	0.02035	0.0427 JL	ND	ND	ND	ND	ND	ND	0.000354 J
2-Methylnaphthalene	0.010		0.005221	0.001694	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	0.010		0.000919	0.000604	0.000264 J JL	ND	ND	ND	ND	ND	ND	0.002776
Nitrobenzene	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Nitrophenol	0.050		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.050		ND R	ND R	ND R	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	0.010		0.002194	0.002468	0.000663 JL	ND	ND	ND	ND	ND	ND	ND
Phenol	0.010		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	0.010		0.00117	0.000883	0.004965 JL	ND	ND	ND	ND	ND	ND	ND

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 PQL is the Ground Water Protection Standard (GWPS).

[ ] indicates value reported above the GWPS.

J = Estimated value between the reporting limit and MDL.

L = Low bias

U = Not Detected

R = Rejected

b = Target analyte was found in the method blank.

(a) MW-10BD is a duplicate of MW-10B.

(b) P-10D is a duplicate of P-10.

TABLE 2-2

Summary of Analytical Results for the B-Transmissive Zone (B-TZ)
Semiannual Monitoring Report: First Semiannual Event 2004

Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)	Monitor Well ID: / Sample Date:	MW-10B 3/16/04	MW-10BD [a] 3/16/04	MW-11B 3/16/04	P-10 [b] 3/16/04	P-10D 3/16/04	P-11 3/17/04	P-12 3/17/04
Benzene	0.005		0.00231 J	0.00228 J	ND	ND	ND	ND	ND
Chlorobenzene	0.005		ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005		ND	ND	ND	ND	ND	ND	ND
Methylene chloride	0.010		ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	0.005		ND	ND	ND	ND	ND	ND	ND
Toluene	0.005		ND	ND	ND	ND	ND	ND	ND
Xylene (total)	0.005		ND	ND	ND	ND	ND	ND	ND
Acenaphthene	0.010		0.04421	0.04517	0.0486	ND	UJ 0.08375	UJ 0.1301	ND
Acenaphthylene	0.010		0.000833	0.000855	0.001163	ND	UJ 0.000586	UJ ND	ND
Anthracene	0.010		0.002478	0.00243	0.000854	ND	UJ 0.004746	UJ 0.005611	ND
Benzo(a)anthracene	0.010		ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010		ND	ND	ND	ND	ND	ND UJ	ND
bis(2-Chloroethoxy)methane	0.010		ND	ND	ND	ND	ND	ND UJ	ND
2-Chloronaphthalene	0.010		ND	ND	ND	ND	ND	ND	ND
Chrysene	0.010		ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.010		0.0171	0.01702	0.01581	ND	UJ 0.03219	J 0.003985	ND
Di-n-butyl phthalate	0.010		.000303 J Ub	.000251 J Ub	.000348 J Ub	.000379 J	UJb 0.000418 J	Ub 0.000923	Ub 0.000922 Ub
2,4-Dimethylphenol	0.010		ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050		ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010		ND	ND	ND	ND	ND	ND UJ	ND
2,6-Dinitrotoluene	0.010		ND	ND	ND	ND	ND	ND UJ	ND
1,2-Diphenylhydrazine	0.010		ND	ND	ND	ND	ND	ND UJ	ND
bis(2-Ethylhexyl)phthalate	0.010		0.000982	0.000988	ND	ND	ND	0.000904 U	0.001748 U
Fluoranthene	0.010		0.001567	0.001681	0.001971	ND	UJ 0.003192	J 0.008623	ND
Fluorene	0.010		0.02079	0.0213	0.0112	ND	UJ 0.04259	J 0.05025	ND
2-Methylnaphthalene	0.010		0.00013 J	ND	0.001569	ND	UJ 0.0218	J 0.001097	ND
Naphthalene	0.010		0.001853	0.001653	0.01168	ND	UJ 0.4144	J 0.007031	ND
Nitrobenzene	0.010		ND	ND	ND	ND	ND	ND	ND
p-Nitrophenol	0.050		ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010		ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.050		ND	ND	ND	ND	ND	ND R	0.000337 JL
Phenanthrene	0.010		0.008858	0.00956	0.000198 J	ND	UJ 0.02155	J 0.01956	ND
Phenol	0.010		ND	ND	ND	ND	ND	ND	ND
Pyrene	0.010		0.000718	0.000694	0.000991	ND	UJ 0.001372	J 0.00445	0.007348

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 PQL is the Ground Water Protection Standard (GWPS).
[ ] indicates value reported above the GWPS.
J = Estimated value between the reporting limit and MDL.
L = Low bias
U = Not Detected
R = Rejected
b = Target analyte was found in the method blank.
(a) MW-10BD is a duplicate of MW-10B.
(b) P-10D is a duplicate of P-10.

G:\2004\00628?\0014419\5706Htbs.xls

TABLE 2-3

Summary of Analytical Results for Quality Assurance/Quality Control Samples
Semiannual Monitoring Report: First Semiannual Event 2004

Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)	Sample	Field Blank FB-031504-1SA04		Field Blank FB-031704-1SA04	Trip Blank TB01-1SA04	Trip Blank TB02-1SA04
		Sample Date:	3/17/04		3/17/04	3/16/04	3/17/04
Methylene chloride	0.010		ND		ND	ND	ND
Di-n-butyl phthalate	0.010		0.000514	Ub	0.00361 J	NA	NA
bis(2-Ethylhexyl)phthalate	0.010		ND		ND	NA	NA

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.

NA = Not Analyzed.

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 PQL is the Ground Water Protection Standard (GWPS).

J = Estimated value between the reporting limit and MDL.

b = Target analyte was found in the method blank.

TABLE 2-4

Water Level and Total Depth of Well Measurements
Semiannual Monitoring Report: First Semiannual Event 2004

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	3.49	44.43	19.6	20
MW-02	47.97	2.87	45.10	18.36	20
MW-03	48.34	3.27	45.07	18.86	21
MW-04	49.85	4.8	45.05	21.59	23
MW-05	49.24	4.22	45.02	27.31	28
MW-07	48.86	3.89	44.97	24.71	N/A
MW-08	49.33	4.31	45.02	24.99	27
MW-09	49.26	4.18	45.08	25.38	27
MW-10A	49.86	4.69	45.17	25.49	26
MW-11A	50.05	4.99	45.06	23.93	24
B-TZ Monitoring Locations					
MW-10B	49.94	5.78	44.16	46.46	49
MW-11B	50.18	5.16	45.02	46.74	47
P-10	47.69	2.85	44.84	42.83	N/A
P-11	48.98	4.51	44.47	42.69	52
P-12 [2]	48.78	3.55	45.23	N/A	52

NOTES:

Wells were gauged on March 15, 2004 except where noted.
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
(1) Resurveyed on April 21 and 28, 2004.
(2) Gauged on March 17, 2004 due to access to well.

TABLE 2-5

Compliance Status of Wells and Piezometers
Semiannual Monitoring Report: First Semiannual Event 2004

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-10A	Point of compliance	Compliant
MW-11A	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 21, 2004
Project No. 0014419

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

SOURCE: U.S.G.S. 7.5 MINUTE QUADRANGLE, SETTEGAST, TEXAS, 1982.

0 2000 4000

SCALE FEET

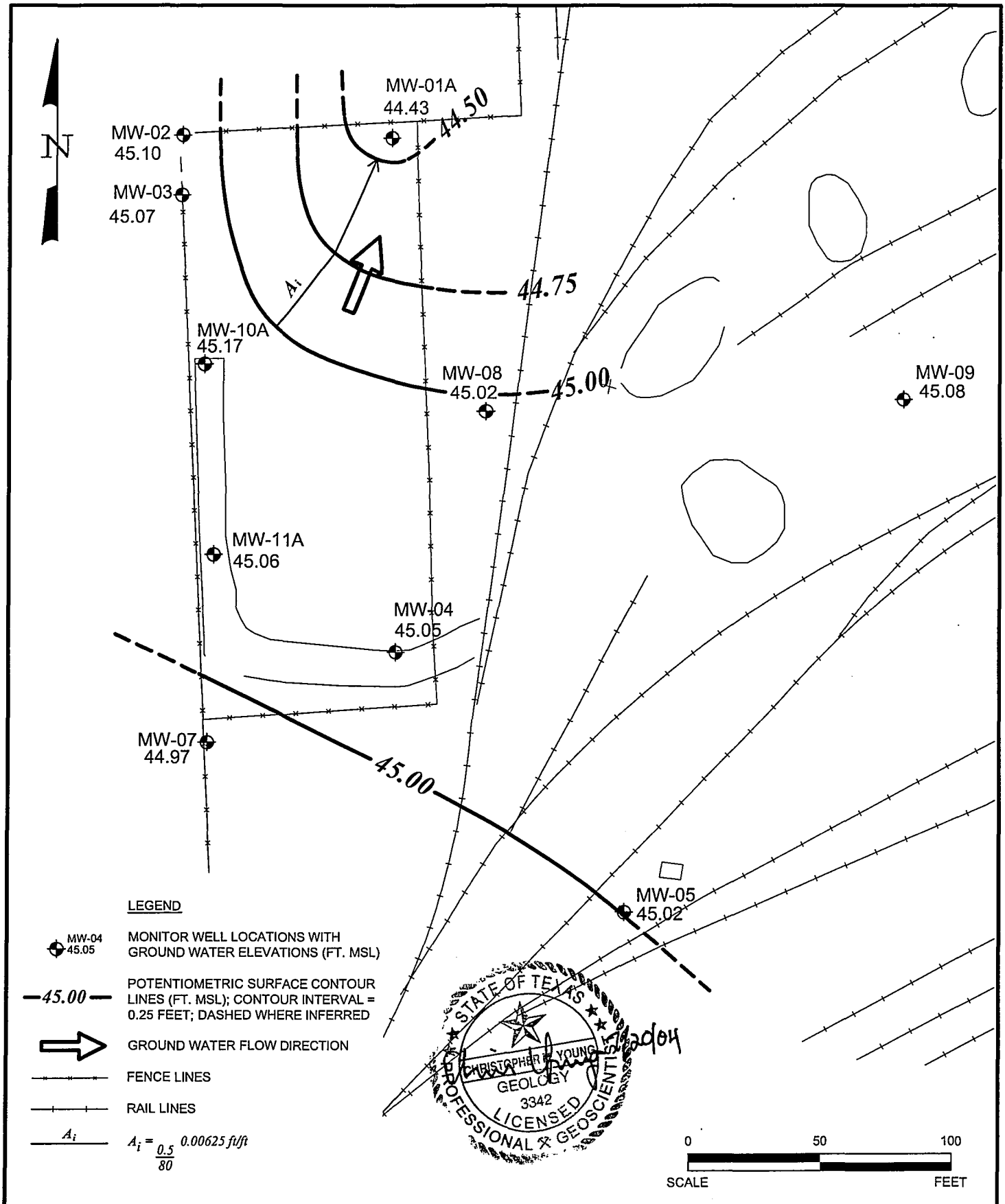
ERM-Southwest, Inc.

HOUSTON · NEW ORLEANS · AUSTIN · MOBILE · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN:	DRAWN: CAK	CHKD.: PJG
DATE: 07/13/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A247.dwg, 7/14/2004 8:53:58 AM		

FIGURE 1-1
SITE LOCATION MAP
Houston Wood Preserving Works
Houston, Texas

ERM



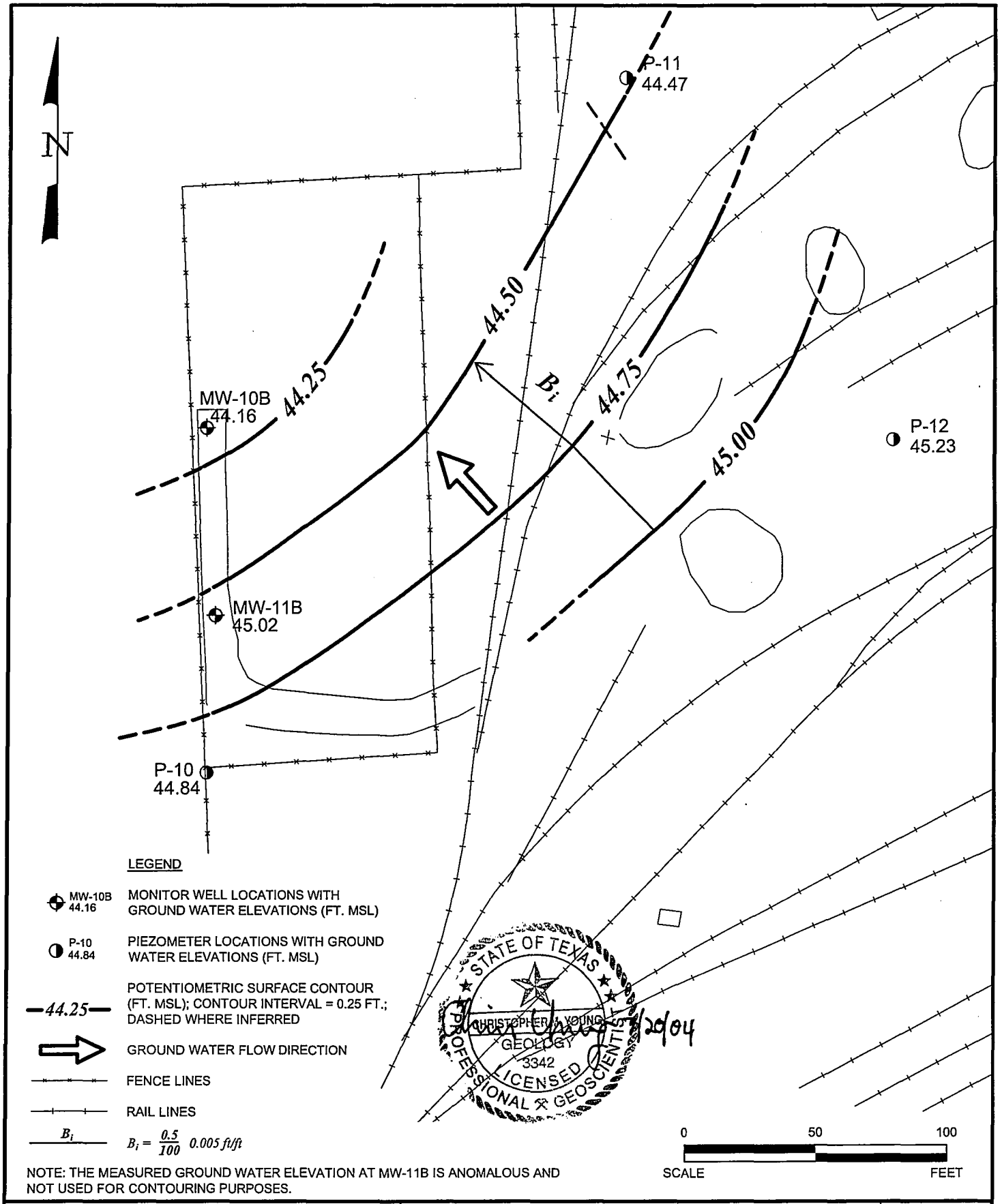
ERM-Southwest, Inc.

HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/13/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A248.dwg, 7/14/2004 8:26:27 AM		

FIGURE 2-1
A-TZ POTENTIOMETRIC SURFACE
MARCH 15, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM



NOTE: THE MEASURED GROUND WATER ELEVATION AT MW-11B IS ANOMALOUS AND NOT USED FOR CONTOURING PURPOSES.

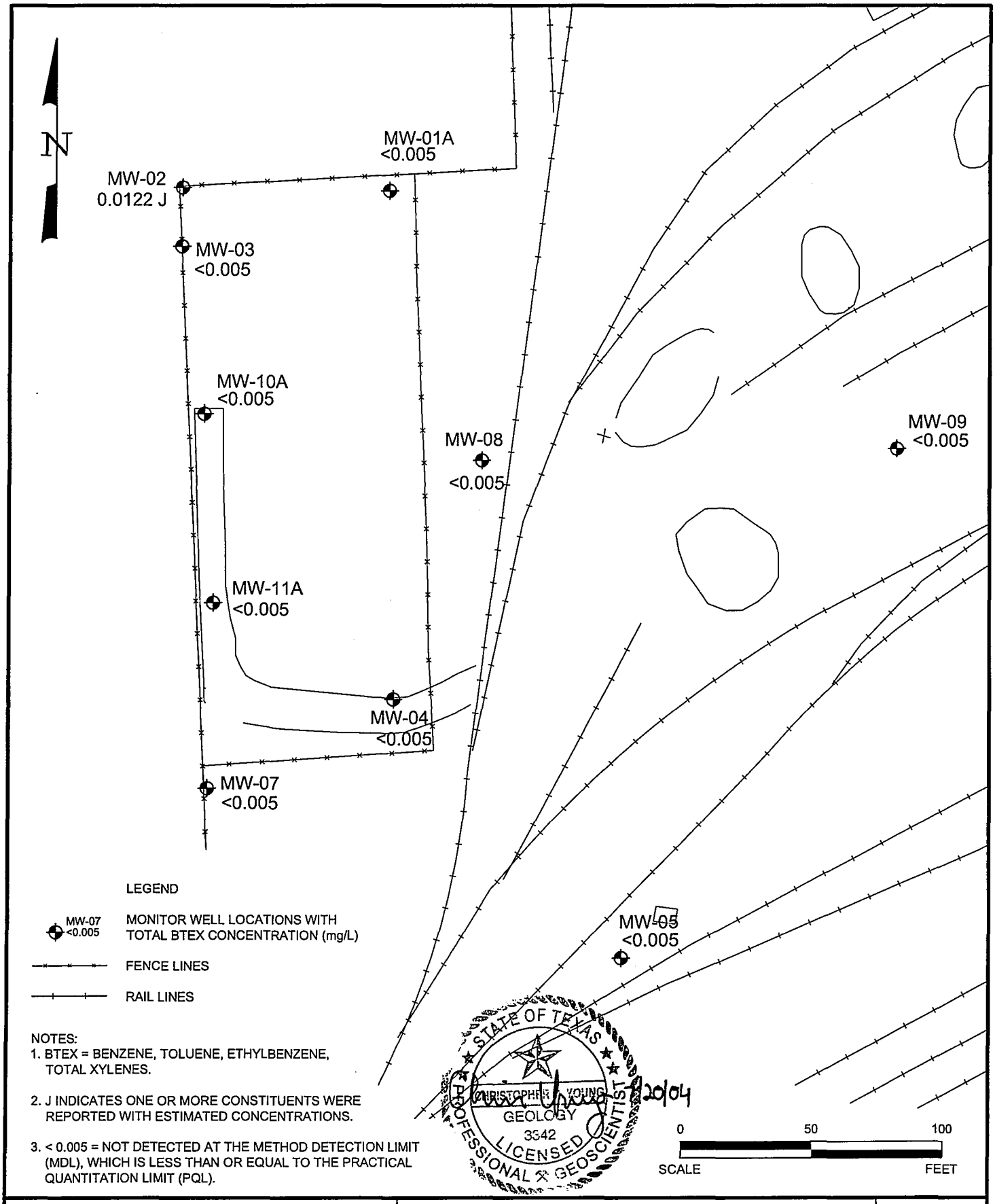
ERM-Southwest, Inc.

HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: JLP	DRAWN: LMc/LAH	CHKD.: TMO
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A249.dwg, 7/14/2004 8:29:40 AM		

FIGURE 2-2
B-TZ POTENTIOMETRIC SURFACE
MARCH 15, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

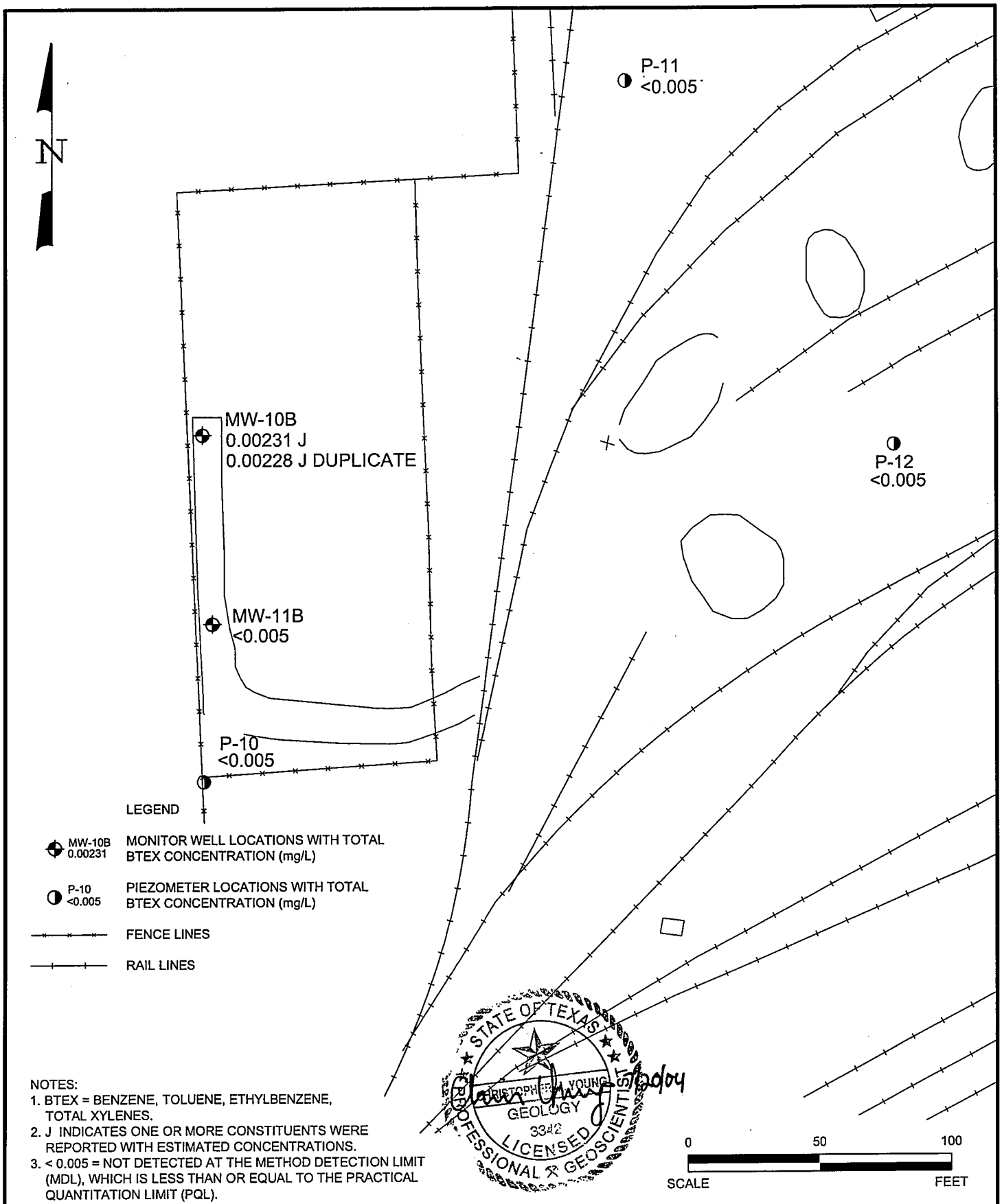


ERM-Southwest, Inc.
HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A250.dwg, 7/14/2004 8:31:21 AM		

FIGURE 2-3
TOTAL BTEX IN A-TZ GROUND WATER
MARCH 15-17, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM



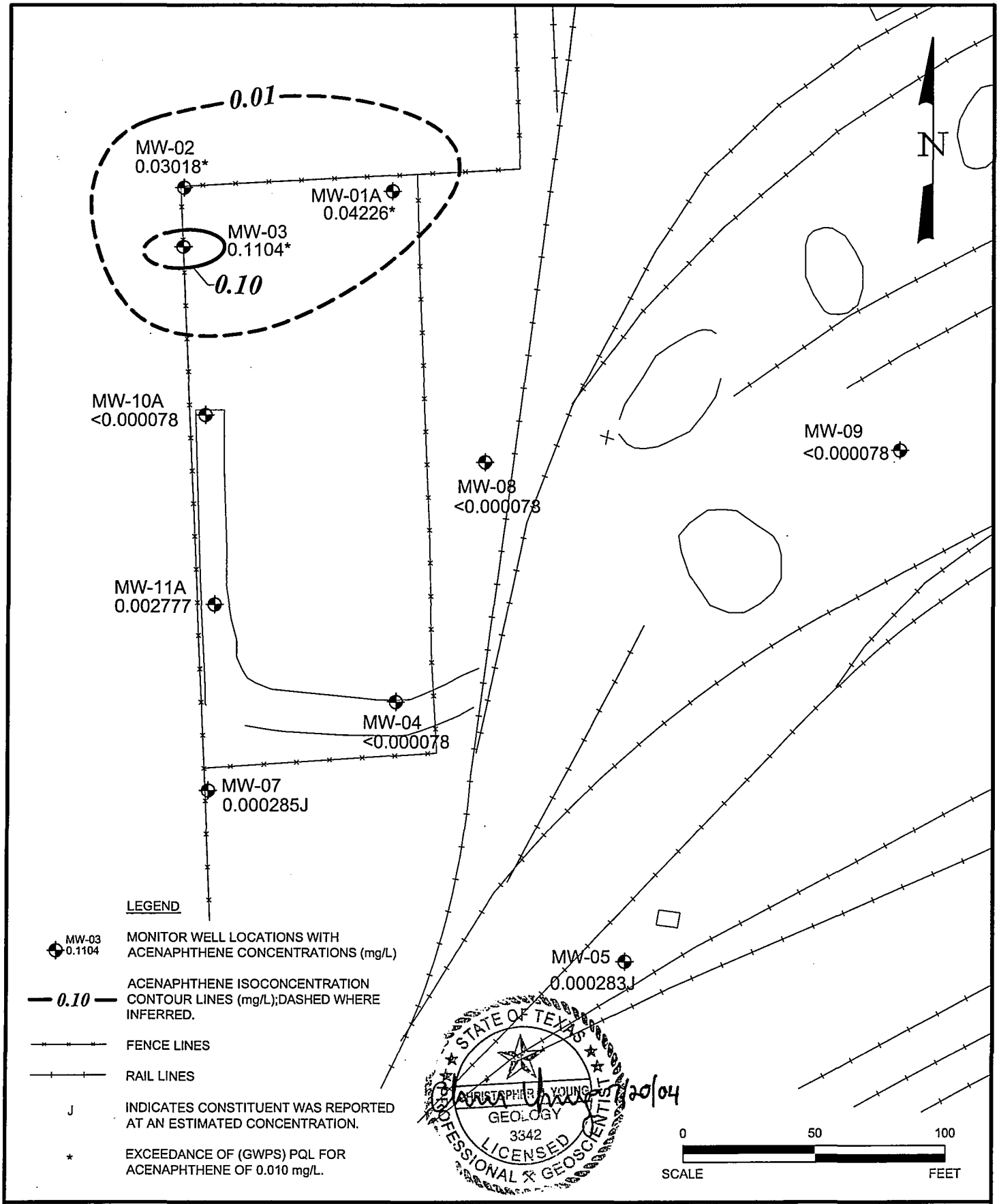
NOTES:
1. BTEX = BENZENE, TOLUENE, ETHYLBENZENE, TOTAL XYLENES.
2. J INDICATES ONE OR MORE CONSTITUENTS WERE REPORTED WITH ESTIMATED CONCENTRATIONS.
3. < 0.005 = NOT DETECTED AT THE METHOD DETECTION LIMIT (MDL), WHICH IS LESS THAN OR EQUAL TO THE PRACTICAL QUANTITATION LIMIT (PQL).

ERM-Southwest, Inc.
HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A251.dwg, 7/14/2004 8:33:16 AM		

FIGURE 2-4
TOTAL BTEX IN B-TZ GROUND WATER
MARCH 15-17, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

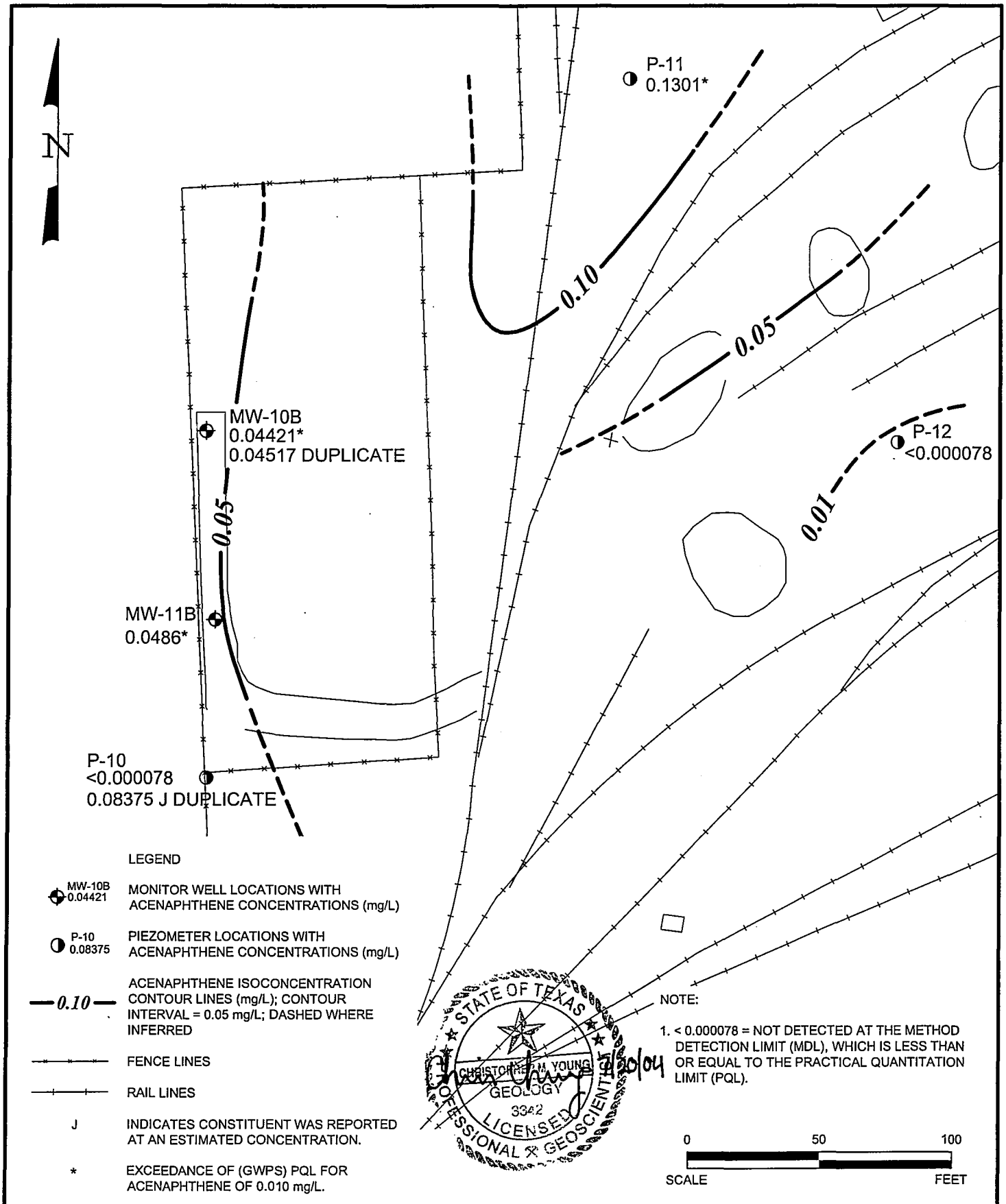


ERM-Southwest, Inc.
HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A252.dwg, 7/14/2004 8:39:26 AM		

FIGURE 2-5
ACENAPHTHENE IN A-TZ GROUND WATER
MARCH 15-17, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

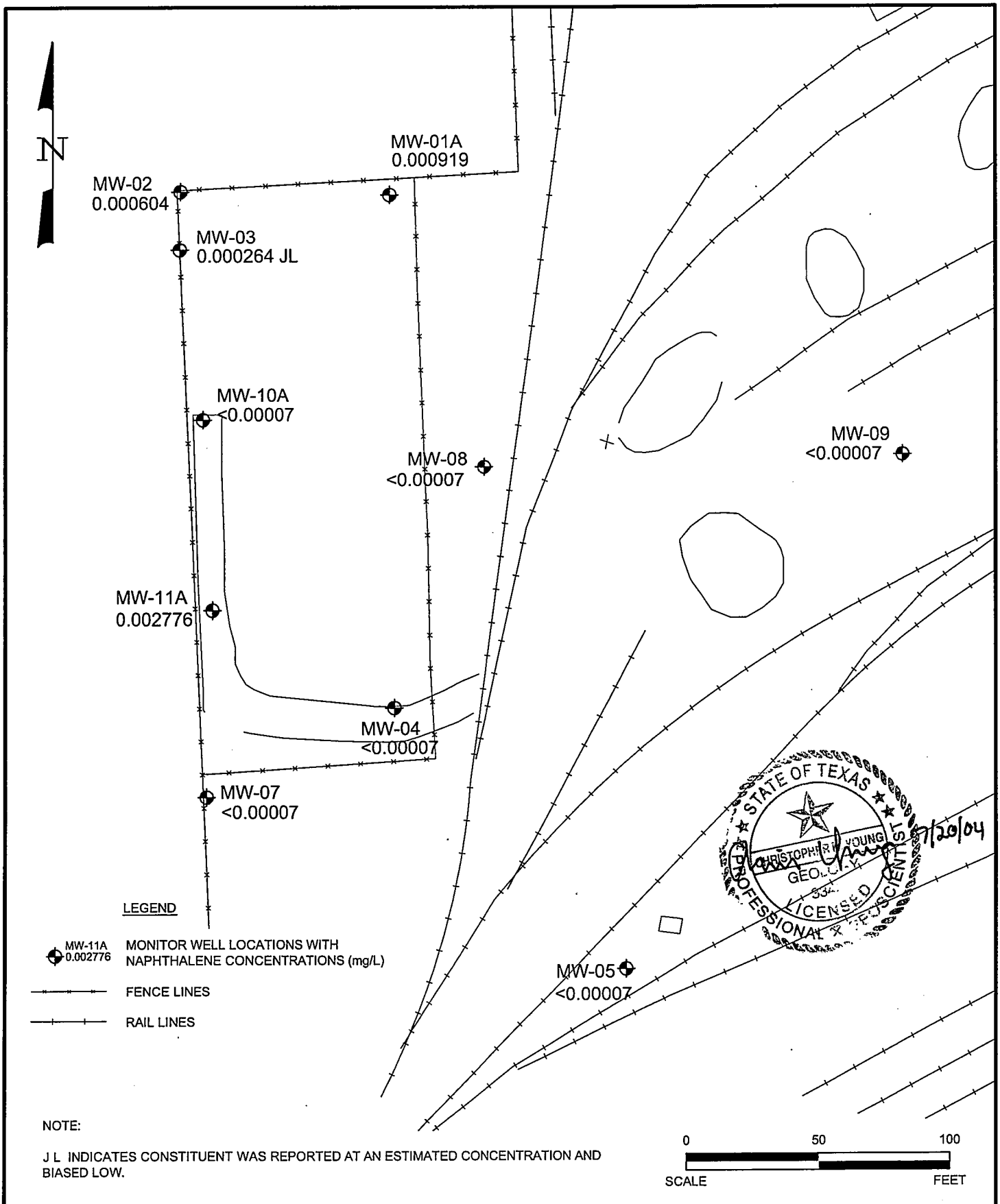


ERM-Southwest, Inc.
HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A253.dwg, 7/14/2004 8:45:46 AM		

FIGURE 2-6
ACENAPHTHENE IN B-TZ GROUND WATER
MARCH 15-17, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

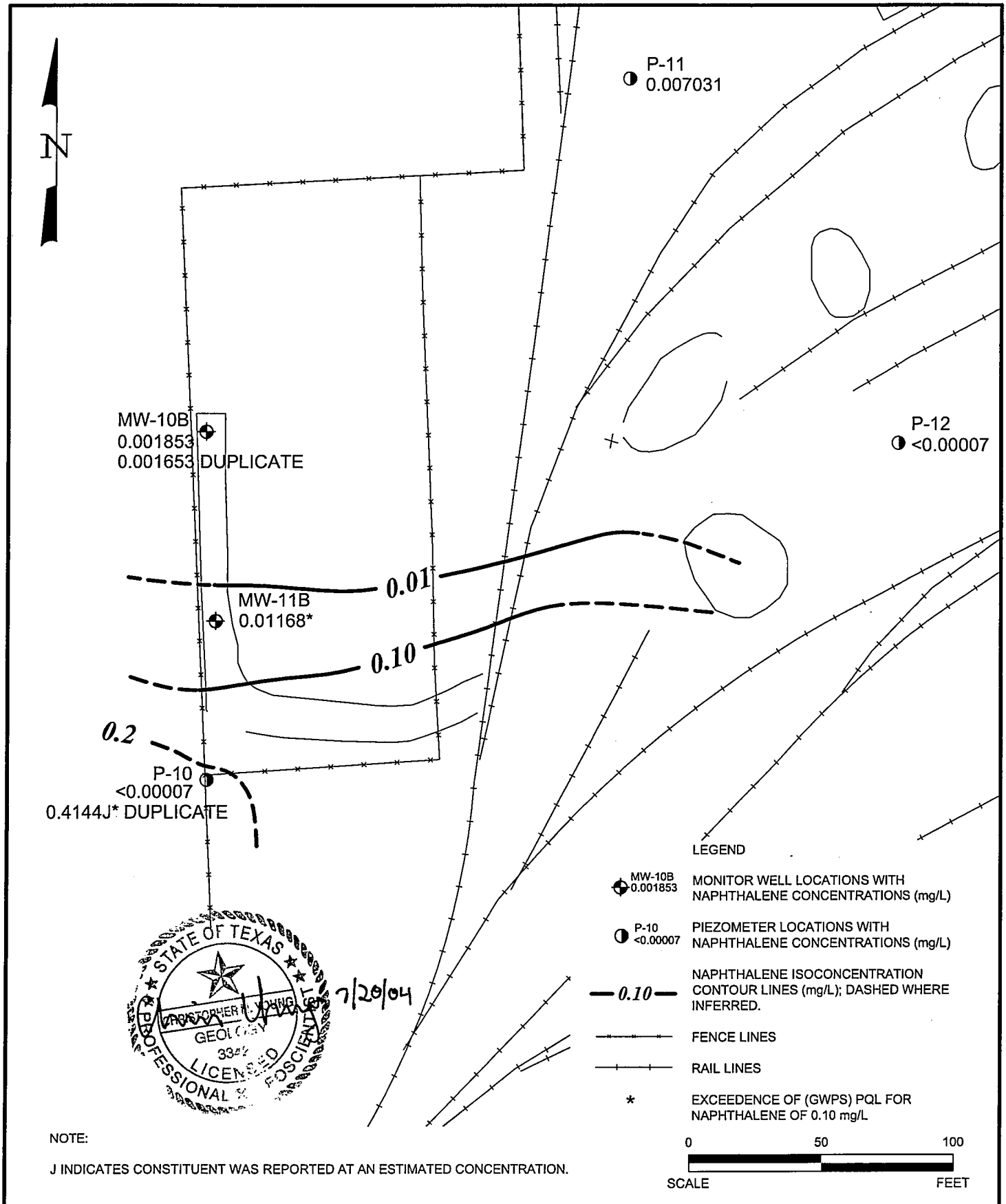


ERM-Southwest, Inc.
HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A254.dwg, 7/14/2004 8:48:00 AM		

FIGURE 2-7
NAPHTHALENE IN A-TZ GROUND WATER (mg/L)
MARCH 15-17, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM



NOTE:

J INDICATES CONSTITUENT WAS REPORTED AT AN ESTIMATED CONCENTRATION.

ERM-Southwest, Inc.

HOUSTON · NEW ORLEANS · AUSTIN · DALLAS · BEAUMONT · BATON ROUGE · CORPUS CHRISTI

DESIGN: VMR	DRAWN: LMc	CHKD.: MGS
DATE: 07/14/04	SCALE: AS SHOWN	REV.:
W.O.NO.: H:\DWG\G04\0014419A255.dwg, 7/14/2004 8:49:47 AM		

FIGURE 2-8
NAPHTHALENE IN B-TZ GROUND WATER (mg/L)
MARCH 16-17, 2004
TCEQ PERMIT UNIT No. II.B.1.
Houston Wood Preserving Works
Houston, Texas

ERM

Compliance Plan Tables

Appendix A

July 21, 2004
Project No. 0014419

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

TABLE I

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 21, 2004
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 2004
Houston Wood Preserving Works
Houston, Texas

Well ID: / Date Sampled:	MW-01A 3/17/04	MW-02 3/17/04	MW-03 3/17/04	MW-04 3/16/04	MW-05 3/16/04	MW-07 3/16/04	MW-08 3/16/04	MW-09 3/15/04
Time Sampled (hrs CST)	1040	950	852	902	1445	910	1315	1410
Temperature (°C)	21.4	21.6	22.4	19.4	21.5	19.0	20.6	21.3
pH (Standard Units)	7.04	6.72	6.84	6.63	6.88	3.82	7.23	6.46
Specific Conductivity (uS)	1,696	775	928	1,068	631	837	488	928
Dissolved Oxygen (mg/L)	0.1	0.1	0.1	0.1	1.6	4.5	5.2	3.5
Turbidity (NTU)	34.72	23.93	6.69	0.00	8.93	10.53	0.0	0.00

Well ID: / Date Sampled:	MW-10A 3/16/04	MW-10B 3/16/04	MW-11A 3/16/04	MW-11B 3/16/04	P-10 3/16/04	P-11 3/17/04	P-12 3/17/04
Time Sampled (hrs CST)	1425	1310	1002	1050	1010	855	1250
Temperature (°C)	22.7	22.5	19.6	21.2	19.7	20.7	23.4
pH (Standard Units)	6.97	6.95	7.05	6.94	7.12	6.54	7.04
Specific Conductivity (uS)	1,079	1,378	1,233	1,309	1,137	1,433	1,480
Dissolved Oxygen (mg/L)	2.3	0.1	0.6	0.1	0.2	0.7	1.0
Turbidity (NTU)	0.00	41.52	25.08	0.00	3.40	3.46	0.00

NOTES:
CST = Central Standard Time
NTU = Natural Turbidity Unit

Laboratory Analytical Reports

Appendix C

July 21, 2004
Project No. 0014419

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

APPENDIX C-1

Data Usability Summary

Houston Wood Preserving Works
Houston, Texas

Environmental Resources Management (ERM) reviewed a laboratory analytical data package 270409 from Severn Trent Laboratories of Houston, Texas for the analysis of 12 ground water samples collected on March 15-16, 2004 in the area of the former Houston Wood Preserving Works site. Data were reviewed to assess conformance with the requirements of the *Review and Reporting of COC Concentration Data* TRRP-13 (December 2002) and adherence to project data quality objectives.

Purpose of Sampling Event: Continuation of on-site and off-site investigation.

Analysis requested included:

SW-846 8270C – Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (low-level and Selective Ion Monitoring (SIM))

SW-846 8260B – Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report,
- Laboratory Review Checklist (LRC), and
- Exception Reports (ER).

The results of supporting quality control (QC) analyses are summarized in the QC section of the analytical report.

The reportable data, LRCs and ERs included in this review are attached to this DUS.

Project Data Quality Objectives for each analytical method are listed in Table 1.

Introduction

Ten ground water samples and two duplicate ground water samples were analyzed for semivolatile organic compounds (SVOCs) and volatile organic compounds (VOCs). Rinsate and field blanks were not provided to the laboratory for analysis. One field blank was provided to the laboratory and analyzed for VOCs and SVOCs and one trip

blank was provided with the laboratory package and analyzed by the laboratory for VOCs only. Table 2 lists the sample identifications cross-referenced to laboratory identifications.

Data Review / Validation Results

Analytical Results

Qualified sample data are listed on Table 3. Not Detected results are reported as less than the value of the sample quantitation limit (SQL) as defined by TRRP. According to the LRC, some SQLs were elevated because of dilutions necessary for analysis.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition with the paperwork filled out properly. Most sample receipt temperatures were within the acceptance criteria of 4 +/- 2 degrees C. Two temperatures (1.9 and 1.7 degrees C) were slightly below the acceptance criteria. Qualifiers were not added to the data because of the slightly lower cooler temperature. The samples were preserved in the field as specified in SW-846 Table 2-36. Samples were prepared and analyzed within holding times as specified in SW-846 Table 2-36.

Calibrations and Tunes

According to the LRC, initial calibration and continuing calibration data met SW-846 method requirements for VOC and SVOC analyses. The data package documents satisfactory instrument performance calibrations (GC/MS tunes) for VOC and SVOC analyses.

Blanks

Method blank analyses were reported as Not Detected for SVOC SIM.

The VOCs method blank analyzed on 3/19/04 at 12:22pm had a detection of methylene chloride of 3.63226 ug/L. Associated samples were reported as Not Detected for methylene chloride, so qualification of the data was not necessary.

SVOC low-level method blank analyzed on 3/23/04 at 15:31 had a reported detection of di-n-butyl phthalate (0.28010 ug/L). Samples MW-9-1SA04, FB-031504-1SA04, MW-11A-1SA04, MW-11B-1SA0, MW-10B-1SA04, MW-10BD-1SA04, MW-7-1SA04, P-10-1SA04, P-10D-1SA04, MW-8-1SA04 and MW-5-1SA04 had detections of di-n-butyl phthalate less than 10X the method blank concentration, and were qualified as Not Detected (U) for di-n-butyl phthalate, because of method blank contamination.

The field blank (FB-031504-1SA04) was reported as detected for di-n-butyl phthalate (0.000514 mg/L). Samples MW-9-1SA04, MW-11A-1SA04, MW-11B-1SA0, MW-10B-

1SA04, MW-10BD-1SA04, MW-7-1SA04, P-10-1SA04, P-10D-1SA04, MW-8-1SA04 and MW-5-1SA04 had detections of di-n-butyl phthalate less than 10X the field blank concentration, and were qualified as Not Detected (U) for di-n-butyl phthalate, because of field blank contamination.

One trip blank (TB01-1SA04) was received by the laboratory, and was reported as Not Detected for VOCs.

Surrogate Recoveries

Surrogate recoveries for VOC and SVOC SIM analyses were within laboratory acceptance criteria.

SVOC low-level analysis had elevated surrogate 2,4,6-tribromophenol recovery for samples MW-4-1SA04, MW-11B-1SA04 and MW-7-1SA04. The other five surrogates were within acceptance limits, so qualification of the data was not necessary. Sample P-10D-1SA04 20X dilution had low surrogate recoveries. Since the surrogates were diluted out of the sample, qualification of the data was not necessary.

Internal Standards

According to the LRC, VOC and SVOC internal standard areas were within SW-846 method acceptance criteria.

Laboratory Control Samples

VOC and SVOC LCS recoveries met the laboratory-defined acceptable ranges.

Matrix Spike/Matrix Spike Duplicates

VOC and SVOC low level MS/MSD recoveries were within laboratory-supplied acceptance criteria.

SVOC SIM MS/MSD was analyzed from sample MW-11B-1SA04. The SVOC SIM MS/MSD had elevated recovery for pentachlorophenol. The associated samples were reported as Not Detected for pentachlorophenol, so qualification of the data was not necessary.

Field Precision

Two field duplicate samples were collected during this sampling event.

Sample MW-10B-1SA04 and duplicate MW-10BD-1SA04 were reported as detected or estimated detected (J flagged) for 12 common compounds. MW-10B-1SA04 was also reported as detected for 2-methylnaphthalene. The 12 compounds (benzene, acenaphthene, acenaphthylene, anthracene, bis(2-ethylhexyl)phthalate, dibenzofuran,

di-n-butyl phthalate, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene) had RPD less than 20% and were within acceptance criteria.

Sample P-10-1SA04 and duplicate P-10D-1SA04 were reported as estimated detected (J flagged) for di-n-butyl phthalate. Di-n-butyl phthalate had RPD less than 20% and was within acceptance criteria. P-10D-1SA04 was also reported as detected for 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, dibenzofuran, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene. The sample/duplicate precision calculation could not be completed on the ten compounds listed because they were reported as Not Detected in both the sample and the duplicate sample. The ten compounds listed were qualified as Estimated (J) in sample P-10D-1SA04 and qualified as Not Detected and Estimated (UJ) in sample P-10-1SA04, because of the difference in results between the sample and duplicate.

Sample/duplicate precision calculations are included in Table 4.

Field Procedures

The samples were collected using documented sampling procedures.

Summary

Ground water analytical data are useable for the purpose of delineation of VOCs and SVOCs in the area of the former Houston Wood Preserving Works site. The data user is advised that samples MW-9-1SA04, FB-031504-1SA04, MW-11A-1SA04, MW-11B-1SA0, MW-10B-1SA04, MW-10BD-1SA04, MW-7-1SA04, P-10-1SA04, P-10D-1SA04, MW-8-1SA04 and MW-5-1SA04 were qualified as Not Detected (U) for di-n-butyl phthalate, because of method blank contamination.

Samples P-10-1SA04 and P-10D-1SA04 were qualified as estimated (J) for detections and qualified as Not Detected estimated (UJ) for compounds reported as Not Detected for 2-methylnaphthalene, acenaphthene, acenaphthylene, anthracene, dibenzofuran, fluoranthene, fluorene, naphthalene, phenanthrene and pyrene, because of sample/duplicate precision outside acceptance criteria.

TABLE 1

Analytical Methods and Quality Objectives for Ground Water
Laboratory Package 270409

Houston Wood Preserving Works
Union Pacific Railroad

Analyte(s)	Method Reference	Method Number	Method Description	Quality Control Type	Quality Objective
SVOC	SW-846	8270	GC/MS	Method Blank	<MQL
				LCS	Variable*
				MS/MSD	Variable*
				MS/MSD RPD	Variable*
				Surrogates	Variable*
VOC	SW-846	8260	GC/MS	Method Blank	<MQL
				LCS	Variable*
				MS/MSD	Variable*
				MS/MSD RPD	Variable*
				Surrogates	Variable*

NOTE:
* = Lab quality control limits vary for each compound.

TABLE 2

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory Package 270409

Houston Wood Preserving Works
Union Pacific Railroad

Field Identification	Laboratory Identification
MW-9-1SA04	270409-1
FB-031504-1SA04	270409-2
MW-4-1SA04	270409-3
MW-11A-1SA05	270409-4
MW-11B-1SA06	270409-5
MW-10B-1SA07	270409-6
MW-10BD-1SA08	270409-7
TB01-1SA04	270409-8
MW-10A-1SA04	270409-9
MW-7-1SA04	270409-10
P-10-1SA04	270409-11
P-10D-1SA04	270409-12
MW-8-1SA04	270409-13
MW-5-1SA04	270409-14

TABLE 3

Qualified Analytical Data
Laboratory Package 270409

Houston Wood Preserving Works
Union Pacific Railroad

Field Identification	Analyte	Qualification	Reason for Qualification
MW-9-1SA04	di-n-butyl phthalate	U	method blank contamination
FB-031504-1SA04	di-n-butyl phthalate	U	method blank contamination
MW-11A-1SA05	di-n-butyl phthalate	U	method blank contamination
MW-11B-1SA06	di-n-butyl phthalate	U	method blank contamination
MW-10B-1SA07	di-n-butyl phthalate	U	method blank contamination
MW-10BD-1SA08	di-n-butyl phthalate	U	method blank contamination
MW-7-1SA04	di-n-butyl phthalate	U	method blank contamination
P-10-1SA04	di-n-butyl phthalate	U	method blank contamination
P-10D-1SA04	di-n-butyl phthalate	U	method blank contamination
MW-8-1SA04	di-n-butyl phthalate	U	method blank contamination
MW-5-1SA04	di-n-butyl phthalate	U	method blank contamination
MW-9-1SA04	di-n-butyl phthalate	U	field blank contamination
MW-11A-1SA05	di-n-butyl phthalate	U	field blank contamination
MW-11B-1SA06	di-n-butyl phthalate	U	field blank contamination
MW-10B-1SA07	di-n-butyl phthalate	U	field blank contamination
MW-10BD-1SA08	di-n-butyl phthalate	U	field blank contamination
MW-7-1SA04	di-n-butyl phthalate	U	field blank contamination
P-10-1SA04	di-n-butyl phthalate	U	field blank contamination
P-10D-1SA04	di-n-butyl phthalate	U	field blank contamination
MW-8-1SA04	di-n-butyl phthalate	U	field blank contamination
MW-5-1SA04	di-n-butyl phthalate	U	field blank contamination
P-10-1SA04	2-methylnaphthalene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	acenaphthene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	acenaphthylene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	anthracene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	dibenzofuran	UJ	sample/duplicate precision outside criteria
P-10-1SA04	fluoranthene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	fluorene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	naphthalene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	phenanthrene	UJ	sample/duplicate precision outside criteria
P-10-1SA04	pyrene	UJ	sample/duplicate precision outside criteria
P-10D-1SA04	2-methylnaphthalene	J	sample/duplicate precision outside criteria
P-10D-1SA04	acenaphthene	J	sample/duplicate precision outside criteria
P-10D-1SA04	acenaphthylene	J	sample/duplicate precision outside criteria
P-10D-1SA04	anthracene	J	sample/duplicate precision outside criteria
P-10D-1SA04	dibenzofuran	J	sample/duplicate precision outside criteria
P-10D-1SA04	fluoranthene	J	sample/duplicate precision outside criteria
P-10D-1SA04	fluorene	J	sample/duplicate precision outside criteria
P-10D-1SA04	naphthalene	J	sample/duplicate precision outside criteria
P-10D-1SA04	phenanthrene	J	sample/duplicate precision outside criteria
P-10D-1SA04	pyrene	J	sample/duplicate precision outside criteria

NOTES:
U = not-detected
J = estimated data, the reported sample concentration is approximated due to exceedance of QC requirements
UJ = the analyte was analyzed for but was not detected above the reported sample quantitation limit.
the associated value is an estimate and may be inaccurate or imprecise.

TABLE 4

Field Precision
Laboratory Package 270409

Houston Wood Preserving Works
Union Pacific Railroad

Field Identification	Analyte	Sample Result	Duplicate Result	RPD	Qualified
MW-10B-1SA04/MW-10BD-1SA04	benzene	0.00231	0.00228	1.31	A
	acenaphthene	0.04421	0.04517	-2.15	A
	acenaphthylene	0.000833	0.000855	-2.61	A
	anthracene	0.002478	0.00243	1.96	A
	bis(2-ethylhexyl)phthalate	0.000982	0.000988	-0.61	A
	dibenzofuran	0.0171	0.01702	0.47	A
	di-n-butyl phthalate	0.000303	0.000251	18.77	A
	fluoranthene	0.001567	0.001681	-7.02	A
	fluorene	0.02079	0.0213	-2.42	A
	naphthalene	0.001853	0.001653	11.41	A
	phenanthrene	0.008858	0.00956	-7.62	A
	pyrene	0.000718	0.000694	3.40	A
P-10-1SA04/P-10D-1SA04	di-n-butyl phthalate	0.000379	0.000418	-9.79	A

NOTES:

results reported as mg/L
RPD = ((SR-DR)*200)/(SR+DR)
A = Acceptable data

APPENDIX C-2

Data Usability Summary

Houston Wood Preserving Works
Houston, Texas

Environmental Resources Management (ERM) reviewed a laboratory analytical data package 270473 from Severn Trent Laboratories of Houston, Texas for the analysis of five ground water samples collected on March 17, 2004 in the area of the Union Pacific Railroad property former Houston Wood Preserving Works site. Data were reviewed to assess conformance with the requirements of the *Review and Reporting of COC Concentration Data* TRRP-13 (December 2002), and adherence to project data quality objectives.

Purpose of Sampling Event: Continuation of on-site and off-site investigation.

Analysis requested included:

SW-846 8270C – Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS) (low-level and Selective Ion Monitoring (SIM))

SW-846 8260B – Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Data were reviewed and validated as described in the TRRP-13 Guidance Document and the results of the review/validation are discussed in this Data Usability Summary (DUS). The following laboratory submittals were reviewed by ERM:

- Analytical data report,
- Laboratory Review Checklist (LRC), and
- Exception Reports (ER).

The results of supporting quality control (QC) analyses are summarized in the QC section of the analytical report.

The reportable data, LRCs and ERs included in this review are attached to this DUS.

Project Data Quality Objectives for each analytical method are listed in Table 1.

Introduction

Five ground water samples were analyzed for semivolatile organic compounds (SVOCs) and volatile organic compounds (VOCs). Rinsate blanks and equipment blanks were not provided to the laboratory for analysis. One field blank was provided to the laboratory and analyzed

for VOCs and SVOCs. One trip blank was provided to the laboratory and analyzed for VOCs only. Table 2 lists the sample identifications cross-referenced to laboratory identifications.

Data Review / Validation Results

Analytical Results

Qualified sample data are listed on Table 3. Not Detected results are reported as less than the value of the sample quantitation limit (SQL) as defined by TRRP. According to the LRC, some SQLs were elevated because of dilutions necessary for analysis.

Preservation and Holding Times

The samples were evaluated for agreement with the chain-of-custody (COC). The samples were received in the appropriate containers and in good condition with the paperwork filled out properly. Sample receipt temperature was within the acceptance criteria of 4 +/- 2 degrees C. The samples were preserved in the field as specified in SW-846 Table 2-36. Samples were prepared and analyzed within holding times as specified in SW-846 Table 2-36.

Calibrations and Tunes

According to the LRC, initial calibration and continuing calibration data met SW-846 method requirements for VOC and SVOC analyses. The data package documents satisfactory instrument performance calibrations (GC/MS tunes) for VOC and SVOC analyses.

Blanks

Method blank analyses were reported as Not Detected for SVOC SIM.

SVOC low-level method blank analyzed on 3/24/04 at 09:24 AM had a reported detection of bis(2-ethylhexyl)phthalate (0.46517 ug/L). Samples MW-3-1SA04, MW-01A-1SA04, P-12-1SA04 and P-11-1SA04 had detections of bis(2-ethylhexyl)phthalate less than 10X the amount found in the method blank. Therefore, the four samples listed were qualified as Not Detected (U) for bis(2-ethylhexyl)phthalate, because of method blank contamination.

VOC method blanks analyzed on 3/22/04 at 13:16 and 3/23/04 12:21 had reported detections of methylene chloride (5.17618 ug/L and 4.28271 ug/L respectively). The associated samples were reported as Not Detected for methylene chloride, so qualification of the data was not necessary.

Field blank FB-031704-1SA04 was reported as Not Detected for VOCs. The field blank had one estimated detection for di-n-butyl phthalate of 0.000361 J mg/L.). Samples MW-3-1SA04, MW-2-1SA04, MW-01A-1SA04, P-12-1SA04 and P-11-1SA04 had detections of di-n-butyl phthalate less than 10X the amount found in the field blank. Therefore, the five samples listed were qualified as Not Detected (U) for di-n-butyl phthalate, because of field blank contamination.

The trip blank (TB02-1SA04) was reported as Not Detected for VOCs.

Surrogate Recoveries

Surrogate recoveries for ground water VOC and SVOC SIM analyses were within laboratory-defined acceptable ranges.

SVOC low-level analysis had elevated 2,4,6-tribromophenol surrogate for sample P-11-1SA04 1X dilution. Because the other five surrogates were within acceptance limits, no qualification of the data was necessary.

Internal Standards

According to the LRC, VOC and SVOC internal standard areas were within SW-846 method acceptance criteria. Sample P-11MSD-1SA04 used as the site-specific MS/MSD, had elevated internal standards for SVOC low level analysis. Qualifiers were not added to the data for elevated internal standard recovery within the MS/MSD.

SVOC low level sample MW-3-1SA04 1X dilution had all internal standards above limits. Detections of SVOCs reported at 1X dilution were qualified as estimated low (JL), because of elevated internal standards.

SVOC SIM sample P-11-1SA04 1X dilution had all internal standards below limits. The six compounds analyzed by the SVOC SIM method were reported as Not Detected and qualified as Not Detected estimated (UJ), because of low internal standards.

Laboratory Control Samples

VOC and SVOC LCS recoveries met the laboratory-defined acceptable ranges.

Matrix Spike/Matrix Spike Duplicates

VOC MS/MSD recoveries were within laboratory-supplied acceptance criteria.

SVOC SIM MS/MSD analyzed on samples P-11MS-1SA04 and P-11MSD-1SA04 had less than 10% MS recovery for pentachlorophenol. Samples MW-3-1SA04, MW-2-1SA04, MW-01A-1SA04 and P-11-1SA04 were reported as Not Detected for pentachlorophenol and were qualified as rejected (R), and sample P-12-1SA04 was reported as detected for pentachlorophenol and was qualified as estimated low (JL), because of MS recovery less than 10%.

SVOC low-level MS/MSD analyzed on samples P-11MS-1SA04 and P-11MSD-1SA04 had low or elevated recovery for four compounds (acenaphthene, fluorene, naphthalene, and phenanthrene). These four compounds had a spike amount less than four times the amount in the unspiked parent sample. Because the matrix effect may not have been accurately represented, qualifiers were not added to the data. This MS/MSD also had elevated recovery

of 2-methyl-4,6-dinitrophenol. The five associated samples were reported as Not Detected for 2-methyl-4,6-dinitrophenol, so qualification of the data was not necessary.

SVOC SIM and low level MS/MSD analyzed on sample 270487-5 from a laboratory package associated with this site was analyzed in the same group with samples from this data package. Samples from this data package were not associated with this MS/MSD.

Field Precision

A duplicate sample was not collected during this sampling event.

Field Procedures

The samples were collected using documented sampling procedures.

Summary

Ground water analytical data are useable for the purpose of delineation of VOCs and SVOCs in the area of the former Houston Wood Preserving Works site. The data user is advised that samples MW-3-1SA04, MW-01A-1SA04, P-12-1SA04 and P-11-1SA04 were qualified as Not Detected (U) for bis(2-ethylhexyl)phthalate, because of method blank contamination. Samples MW-3-1SA04, MW-2-1SA04, MW-01A-1SA04, P-12-1SA04 and P-11-1SA04 were qualified as Not Detected (U) for di-n-butyl phthalate, because of field blank contamination. Detections of low level SVOCs reported at 1X dilution for sample MW-3-1SA04 were qualified as estimated low (JL), because of elevated internal standards.

SVOC SIM sample P-11-1SA04 1X dilution reported the internal standards below limits. The six compounds analyzed by the SVOC SIM method were reported as Not Detected in sample P-11-1SA04 and qualified as Not Detected estimated (UJ), because of low internal standards. Samples MW-3-1SA04, MW-2-1SA04, MW-01A-1SA04 and P-11-1SA04 were qualified as rejected (R), and sample P-12-1SA04 was qualified as estimated low (JL) for pentachlorophenol, because of MS recovery less than 10%.

Qualifications were added to the original data sheets by applying the most stringent qualifier assigned during the data usability process. When a compound had more than one qualifier assigned because of multiple reasons for qualification (MS/MSD, LCS, surrogates, etc.), the most stringent qualifier was applied to the original data sheets. For example, if benzene were assigned a J flag for calibration and a JL flag for low MS recovery during the review process, a JL flag would have been written on the original laboratory data sheets. If a compound had received a JH flag and a JL flag during data evaluation, a J qualifier would have been written on the original laboratory data sheets.

TABLE 1

Analytical Methods and Quality Objectives for Ground Water
Laboratory Package 270473

Houston Wood Preserving Works
Union Pacific Railroad

Analyte(s)	Method Reference	Method Number	Method Description	Quality Control Type	Quality Objective
SVOC	SW-846	8270	GC/MS	Method Blank	<MQL
				LCS	Variable*
				MS/MSD	Variable*
				MS/MSD RPD	Variable*
				Surrogates	Variable*
VOC	SW-846	8260	GC/MS	Method Blank	<MQL
				LCS	Variable*
				MS/MSD	Variable*
				MS/MSD RPD	Variable*
				Surrogates	Variable*

NOTE:

* = Lab quality control limits vary for each compound

TABLE 2

Cross-Reference Field Sample Identifications and Laboratory Identifications
Laboratory Package 270473

Houston Wood Preserving Works
Union Pacific Railroad

Field Identification	Laboratory Identification
MW-3-1SA04	270473-1
MW-2-1SA04	270473-2
MW-01A-1SA04	270473-3
P-12-1SA04	270473-4
P-11-1SA04	270473-5
P-11MS-1SA04	270473-6
P-11MSD-1SA04	270473-7
FB-031704-1SA04	270473-8
TB02-1SA04	270473-9

TABLE 3

Qualified Analytical Data
Laboratory Package 270473

Houston Wood Preserving Works
Union Pacific Railroad

Field Identification	Analyte	Qualification	Reason for Qualification
MW-3-1SA04	bis(2-ethylhexyl)phthalate	U	method blank contamination
MW-01A-1SA04	bis(2-ethylhexyl)phthalate	U	method blank contamination
P-12-1SA04	bis(2-ethylhexyl)phthalate	U	method blank contamination
P-11-1SA04	bis(2-ethylhexyl)phthalate	U	method blank contamination
MW-3-1SA04	di-n-butyl phthalate	U	field blank contamination
MW-2-1SA04	di-n-butyl phthalate	U	field blank contamination
MW-01A-1SA04	di-n-butyl phthalate	U	field blank contamination
P-12-1SA04	di-n-butyl phthalate	U	field blank contamination
P-11-1SA04	di-n-butyl phthalate	U	field blank contamination
MW-3-1SA04	acenaphthylene	JL	elevated internal standards
MW-3-1SA04	anthracene	JL	elevated internal standards
MW-3-1SA04	benzo(a)anthracene	JL	elevated internal standards
MW-3-1SA04	bis(2-ethylhexyl)phthalate	JL	elevated internal standards
MW-3-1SA04	chrysene	JL	elevated internal standards
MW-3-1SA04	dibenzofuran	JL	elevated internal standards
MW-3-1SA04	di-n-butyl phthalate	JL	elevated internal standards
MW-3-1SA04	fluoranthene	JL	elevated internal standards
MW-3-1SA04	fluorene	JL	elevated internal standards
MW-3-1SA04	naphthalene	JL	elevated internal standards
MW-3-1SA04	phenanthrene	JL	elevated internal standards
MW-3-1SA04	pyrene	JL	elevated internal standards
P-11-1SA04	1,2-diphenylhydrazine	UJ	Low internal standards
P-11-1SA04	2,4-dinitrotoluene	UJ	Low internal standards
P-11-1SA04	2,6-dinitrotoluene	UJ	Low internal standards
P-11-1SA04	benzo(a)pyrene	UJ	Low internal standards
P-11-1SA04	bis(2-chloroethoxy)methane	UJ	Low internal standards
P-11-1SA04	pentachlorophenol	UJ	Low internal standards
MW-3-1SA04	pentachlorophenol	R	MS/MSD recovery less than 10%
MW-2-1SA04	pentachlorophenol	R	MS/MSD recovery less than 10%
MW-01A-1SA04	pentachlorophenol	R	MS/MSD recovery less than 10%
P-12-1SA04	pentachlorophenol	JL	MS/MSD recovery less than 10%
P-11-1SA04	pentachlorophenol	R	MS/MSD recovery less than 10%

NOTES:

U = not-detected
J = estimated data, the reported sample concentration is approximated due to exceedance of QC requirements
UJ = the analyte was analyzed for but was not detected above the reported sample quantitation limit.
the associated value is an estimate and may be inaccurate or imprecise.
L = low bias
R = rejected

SEVERN TRENT STL

ANALYTICAL REPORT

JOB NUMBER: 270409

Prepared For:

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

Attention: Chris Young

Date: 04/06/2004

Signature

04/07/04
Date

Name: Sachin G. Kudchadkar

Title: Project Manager III

E-Mail: [redacted]

Severn Trent Laboratories
6310 Rothway Drive
Houston, TX 77040

PHONE: (713) 690-4444

TOTAL NO. OF PAGES 71

SEVERN TRENT STL

04/06/2004

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

Reference:
Project : UPRR-HWPW-0014419/60
Project No. : 270409
Date Received : 03/17/2004
STL Job : 270409

Dear Chris Young:

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

1. MW-9-1SA04
2. FB-031504-1SA04
3. MW-4-1SA04
4. MW-11A-1SA04
5. MW-11B-1SA04
6. MW-10B-1SA04
7. MW-10BD-1SA04
8. TB01-1SA04
9. MW-10A-1SA04
10. MW-7-1SA04
11. P-10-1SA04
12. P-10D-1SA04
13. MW-8-1SA04
14. MW-5-1SA04

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

Table 1

Cross-Reference Field Sample Identifications and Laboratory Identifications

Field Identification	EPA Sample Number	Laboratory Identification	8260B	8270C	Comment
MW-9-1SA04	MW-9-1SA04	270409-1	X	X	
FB-031504-1SA04	FB-031504-1SA04	270409-2	X	X	Field Blank
MW-4-1SA04	MW-4-1SA04	270409-3	X	X	
MW-11A-1SA04	MW-11A-1SA04	270409-4	X	X	
MW-11B-1SA04	MW-11B-1SA04	270409-5	X	X	
MW-10B-1SA04	MW-10B-1SA04	270409-6	X	X	
MW-10BD-1SA04	MW-10BD-1SA04	270409-7	X	X	
TB01-1SA04	TB01-1SA04	270409-8	X		Trip Blank
MW-10A-1SA04	MW-10A-1SA04	270409-9	X	X	
MW-7-1SA04	MW-7-1SA04	270409-10	X	X	
P-10-1SA04	P-10-1SA04	270409-11	X	X	
P-10D-1SA04	P-10D-1SA04	270409-12	X	X	
MW-8-1SA04	MW-8-1SA04	270409-13	X	X	
MW-5-1SA04	MW-5-1SA04	270409-14	X	X	

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

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	1/7/04
Name (Printed)	Signature	Official Title (printed)	Date

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

Laboratory Name: STL-Houston	LRC Date: 03/22/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: AY	Prep Batch Number(s): 96172-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	2
		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: 03/22/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: AY	Prep Batch Number(s): 96172-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: 03/22/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: AY	Prep Batch Number(s): 96172-VOA

ER #[1]	DESCRIPTION
1	The temperatures of coolers "All green 60" and "All green 1 of 1" received by the laboratory on 03/17/04 were below the acceptance range of 2.0-6.0°C.
2	Since no client sample was designated as the MS/MSD, the laboratory selected two samples from other clients.

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: 03/31/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: LG	Prep Batch Number(s): 96166-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			2
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				3
		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				4

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: 03/31/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: LG	Prep Batch Number(s): 96166-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				
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: 03/31/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: LG	Prep Batch Number(s): 96166-SV

ER #[1]	DESCRIPTION
1	The temperatures of coolers "All green 60" and "All green 1 of 1" received by the laboratory on 03/17/04 were below the acceptance range of 2.0-6.0°C.
2	The 2,4,6-tribromophenol surrogate recoveries in samples 270409-3, 4MS, 5, 10 and the LCS were above acceptance limits. These high recoveries will not affect the quality of the reported results. The 2,4,6-tribromophenol and 2-fluorobiphenyl surrogate recoveries in sample 270409-12 were below acceptance limits due to the dilution necessary for analysis.
3	Since no client sample was designated as the MS/MSD, the laboratory selected sample 270409-4.
4	The acenapthene and naphthalene SQLs in sample 270409-12 were elevated due to the dilutions necessary for analyses.

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: 03/31/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: LG	Prep Batch Number(s): 96167-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				2
		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				
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: 03/31/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: LG	Prep Batch Number(s): 96167-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.
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: 03/31/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270409
Reviewer Name: LG	Prep Batch Number(s): 96167-SV SIM

ER #[1]	DESCRIPTION
1	The temperatures of coolers "All green 60" and "All green 1 of 1" received by the laboratory on 03/17/04 were below the acceptance range of 2.0-6.0°C.
2	Since no client sample was designated as the MS/MSD, the laboratory selected sample 270409-5.
3	The pentachlorophenol recoveries in the MS/MSD were above acceptance limits due to matrix interference.

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** 270409

CHAIN OF CUSTODY RECORD

Customer Information		Project Information			Analysis/Method	No. 5216-3
PO	726270	PROJECT NAME	99000484/HWPW	A	8260	
WO	422-102/10	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-9-1SA04	$Na_2S_2O_3$, HCL		Water	3/15/04	1410	7	X	X	X																
2	FB-031504-1SA04			Water	3/15/04	1350	7	X	X	X																
3	MW-4-1SA04			Water	3/16/04	0902	7	X	X	X																
4	MW-11A-1SA04			Water	3/16/04	1002	7	X	X	X																
5	MW-11B-1SA04			Water	3/16/04	1050	7	X	X	X																
6	MW-10B-1SA04			Water	3/16/04	~~1230~~ 1310	7	X	X	X																
7	MW-10BD-1SA04			Water	3/16/04	1320	7	X	X	X																
8	TB01-1SA04	HCL		Water	—	—	2	X																		

Sampler: Andy Sander Tristan Palds | Shipment Method: | Airbill No.: | Required TurnAround: 14 Days/28

1. Relinquished By:	Date 3/16/04	2. Relinquished By:	Date 3/17/04	3. Relinquished By:	Date
Company Name: ERM-SW	Time 1630	Company Name: STL	Time 1152	Company Name:	Time
1. Received By:	Date 3-17-04	2. Received By:	Date	3. Received By:	Date
Company Name: STL	Time 860	Company Name:	Time	Company Name:	Time

SEVERN TRENT STL

CHAIN OF CUSTODY RECORD

Customer Information		Project Information			Analysis/Method	No. 57216-4
PO	726270	PROJECT NAME	99000484/HWPW	A	8260	
WO	422-102/10	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		
	Suite 300			F	Level 2/ TRRP data package	
				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-10A-1SA04	HNO_3, Ice		Water	3/16/04	1425	7	X	X	X																
2	MW-7-1SA04			Water		0910		X	X	X																
3	P-10-1SA04			Water		1070		X	X	X																
4	P-10D-1SA04			Water		1085		X	X	X																
5	MW-8-1SA04			Water		1315		X	X	X																
6	MW-5-1SA04			Water		1445	11	X	X	X																
7				Water																						
8 CJ				Water																						

Sampler: ANDY SANCHEZ / TRISTRAM DODDS

Shipment Method: DELIVERY

Airbill No.:

Required TurnAround: 14 Days/28

1. Relinquished By:	Date 3/16/04	2. Relinquished By:	Date 3-17-04	3. Relinquished By:	Date
Company Name: ERM-SW	Time 1630	Company Name: STL	Time 1152	Company Name:	Time
1. Received By:	Date 3-17-04	2. Received By:	Date	3. Received By:	Date
Company Name: STL	Time 800	Company Name:	Time	Company Name:	Time

rpjsckl	Job Sample Receipt Checklist Report	V2

Job Number.: 270409 Location.: 57216 Check List Number.: 1 Description.:
Customer Job ID.....: Job Check List Date.: 03/18/2004 Date of the Report..: 03/18/2004
Project Number.: 99000484 Project Description.: UPRR-HWPW-422-102/10 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	2.6,3.1,1.9,2.9,1.7
...If "no", is sample an air matrix?(no temp req.)		
Thermometer ID	Y	368
Samples received intact (good condition)?	Y	
Volatile samples acceptable? (no headspace)	Y	
Correct containers used?	Y	JB3/18/04
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	EIB

STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: ERM-Southwest. CARRIER/DRIVER NAME: Phu

PROJECT: 2014 MAR 17 AM 11:52 UNPACKED 2014 MAR 18 AM 8:01 JB

DATE RECEIVED: UNPACKED STAMP:

TOTAL # COOLERS RECEIVED: 5

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)				
R/w 1651	Y	C Y	Y	2.6	368	N	
		B N	N				
R/w 361	Y	C Y	Y	3.1	405	↓	
		B N	N				
All green 60	Y	C		1.9	370	↓	
		B N	N				

C = COOLER B = BOTTLES

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

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

****

SPECIFIC PROJECT INFORMATION

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

JOB NUMBER:
Marked As Preserved? Yes ✓ No ___
Number of VOA Vials: 41

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	52	Y	

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

17

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-9-1SA04 Laboratory Sample ID: 270409-001

Date/Time Sampled .....: 3/15/04 14:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/18/04 21:26	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/18/04 21:26	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/18/04 21:26	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/18/04 21:26	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/18/04 21:26	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/18/04 21:26	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/18/04 21:26	96172	1	ydy

13

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-9-1SA04
Laboratory Sample ID: 270409-001
Date/Time Sampled .....: 3/15/04 14:10
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04	18:40	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04	18:01	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04	18:40	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04	18:40	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	18:01	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04	18:01	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04	18:01	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04	18:01	96568	1	lg1
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/23/04	18:01	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	18:01	96568	1	lg1
Anthracene	120-12-7	0.000124	U	0.00013	0.0005	0.000124	mg/L	3/23/04	18:01	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04	18:01	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04	18:40	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04	18:40	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-9-1SA04 Laboratory Sample ID: 270409-001

Date/Time Sampled .....: 3/15/04 14:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.00099		0.00018	0.0005	0.000172	mg/L	3/23/04 18:01	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 18:01	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 18:01	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.00033	J U	0.00015	0.0005	0.000143	mg/L	3/23/04 18:01	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04 18:01	96568	1	lg1
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04 18:01	96568	1	lg1
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 18:01	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 18:01	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 18:01	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 18:40	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04 18:01	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 18:01	96568	1	lg1
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04 18:01	96568	1	lg1

5-4-04 LBG

62

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: FB-031504-1SA04
Laboratory Sample ID: 270409-002
Date/Time Sampled .....: 3/15/04 13:50
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 16:24	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 16:24	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 16:24	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 16:24	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 16:24	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 16:24	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 16:24	96172	1	ydy

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: FB-031504-1SA04
Laboratory Sample ID: 270409-002
Date/Time Sampled .....: 3/15/04 13:50
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 19:10	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 18:31	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 19:10	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 19:10	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 18:31	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 18:31	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 18:31	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 18:31	96568	1	lg1
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/23/04 18:31	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 18:31	96568	1	lg1
Anthracene	120-12-7	0.000124	U	0.00013	0.0005	0.000124	mg/L	3/23/04 18:31	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 18:31	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 19:10	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 19:10	96918	1	lg1

22

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: FB-031504-1SA04
Laboratory Sample ID: 270409-002
Date/Time Sampled .....: 3/15/04 13:50
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/23/04 18:31	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 18:31	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 18:31	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000514	U	0.00015	0.0005	0.000143	mg/L	3/23/04 18:31	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04 18:31	96568	1	lg1
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04 18:31	96568	1	lg1
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 18:31	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 18:31	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 18:31	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 19:10	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04 18:31	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 18:31	96568	1	lg1
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04 18:31	96568	1	lg1

5-4-04 LBC

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-4-1SA04 Laboratory Sample ID: 270409-003

Date/Time Sampled .....: 3/16/04 9:02 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/18/04 21:54	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/18/04 21:54	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/18/04 21:54	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/18/04 21:54	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/18/04 21:54	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/18/04 21:54	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/18/04 21:54	96172	1	ydy

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-4-1SA04 Laboratory Sample ID: 270409-003

Date/Time Sampled .....: 3/16/04 9:02 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 19:39	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 19:00	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 19:39	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 19:39	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 19:00	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 19:00	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 19:00	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 19:00	96568	1	lg1
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/23/04 19:00	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 19:00	96568	1	lg1
Anthracene	120-12-7	0.00026	J	0.00013	0.0005	0.000124	mg/L	3/23/04 19:00	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 19:00	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 19:39	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 19:39	96918	1	lg1

25

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-4-1SA04 Laboratory Sample ID: 270409-003

Date/Time Sampled .....: 3/16/04 9:02 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.001025		0.00018	0.0005	0.000172	mg/L	3/23/04 19:00	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 19:00	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 19:00	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 19:00	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04 19:00	96568	1	lg1
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04 19:00	96568	1	lg1
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 19:00	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 19:00	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 19:00	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 19:39	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04 19:00	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 19:00	96568	1	lg1
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04 19:00	96568	1	lg1

92

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-11A-1SA04 Laboratory Sample ID: 270409-004

Date/Time Sampled .....: 3/16/04 10:02 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/18/04 22:21	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/18/04 22:21	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/18/04 22:21	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/18/04 22:21	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/18/04 22:21	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/18/04 22:21	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/18/04 22:21	96172	1	ydy

27

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-11A-1SA04 Laboratory Sample ID: 270409-004

Date/Time Sampled .....: 3/16/04 10:02 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 20:08	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000122	U	0.000122	0.0005	0.000122	mg/L	3/23/04 16:31	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 20:08	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000027	U	0.000027	0.0001	0.000027	mg/L	3/26/04 20:08	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.00008	U	0.00008	0.0005	0.00008	mg/L	3/23/04 16:31	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.00031	U	0.00031	0.0015	0.00031	mg/L	3/23/04 16:31	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.00007	U	0.00007	0.0005	0.00007	mg/L	3/23/04 16:31	96568	1	lg1
4-Nitrophenol	100-02-7	0.000299	U	0.000299	0.0015	0.000299	mg/L	3/23/04 16:31	96568	1	lg1
Acenaphthene	83-32-9	0.002777		0.000078	0.0005	0.000078	mg/L	3/23/04 16:31	96568	1	lg1
Acenaphthylene	208-96-8	0.00008	U	0.00008	0.0005	0.00008	mg/L	3/23/04 16:31	96568	1	lg1
Anthracene	120-12-7	0.000321	J	0.00013	0.0005	0.00013	mg/L	3/23/04 16:31	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.00028	U	0.00028	0.0005	0.00028	mg/L	3/23/04 16:31	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 20:08	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 20:08	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-11A-1SA04 Laboratory Sample ID: 270409-004

Date/Time Sampled .....: 3/16/04 10:02 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.001042		0.00018	0.0005	0.00018	mg/L	3/23/04 16:31	96568	1	lg1
Chrysene	218-01-9	0.000094	U	0.000094	0.0005	0.000094	mg/L	3/23/04 16:31	96568	1	lg1
Dibenzofuran	132-64-9	0.000463	J	0.00008	0.0005	0.00008	mg/L	3/23/04 16:31	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000521	U	0.00015	0.0005	0.00015	mg/L	3/23/04 16:31	96568	1	lg1
Fluoranthene	206-44-0	0.000394	J	0.000098	0.0005	0.000098	mg/L	3/23/04 16:31	96568	1	lg1
Fluorene	86-73-7	0.000354	J	0.000071	0.0005	0.000071	mg/L	3/23/04 16:31	96568	1	lg1
Naphthalene	91-20-3	0.002776		0.00007	0.0005	0.00007	mg/L	3/23/04 16:31	96568	1	lg1
Nitrobenzene	98-95-3	0.00015	U	0.00015	0.0005	0.00015	mg/L	3/23/04 16:31	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.000094	U	0.000094	0.0005	0.000094	mg/L	3/23/04 16:31	96568	1	lg1
Pentachlorophenol	87-86-5	0.00004	U	0.00004	0.0003	0.00004	mg/L	3/26/04 20:08	96918	1	lg1
Phenanthrene	85-01-8	0.000081	U	0.000081	0.0005	0.000081	mg/L	3/23/04 16:31	96568	1	lg1
Phenol	108-95-2	0.0001	U	0.0001	0.0005	0.0001	mg/L	3/23/04 16:31	96568	1	lg1
Pyrene	129-00-0	0.000088	U	0.000088	0.0005	0.000088	mg/L	3/23/04 16:31	96568	1	lg1

5-4-04 LBG

67

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-11B-1SA04
Laboratory Sample ID: 270409-005
Date/Time Sampled .....: 3/16/04 10:50
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 17:18	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 17:18	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 17:18	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 17:18	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 17:18	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 17:18	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 17:18	96172	1	ydy

30

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-11B-1SA04 Laboratory Sample ID: 270409-005

Date/Time Sampled .....: 3/16/04 10:50 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 17:12	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000122	U	0.000122	0.0005	0.000122	mg/L	3/23/04 19:31	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 17:12	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000027	U	0.000027	0.0001	0.000027	mg/L	3/26/04 17:12	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.00008	U	0.00008	0.0005	0.00008	mg/L	3/23/04 19:31	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.00031	U	0.00031	0.0015	0.00031	mg/L	3/23/04 19:31	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.001569		0.00007	0.0005	0.00007	mg/L	3/23/04 19:31	96568	1	lg1
4-Nitrophenol	100-02-7	0.000299	U	0.000299	0.0015	0.000299	mg/L	3/23/04 19:31	96568	1	lg1
Acenaphthene	83-32-9	0.0486		0.000078	0.0005	0.000078	mg/L	3/23/04 19:31	96568	1	lg1
Acenaphthylene	208-96-8	0.001163		0.00008	0.0005	0.00008	mg/L	3/23/04 19:31	96568	1	lg1
Anthracene	120-12-7	0.000854		0.00013	0.0005	0.00013	mg/L	3/23/04 19:31	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.00028	U	0.00028	0.0005	0.00028	mg/L	3/23/04 19:31	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 17:12	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 17:12	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-11B-1SA04 Laboratory Sample ID: 270409-005

Date/Time Sampled .....: 3/16/04 10:50 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.00018	U	0.00018	0.0005	0.00018	mg/L	3/23/04	19:31	96568	1	lg1
Chrysene	218-01-9	0.000094	U	0.000094	0.0005	0.000094	mg/L	3/23/04	19:31	96568	1	lg1
Dibenzofuran	132-64-9	0.01581		0.00008	0.0005	0.00008	mg/L	3/23/04	19:31	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000348	J U	0.00015	0.0005	0.00015	mg/L	3/23/04	19:31	96568	1	lg1
Fluoranthene	206-44-0	0.001971		0.000098	0.0005	0.000098	mg/L	3/23/04	19:31	96568	1	lg1
Fluorene	86-73-7	0.0112		0.000071	0.0005	0.000071	mg/L	3/23/04	19:31	96568	1	lg1
Naphthalene	91-20-3	0.01168		0.00007	0.0005	0.00007	mg/L	3/23/04	19:31	96568	1	lg1
Nitrobenzene	98-95-3	0.00015	U	0.00015	0.0005	0.00015	mg/L	3/23/04	19:31	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.000094	U	0.000094	0.0005	0.000094	mg/L	3/23/04	19:31	96568	1	lg1
Pentachlorophenol	87-86-5	0.00004	U	0.00004	0.0003	0.00004	mg/L	3/26/04	17:12	96918	1	lg1
Phenanthrene	85-01-8	0.000198	J	0.000081	0.0005	0.000081	mg/L	3/23/04	19:31	96568	1	lg1
Phenol	108-95-2	0.0001	U	0.0001	0.0005	0.0001	mg/L	3/23/04	19:31	96568	1	lg1
Pyrene	129-00-0	0.000991		0.000088	0.0005	0.000088	mg/L	3/23/04	19:31	96568	1	lg1

5-4-04 UBL

3.2

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10B-1SA04
Laboratory Sample ID: 270409-006
Date/Time Sampled .....: 3/16/04 13:10
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 17:45	96172	1	ydy
Benzene	71-43-2	0.00231	J	0.00143	0.005	0.00143	mg/L	3/19/04 17:45	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 17:45	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 17:45	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 17:45	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 17:45	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 17:45	96172	1	ydy

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10B-1SA04
Laboratory Sample ID: 270409-006
Date/Time Sampled .....: 3/16/04 13:10
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04	20:37	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04	20:00	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04	20:37	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04	20:37	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	20:00	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04	20:00	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.00013	J	0.00007	0.0005	0.000067	mg/L	3/23/04	20:00	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04	20:00	96568	1	lg1
Acenaphthene	83-32-9	0.04421		0.000078	0.0005	0.000074	mg/L	3/23/04	20:00	96568	1	lg1
Acenaphthylene	208-96-8	0.000833		0.00008	0.0005	0.000076	mg/L	3/23/04	20:00	96568	1	lg1
Anthracene	120-12-7	0.002478		0.00013	0.0005	0.000124	mg/L	3/23/04	20:00	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04	20:00	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04	20:37	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04	20:37	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10B-1SA04 Laboratory Sample ID: 270409-006

Date/Time Sampled .....: 3/16/04 13:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000982		0.00018	0.0005	0.000172	mg/L	3/23/04 20:00	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 20:00	96568	1	lg1
Dibenzofuran	132-64-9	0.0171		0.00008	0.0005	0.000076	mg/L	3/23/04 20:00	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000303	J u	0.00015	0.0005	0.000143	mg/L	3/23/04 20:00	96568	1	lg1
Fluoranthene	206-44-0	0.001567		0.000098	0.0005	0.000093	mg/L	3/23/04 20:00	96568	1	lg1
Fluorene	86-73-7	0.02079		0.000071	0.0005	0.000068	mg/L	3/23/04 20:00	96568	1	lg1
Naphthalene	91-20-3	0.001853		0.00007	0.0005	0.000067	mg/L	3/23/04 20:00	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 20:00	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 20:00	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 20:37	96918	1	lg1
Phenanthrene	85-01-8	0.008858		0.000081	0.0005	0.000077	mg/L	3/23/04 20:00	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 20:00	96568	1	lg1
Pyrene	129-00-0	0.000718		0.000088	0.0005	0.000084	mg/L	3/23/04 20:00	96568	1	lg1

5-4-04 LBG

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10BD-1SA04
Date/Time Sampled .....: 3/16/04 13:20
Date/Time Received .....: 3/17/04 11:52

Laboratory Sample ID: 270409-007
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 18:12	96172	1	ydy
Benzene	71-43-2	0.00228	J	0.00143	0.005	0.00143	mg/L	3/19/04 18:12	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 18:12	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 18:12	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 18:12	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 18:12	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 18:12	96172	1	ydy

39

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10BD-1SA04
Laboratory Sample ID: 270409-007
Date/Time Sampled .....: 3/16/04 13:20
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 21:07	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 20:30	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 21:07	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 21:07	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 20:30	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 20:30	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 20:30	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 20:30	96568	1	lg1
Acenaphthene	83-32-9	0.04517		0.000078	0.0005	0.000074	mg/L	3/23/04 20:30	96568	1	lg1
Acenaphthylene	208-96-8	0.000855		0.00008	0.0005	0.000076	mg/L	3/23/04 20:30	96568	1	lg1
Anthracene	120-12-7	0.00243		0.00013	0.0005	0.000124	mg/L	3/23/04 20:30	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 20:30	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 21:07	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 21:07	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10BD-1SA04 Laboratory Sample ID: 270409-007

Date/Time Sampled .....: 3/16/04 13:20 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000988		0.00018	0.0005	0.000172	mg/L	3/23/04	20:30	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	20:30	96568	1	lg1
Dibenzofuran	132-64-9	0.01702		0.00008	0.0005	0.000076	mg/L	3/23/04	20:30	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000251	J	0.00015	0.0005	0.000143	mg/L	3/23/04	20:30	96568	1	lg1
Fluoranthene	206-44-0	0.001681		0.000098	0.0005	0.000093	mg/L	3/23/04	20:30	96568	1	lg1
Fluorene	86-73-7	0.0213		0.000071	0.0005	0.000068	mg/L	3/23/04	20:30	96568	1	lg1
Naphthalene	91-20-3	0.001653		0.00007	0.0005	0.000067	mg/L	3/23/04	20:30	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04	20:30	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	20:30	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04	21:07	96918	1	lg1
Phenanthrene	85-01-8	0.00956		0.000081	0.0005	0.000077	mg/L	3/23/04	20:30	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04	20:30	96568	1	lg1
Pyrene	129-00-0	0.000694		0.000088	0.0005	0.000084	mg/L	3/23/04	20:30	96568	1	lg1

5-4-04 LBL

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: TB01-1SA04 Laboratory Sample ID: 270409-008

Date/Time Sampled .....: 3/16/04 0:00 Sample Matrix .....: Trip Blank

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 16:51	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 16:51	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 16:51	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 16:51	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 16:51	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 16:51	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 16:51	96172	1	ydy

38

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10A-1SA04
Laboratory Sample ID: 270409-009
Date/Time Sampled .....: 3/16/04 14:25
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 18:39	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 18:39	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 18:39	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 18:39	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 18:39	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 18:39	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 18:39	96172	1	ydy

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10A-1SA04 Laboratory Sample ID: 270409-009

Date/Time Sampled .....: 3/16/04 14:25 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 21:36	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 21:00	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 21:36	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 21:36	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 21:00	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 21:00	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 21:00	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 21:00	96568	1	lg1
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/23/04 21:00	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 21:00	96568	1	lg1
Anthracene	120-12-7	0.000124	U	0.00013	0.0005	0.000124	mg/L	3/23/04 21:00	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 21:00	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 21:36	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 21:36	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-10A-1SA04
Laboratory Sample ID: 270409-009
Date/Time Sampled .....: 3/16/04 14:25
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000916		0.00018	0.0005	0.000172	mg/L	3/23/04	21:00	96568	1	lgl
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	21:00	96568	1	lgl
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	21:00	96568	1	lgl
Di-n-butyl Phthalate	84-74-2	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04	21:00	96568	1	lgl
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04	21:00	96568	1	lgl
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04	21:00	96568	1	lgl
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04	21:00	96568	1	lgl
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04	21:00	96568	1	lgl
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	21:00	96568	1	lgl
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04	21:36	96918	1	lgl
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04	21:00	96568	1	lgl
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04	21:00	96568	1	lgl
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04	21:00	96568	1	lgl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-7-1SA04 Laboratory Sample ID: 270409-010

Date/Time Sampled .....: 3/16/04 9:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 19:06	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 19:06	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 19:06	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 19:06	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 19:06	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 19:06	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 19:06	96172	1	ydy

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-7-1SA04 Laboratory Sample ID: 270409-010

Date/Time Sampled .....: 3/16/04 9:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 22:05	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 21:30	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 22:05	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 22:05	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 21:30	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 21:30	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 21:30	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 21:30	96568	1	lg1
Acenaphthene	83-32-9	0.000285	J	0.000078	0.0005	0.000074	mg/L	3/23/04 21:30	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 21:30	96568	1	lg1
Anthracene	120-12-7	0.000219	J	0.00013	0.0005	0.000124	mg/L	3/23/04 21:30	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 21:30	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 22:05	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 22:05	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-7-1SA04 Laboratory Sample ID: 270409-010

Date/Time Sampled .....: 3/16/04 9:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/23/04	21:30	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	21:30	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	21:30	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000199	J u	0.00015	0.0005	0.000143	mg/L	3/23/04	21:30	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04	21:30	96568	1	lg1
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04	21:30	96568	1	lg1
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04	21:30	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04	21:30	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	21:30	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04	22:05	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04	21:30	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04	21:30	96568	1	lg1
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04	21:30	96568	1	lg1

5-4-04 LBC

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: P-10-1SA04 Laboratory Sample ID: 270409-011

Date/Time Sampled .....: 3/16/04 10:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 19:33	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 19:33	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 19:33	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 19:33	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 19:33	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 19:33	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 19:33	96172	1	ydy

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: P-10-1SA04
Laboratory Sample ID: 270409-011
Date/Time Sampled .....: 3/16/04 10:10
Sample Matrix .....: Water
Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											5-4-04
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 22:35	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 22:00	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 22:35	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 22:35	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 22:00	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 22:00	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U UJ	0.00007	0.0005	0.000067	mg/L	3/23/04 22:00	96568	1	lg1 LBL
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 22:00	96568	1	lg1
Acenaphthene	83-32-9	0.000074	U UJ	0.000078	0.0005	0.000074	mg/L	3/23/04 22:00	96568	1	lg1 LBL
Acenaphthylene	208-96-8	0.000076	U UJ	0.00008	0.0005	0.000076	mg/L	3/23/04 22:00	96568	1	lg1 LBL
Anthracene	120-12-7	0.000124	U UJ	0.00013	0.0005	0.000124	mg/L	3/23/04 22:00	96568	1	lg1 LBL
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 22:00	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 22:35	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 22:35	96918	1	lg1

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: P-10-1SA04 Laboratory Sample ID: 270409-011

Date/Time Sampled .....: 3/16/04 10:10 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/23/04 22:00	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 22:00	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U UJ	0.00008	0.0005	0.000076	mg/L	3/23/04 22:00	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000379	J U	0.00015	0.0005	0.000143	mg/L	3/23/04 22:00	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U UJ	0.000098	0.0005	0.000093	mg/L	3/23/04 22:00	96568	1	lg1
Fluorene	86-73-7	0.000068	U UJ	0.000071	0.0005	0.000068	mg/L	3/23/04 22:00	96568	1	lg1
Naphthalene	91-20-3	0.000067	U UJ	0.00007	0.0005	0.000067	mg/L	3/23/04 22:00	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 22:00	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 22:00	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 22:35	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U UJ	0.000081	0.0005	0.000077	mg/L	3/23/04 22:00	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 22:00	96568	1	lg1
Pyrene	129-00-0	0.000084	U UJ	0.000088	0.0005	0.000084	mg/L	3/23/04 22:00	96568	1	lg1

5-4-04 LBC

5-4-04 LBC

LBC LBC LBC LBC LBC LBC LBC

4 of 8

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: P-10D-1SA04 Laboratory Sample ID: 270409-012

Date/Time Sampled .....: 3/16/04 10:35 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04	20:00	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04	20:00	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04	20:00	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04	20:00	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04	20:00	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04	20:00	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04	20:00	96172	1	ydy

43

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: P-10D-1SA04 Laboratory Sample ID: 270409-012

Date/Time Sampled .....: 3/16/04 10:35 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04 23:04	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04 22:30	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 23:04	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04 23:04	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 22:30	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04 22:30	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.0218	J	0.00007	0.0005	0.000067	mg/L	3/23/04 22:30	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04 22:30	96568	1	lg1
Acenaphthene	83-32-9	0.08375	J	0.000078	0.0005	0.00037	mg/L	3/24/04 18:56	96568	5	lg1
Acenaphthylene	208-96-8	0.000586	J	0.00008	0.0005	0.000076	mg/L	3/23/04 22:30	96568	1	lg1
Anthracene	120-12-7	0.004746	J	0.00013	0.0005	0.000124	mg/L	3/23/04 22:30	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04 22:30	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04 23:04	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04 23:04	96918	1	lg1

5-4-04

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: P-10D-1SA04 Laboratory Sample ID: 270409-012

Date/Time Sampled .....: 3/16/04 10:35 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/23/04 22:30	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 22:30	96568	1	lg1
Dibenzofuran	132-64-9	0.03219	J	0.00008	0.0005	0.000076	mg/L	3/23/04 22:30	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000418	J	0.00015	0.0005	0.000143	mg/L	3/23/04 22:30	96568	1	lg1
Fluoranthene	206-44-0	0.003192	J	0.000098	0.0005	0.000093	mg/L	3/23/04 22:30	96568	1	lg1
Fluorene	86-73-7	0.04259	J	0.000071	0.0005	0.000068	mg/L	3/23/04 22:30	96568	1	lg1
Naphthalene	91-20-3	0.4144	J	0.00007	0.0005	0.0013	mg/L	3/24/04 19:26	96568	20	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 22:30	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 22:30	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 23:04	96918	1	lg1
Phenanthrene	85-01-8	0.02155	J	0.000081	0.0005	0.000077	mg/L	3/23/04 22:30	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 22:30	96568	1	lg1
Pyrene	129-00-0	0.001372	J	0.000088	0.0005	0.000084	mg/L	3/23/04 22:30	96568	1	lg1

5-4-04 LBL 5-4-04 LBL LBL LBL LBL LBL LBL

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-8-1SA04 Laboratory Sample ID: 270409-013

Date/Time Sampled .....: 3/16/04 13:15 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 20:27	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 20:27	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 20:27	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 20:27	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 20:27	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 20:27	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 20:27	96172	1	ydy

51
52

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-8-1SA04 Laboratory Sample ID: 270409-013

Date/Time Sampled .....: 3/16/04 13:15 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/26/04	23:33	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04	23:00	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04	23:33	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/26/04	23:33	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	23:00	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04	23:00	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04	23:00	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04	23:00	96568	1	lg1
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/23/04	23:00	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	23:00	96568	1	lg1
Anthracene	120-12-7	0.000124	U	0.00013	0.0005	0.000124	mg/L	3/23/04	23:00	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04	23:00	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/26/04	23:33	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/26/04	23:33	96918	1	lg1

53

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-8-1SA04 Laboratory Sample ID: 270409-013

Date/Time Sampled .....: 3/16/04 13:15 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/23/04 23:00	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 23:00	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04 23:00	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000268	J U	0.00015	0.0005	0.000143	mg/L	3/23/04 23:00	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04 23:00	96568	1	lg1
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04 23:00	96568	1	lg1
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04 23:00	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04 23:00	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04 23:00	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/26/04 23:33	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04 23:00	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04 23:00	96568	1	lg1
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04 23:00	96568	1	lg1

5-4-04 LBL

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-5-1SA04 Laboratory Sample ID: 270409-014

Date/Time Sampled .....: 3/16/04 14:45 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/19/04 20:54	96172	1	ydy
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/19/04 20:54	96172	1	ydy
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/19/04 20:54	96172	1	ydy
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/19/04 20:54	96172	1	ydy
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/19/04 20:54	96172	1	ydy
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/19/04 20:54	96172	1	ydy
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/19/04 20:54	96172	1	ydy

55

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-5-1SA04 Laboratory Sample ID: 270409-014

Date/Time Sampled .....: 3/16/04 14:45 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/27/04	0:03	96918	1	lg1
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/23/04	23:30	96568	1	lg1
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/27/04	0:03	96918	1	lg1
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/27/04	0:03	96918	1	lg1
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	23:30	96568	1	lg1
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/23/04	23:30	96568	1	lg1
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04	23:30	96568	1	lg1
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/23/04	23:30	96568	1	lg1
Acenaphthene	83-32-9	0.000283	J	0.000078	0.0005	0.000074	mg/L	3/23/04	23:30	96568	1	lg1
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	23:30	96568	1	lg1
Anthracene	120-12-7	0.000251	J	0.00013	0.0005	0.000124	mg/L	3/23/04	23:30	96568	1	lg1
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/23/04	23:30	96568	1	lg1
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/27/04	0:03	96918	1	lg1
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/27/04	0:03	96918	1	lg1

59

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270409 Date: 4/6/04

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

Customer Sample ID: MW-5-1SA04 Laboratory Sample ID: 270409-014

Date/Time Sampled .....: 3/16/04 14:45 Sample Matrix .....: Water

Date/Time Received .....: 3/17/04 11:52

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/23/04	23:30	96568	1	lg1
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	23:30	96568	1	lg1
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/23/04	23:30	96568	1	lg1
Di-n-butyl Phthalate	84-74-2	0.000253	J U	0.00015	0.0005	0.000143	mg/L	3/23/04	23:30	96568	1	lg1
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/23/04	23:30	96568	1	lg1
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/23/04	23:30	96568	1	lg1
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/23/04	23:30	96568	1	lg1
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/23/04	23:30	96568	1	lg1
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/23/04	23:30	96568	1	lg1
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/27/04	0:03	96918	1	lg1
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/23/04	23:30	96568	1	lg1
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/23/04	23:30	96568	1	lg1
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/23/04	23:30	96568	1	lg1

5-4-04 LBG

57

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270409 Report Date.: 04/06/2004

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)...: 96918

LCS	Laboratory Control Sample	SVS030804A	96167		03/26/2004	1545

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.37068		0.500000		74.1		30-130	
bis(2-chloroethoxy)methane, Water	0.40354		0.500000		80.7		30-130	
2,4-Dinitrotoluene, Water	0.35773		0.500000		71.5		60-140	
2,6-Dinitrotoluene, Water	0.39134		0.500000		78.3		60-140	
Pentachlorophenol, Water	0.46185		0.500000		92.4		30-130	
1,2-Diphenylhydrazine, Water	0.34770		0.500000		69.5		30-130	

MB	Method Blank	SVS0302048	96167		03/26/2004	1515

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	SVS030804A	270409-5		03/26/2004	1742

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.41440		0.500000	0	83		30-130	
bis(2-chloroethoxy)methane, Water	0.38563		0.500000	0	77		30-130	
2,4-Dinitrotoluene, Water	0.44872		0.500000	0	90		24-96	
2,6-Dinitrotoluene, Water	0.46135		0.500000	0	92		30-130	
Pentachlorophenol, Water	0.69722		0.500000	0	139		5-103	A
1,2-Diphenylhydrazine, Water	0.44207		0.500000	0	88		140	

MSD	Matrix Spike Duplicate	SVS030804A	270409-5		03/26/2004	1811

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.36938	0.41440	0.500000	0	74		30.0-130.0	
					11.5		40.0	
bis(2-chloroethoxy)methane, Water	0.38728	0.38563	0.500000	0	77		30.0-130.0	
					0.4		30.0	
2,4-Dinitrotoluene, Water	0.42011	0.44872	0.500000	0	84		24.0-96.0	
					6.6		30.0	
2,6-Dinitrotoluene, Water	0.42921	0.46135	0.500000	0	86		30.0-130.0	
					7.2		30.0	
Pentachlorophenol, Water	0.61666	0.69722	0.500000	0	123		5.0-103.0	A
					12.3		40.0	
1,2-Diphenylhydrazine, Water	0.37758	0.44207	0.500000	0	76		140.0	

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270409 Report Date.: 04/06/2004

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)...: 96428 96568

LCS	Laboratory Control Sample	SVS021204C	96166		03/23/2004	1601

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	4.45229		5.000000		89.0		32-165	
Acenaphthylene, Water	4.20155		5.000000		84.0		10-150	
Anthracene, Water	4.60540		5.000000		92.1		23-178	
Benzo(a)anthracene, Water	4.51087		5.000000		90.2		25-180	
bis(2-ethylhexyl)phthalate, Water	4.44139		5.000000		88.8		25-173	
2-Chloronaphthalene, Water	4.06284		5.000000		81.3		23-143	
Chrysene, Water	4.71995		5.000000		94.4		23-180	
Dibenzofuran, Water	4.18033		5.000000		83.6		35-153	
Di-n-butyl Phthalate, Water	4.62008		5.000000		92.4		28-185	
Fluoranthene, Water	4.82332		5.000000		96.5		28-180	
Fluorene, Water	4.46478		5.000000		89.3		30-189	
2-Methylnaphthalene, Water	4.29038		5.000000		85.8		26-168	
Naphthalene, Water	4.30515		5.000000		86.1		36-139	
Nitrobenzene, Water	4.04759		5.000000		81.0		17-163	
n-Nitrosodiphenylamine, Water	4.36729		5.000000		87.3		58-174	
Phenanthrene, Water	4.58732		5.000000		91.7		26-166	
Pyrene, Water	4.74744		5.000000		94.9		28-173	
2,4-Dimethylphenol, Water	3.17145		5.000000		63.4		23-157	
2-Methyl-4,6-dinitrophenol, Water	7.39703		5.000000		147.9		10-164	
4-Nitrophenol, Water	1.87716		5.000000		37.5		10-92	
Phenol, Water	2.13328		5.000000		42.7		20-83	

MB	Method Blank	SVS030204B	96166		03/23/2004	1531

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							
2-Chloronaphthalene, Water	0							
Chrysene, Water	0							
Dibenzofuran, Water	0							
Di-n-butyl Phthalate, Water	0.28010							
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							

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270409 Report Date.: 04/06/2004

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	SVS021204C	270409-4		03/23/2004	1701

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	6.90373		5.000000	1.38836	110		46-118	
Acenaphthylene, Water	3.84966		5.000000	0	77		30-130	
Anthracene, Water	4.95765		5.000000	0.16065	96		30-130	
Benzo(a)anthracene, Water	4.45173		5.000000	0	89		60-140	
bis(2-ethylhexyl)phthalate, Water	3.97167		5.000000	0.52112	69		60-140	
2-Chloronaphthalene, Water	3.05351		5.000000	0	61		30-130	
Chrysene, Water	4.70923		5.000000	0	94		30-130	
Dibenzofuran, Water	4.75508		5.000000	0.23155	90		30-130	
Di-n-butyl Phthalate, Water	4.95292		5.000000	0.26056	94		30-130	
Fluoranthene, Water	5.27425		5.000000	0.19680	102		30-130	
Fluorene, Water	5.59556		5.000000	0.17701	108		30-130	
2-Methylnaphthalene, Water	3.23676		5.000000	0	65		60-140	
Naphthalene, Water	5.56610		5.000000	1.38780	84		30-130	
Nitrobenzene, Water	3.11495		5.000000	0	62		30-130	
n-Nitrosodiphenylamine, Water	4.11035		5.000000	0	82		30-130	
Phenanthrene, Water	4.35245		5.000000	0	87		30-130	
Pyrene, Water	5.18402		5.000000	0	104		26-115	
2,4-Dimethylphenol, Water	2.52253		5.000000	0	50		30-130	
2-Methyl-4,6-dinitrophenol, Water	6.14786		5.000000	0	123		30-130	
4-Nitrophenol, Water	3.24434		5.000000	0	65		10-80	
Phenol, Water	1.58994		5.000000	0	32		10-112	

MSD	Matrix Spike Duplicate	SVS021204C	270409-4		03/23/2004	1731

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	6.51292	6.90373	5.000000	1.38836	102		46.0-118.0	
					5.8		31.0	
Acenaphthylene, Water	3.76090	3.84966	5.000000	0	75		30.0-130.0	
					2.3		50.0	
Anthracene, Water	4.94630	4.95765	5.000000	0.16065	96		30.0-130.0	
					0.2		50.0	
Benzo(a)anthracene, Water	4.12586	4.45173	5.000000	0	83		60.0-140.0	
					7.6		30.0	
bis(2-ethylhexyl)phthalate, Water	3.77883	3.97167	5.000000	0.52112	65		60.0-140.0	
					5.0		30.0	
2-Chloronaphthalene, Water	3.71892	3.05351	5.000000	0	74		30.0-130.0	
					19.7		50.0	
Chrysene, Water	4.80024	4.70923	5.000000	0	96		30.0-130.0	
					1.9		50.0	
Dibenzofuran, Water	4.74833	4.75508	5.000000	0.23155	90		30.0-130.0	
					0.1		50.0	
Di-n-butyl Phthalate, Water	4.61160	4.95292	5.000000	0.26056	87		30.0-130.0	
					7.1		50.0	
Fluoranthene, Water	5.02675	5.27425	5.000000	0.19680	97		30.0-130.0	
					4.8		50.0	
Fluorene, Water	5.21225	5.59556	5.000000	0.17701	101		30.0-130.0	
					7.1		50.0	
2-Methylnaphthalene, Water	3.78629	3.23676	5.000000	0	76		60.0-140.0	
					15.6		30.0	
Naphthalene, Water	6.66547	5.56610	5.000000	1.38780	106		30.0-130.0	
					18.0		50.0	
Nitrobenzene, Water	3.57155	3.11495	5.000000	0	71		30.0-130.0	
					13.7		50.0	

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

60

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270409 Report Date.: 04/06/2004

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	SVS021204C	270409-4		03/23/2004	1731

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
n-Nitrosodiphenylamine, Water	4.03014	4.11035	5.000000	0	81		30.0-130.0	
					2.0		50.0	
Phenanthrene, Water	4.14141	4.35245	5.000000	0	83		30.0-130.0	
					5.0		50.0	
Pyrene, Water	4.93480	5.18402	5.000000	0	99		26.0-115.0	
					4.9		31.0	
2,4-Dimethylphenol, Water	2.78238	2.52253	5.000000	0	56		30.0-130.0	
					9.8		50.0	
2-Methyl-4,6-dinitrophenol, Water	5.12943	6.14786	5.000000	0	103		30.0-130.0	
					18.1		50.0	
4-Nitrophenol, Water	2.93516	3.24434	5.000000	0	59		10.0-80.0	
					10.0		50.0	
Phenol, Water	1.93967	1.58994	5.000000	0	39		10.0-112.0	
					19.8		23.0	

Test Method.....: SW-846 8260B Units.....: ug/L Analyst...: ydy
Method Description.: Volatile Organics Batch(s)...: 96172

LCS	Laboratory Control Sample	VS030504E			03/18/2004	1129

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	46.8156		50.00	ND	93.6		68-127	
Chlorobenzene, Water	51.4188		50.00	ND	102.8		65-129	
1,2-Dichloroethane, Water	53.1809		50.00	ND	106.4		65-133	
Ethylbenzene, Water	50.1712		50.00	ND	100.3		64-132	
Methylene Chloride, Water	47.9268		50.00	ND	95.9		54-133	
Toluene, Water	49.4359		50.00	ND	98.9		63-127	
Xylenes (total), Water	153.834		150.0	ND	102.6		37-161	

LCS	Laboratory Control Sample	VS031904E			03/19/2004	1128

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	48.4764		50.00	ND	97.0		68-127	
Chlorobenzene, Water	50.3633		50.00	ND	100.7		65-129	
1,2-Dichloroethane, Water	53.0376		50.00	ND	106.1		65-133	
Ethylbenzene, Water	50.0397		50.00	ND	100.1		64-132	
Methylene Chloride, Water	49.1408		50.00	3.63226	98.3		54-133	
Toluene, Water	48.7155		50.00	ND	97.4		63-127	
Xylenes (total), Water	150.042		150.0	ND	100.0		37-161	

MB	Method Blank	VS030504C			03/18/2004	1318

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							

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270409 Report Date.: 04/06/2004

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

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank	VS030504C			03/18/2004	1318

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Methylene Chloride, Water	ND							
Toluene, Water	ND							
Xylenes (total), Water	ND							

MB	Method Blank	VS031904C			03/19/2004	1222

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	3.63226							
Toluene, Water	ND							
Xylenes (total), Water	ND							

MS	Matrix Spike	VS030504E	270152-1	20.00000	03/18/2004	1655

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, TCLP	51.1606		50.00	4.68733	93		63-123	
Chlorobenzene, TCLP	46.1828		50.00	ND	92		61-126	
1,2-Dichloroethane, TCLP	52.1319		50.00	ND	104		66-135	

MS	Matrix Spike	VS031904E	269995-1	20.00000	03/19/2004	1316

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, TCLP	52.6688		50.00	ND	105		63-123	
Chlorobenzene, TCLP	53.8819		50.00	ND	108		61-126	
1,2-Dichloroethane, TCLP	58.4475		50.00	ND	117		66-135	

MSD	Matrix Spike Duplicate	VS030504E	270152-1	20.00000	03/18/2004	1722

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, TCLP	51.8072	51.1606	50.00	4.68733	94		63.2-123.2	
					1.3		30.0	
Chlorobenzene, TCLP	45.5329	46.1828	50.00	ND	91		61.2-125.8	
					1.4		30.0	
1,2-Dichloroethane, TCLP	50.0763	52.1319	50.00	ND	100		66.4-135.0	
					4.0		30.0	

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

62

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270409 Report Date.: 04/06/2004

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	VS031904E	269995-1	20.00000	03/19/2004	1343

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, TCLP	52.0050	52.6688	50.00	ND	104		63.2-123.2	
					1.3		30.0	
Chlorobenzene, TCLP	52.8504	53.8819	50.00	ND	106		61.2-125.8	
					1.9		30.0	
1,2-Dichloroethane, TCLP	58.7398	58.4475	50.00	ND	117		66.4-135.0	
					0.5		30.0	

PB	Prep. Blank	VS031904C		20.00000	03/19/2004	1155

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 270409 Report Date.: 04/06/2004

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

Method.....: Volatile Organics Method Code...: 8260 Prep Batch...:
Batch(s).....: 96172 Test Matrix...: Water Equipment Code: GCMSVOA04

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
96172--21	LCS		03/18/2004	112.3	100.8	118.5	110.4
96172--21	MB		03/18/2004	117.7	102.9	120.6	110.9
270409- 1		MW-9-1SA04	03/18/2004	109.7	99.9	114.9	108.8
270409- 2		FB-031504-1SA04	03/19/2004	110.5	93.2	115.9	109.2
270409- 3		MW-4-1SA04	03/18/2004	107.6	103.0	113.8	107.3
270409- 4		MW-11A-1SA04	03/18/2004	110.7	96.1	116.8	108.9
270409- 5		MW-11B-1SA04	03/19/2004	110.8	95.1	114.3	104.0
270409- 6		MW-10B-1SA04	03/19/2004	108.1	95.2	114.1	104.3
270409- 7		MW-10BD-1SA04	03/19/2004	108.7	95.3	115.3	105.8
270409- 8		TB01-1SA04	03/19/2004	109.6	95.4	115.2	106.3
270409- 9		MW-10A-1SA04	03/19/2004	107.1	93.3	115.1	105.2
270409- 10		MW-7-1SA04	03/19/2004	110.0	95.1	115.2	106.0
270409- 11		P-10-1SA04	03/19/2004	111.9	94.8	115.1	105.6
270409- 12		P-10D-1SA04	03/19/2004	110.7	96.7	113.5	105.5
270409- 13		MW-8-1SA04	03/19/2004	107.1	97.6	109.5	108.5
270409- 14		MW-5-1SA04	03/19/2004	111.4	95.3	116.2	107.6
961722--21	LCS		03/19/2004	113.8	101.0	114.9	110.1
961722--21	MB		03/19/2004	117.3	102.2	119.1	109.0

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

Method.....: Volatile Organics Method Code...: 8260 Prep Batch....:
Batch(s).....: 96172 Test Matrix...: TCLP Equipment Code: GCMSVOA04

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
96023--21	PB		03/19/2004	114.8	97.7	115.7	109.1
269995- 1	MS	DELISTING WASTE STREAM TDI	03/19/2004	114.5	98.7	121.8	108.8
269995- 1	MSD	DELISTING WASTE STREAM TDI	03/19/2004	115.9	99.0	118.3	107.7
270152- 1	MS	ASAP #1	03/18/2004	110.2	97.2	114.8	105.2
270152- 1	MSD	ASAP #1	03/18/2004	108.4	96.4	115.3	106.4

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 270409 Report Date.: 04/06/2004

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

Method.....: Semivolatile Organics, Low Level Method Code...: 8270LL Prep Batch....: 96166
Batch(s).....: 96428 96568 Test Matrix...: Water Equipment Code: EGCMS07

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	2FLUPH	NITRD5	PHEND6	TERD14
270409- 1		MW-9-1SA04	03/23/2004	123.0	75.6	42.3	76.8	25.8	93.8
270409- 2		FB-031504-1SA04	03/23/2004	111.5	86.4	34.2	89.4	30.4	105.3
270409- 3		MW-4-1SA04	03/23/2004	139.6K	83.7	35.5	86.0	24.6	99.0
270409- 4		MW-11A-1SA04	03/23/2004	119.1	82.8	47.8	74.7	36.5	105.5
270409- 4	MS	MW-11A-1SA04	03/23/2004	133.4K	68.6	31.4	65.2	30.8	106.5
270409- 4	MSD	MW-11A-1SA04	03/23/2004	100.2	85.1	45.0	84.8	40.4	101.0
270409- 5		MW-11B-1SA04	03/23/2004	129.7K	76.4	53.7	77.8	38.4	99.8
270409- 6		MW-10B-1SA04	03/23/2004	121.5	86.9	37.5	83.8	21.2	94.0
270409- 7		MW-10BD-1SA04	03/23/2004	115.9	81.9	40.2	87.7	23.8	92.7
270409- 9		MW-10A-1SA04	03/23/2004	120.2	58.6	31.5	84.2	23.2	104.2
270409- 10		MW-7-1SA04	03/23/2004	148.1K	69.4	32.4	83.4	20.4	93.8
270409- 11		P-10-1SA04	03/23/2004	120.4	56.7	33.6	78.3	20.8	96.1
270409- 12		P-10D-1SA04	03/23/2004	119.5	75.7	33.8	82.0	24.7	103.6
270409- 12		P-10D-1SA04	03/24/2004	39.0	78.0	41.3	80.7	26.1	81.4
270409- 12		P-10D-1SA04	03/24/2004	0.0d	42.8d	39.2	86.1	25.5	81.4
270409- 13		MW-8-1SA04	03/23/2004	119.5	69.1	40.1	80.1	22.4	92.8
270409- 14		MW-5-1SA04	03/23/2004	116.7	52.1	44.6	84.8	21.6	109.9
961661--21	LCS		03/23/2004	127.1K	91.8	50.9	86.9	37.0	101.1
961661--21	MB		03/23/2004	117.7	81.8	46.4	81.0	33.5	100.4

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 270409 Report Date.: 04/06/2004

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

Method.....: Semivolatile Organics - SIM Analysis Method Code...: 8270SI Prep Batch....: 96167
Batch(s).....: 96918 Test Matrix...: Water Equipment Code: EGCMS08

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	NITRD5	TERD14
270409- 1		MW-9-1SA04	03/26/2004	93.3	76.5	74.5	86.9
270409- 2		FB-031504-1SA04	03/26/2004	56.0	86.6	89.5	89.4
270409- 3		MW-4-1SA04	03/26/2004	94.2	86.3	85.1	86.6
270409- 4		MW-11A-1SA04	03/26/2004	106.5	70.1	75.4	91.7
270409- 5		MW-11B-1SA04	03/26/2004	97.4	77.8	73.4	89.0
270409- 5	MS	MW-11B-1SA04	03/26/2004	92.0	73.3	74.4	81.6
270409- 5	MSD	MW-11B-1SA04	03/26/2004	81.2	71.0	74.5	71.4
270409- 6		MW-10B-1SA04	03/26/2004	95.3	74.7	83.8	83.1
270409- 7		MW-10BD-1SA04	03/26/2004	95.1	82.1	87.7	84.3
270409- 9		MW-10A-1SA04	03/26/2004	101.1	65.9	84.3	85.1
270409- 10		MW-7-1SA04	03/26/2004	79.4	57.7	86.2	80.9
270409- 11		P-10-1SA04	03/26/2004	88.9	64.4	76.7	79.2
270409- 12		P-10D-1SA04	03/26/2004	87.8	83.3	83.9	84.2
270409- 13		MW-8-1SA04	03/26/2004	95.0	63.9	80.2	87.0
270409- 14		MW-5-1SA04	03/27/2004	89.4	52.5	88.0	87.3
961671--21	LCS		03/26/2004	82.3	79.3	80.6	82.8
961671--21	MB		03/26/2004	82.5	76.8	77.4	91.8

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 04/06/2004

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.

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

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 - 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.

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
EB - Extraction Blank (TCLP, SPLP, etc.)
ICAL - Initial Calibration
ICB - Injtial 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
MD - Method Duplicate
MDL - Method Detection Limit
MS - Matrix Spike

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 04/06/2004

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
DU - Duplicate

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.

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

LABORATORY CHRONICLE

Job Number: 270409 Date: 04/06/2004

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

Lab ID: 270409-1 Client ID: MW-9-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/15/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
	Data Package Validation	1	97333		03/06/2004	0000	
	Electronic Data Deliverables	1					
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
	GC/MS Semi-Volatile Package Production	1	96919		03/31/2004	1800	
	GC/MS Volatiles Data Package Production	1	96227		03/22/2004	1500	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	1840	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004	1801	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/18/2004	2126	1.00000

Lab ID: 270409-2 Client ID: FB-031504-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/15/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	1910	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004	1831	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004	1624	1.00000

Lab ID: 270409-3 Client ID: MW-4-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	1939	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004	1900	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/18/2004	2154	1.00000

Lab ID: 270409-4 Client ID: MW-11A-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	2008	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004	1631	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/18/2004	2221	1.00000

Lab ID: 270409-5 Client ID: MW-11B-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	1712	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004	1931	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004	1718	1.00000

Lab ID: 270409-6 Client ID: MW-10B-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	2037	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004	2000	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004	1745	1.00000

Lab ID: 270409-7 Client ID: MW-10BD-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004	1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004	1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004	2107	1.00000

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

LABORATORY CHRONICLE

Job Number: 270409 Date: 04/06/2004

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

Lab ID: 270409-7 Client ID: MW-10BD-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2030	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 1812	1.00000

Lab ID: 270409-8 Client ID: TB01-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 1651	1.00000

Lab ID: 270409-9 Client ID: MW-10A-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004 1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004 1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004 2136	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2100	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 1839	1.00000

Lab ID: 270409-10 Client ID: MW-7-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004 1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004 1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004 2205	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2130	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 1906	1.00000

Lab ID: 270409-11 Client ID: P-10-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004 1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004 1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004 2235	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2200	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 1933	1.00000

Lab ID: 270409-12 Client ID: P-10D-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004 1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004 1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004 2304	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2230	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/24/2004 1856	5.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/24/2004 1926	20.0000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 2000	1.00000

Lab ID: 270409-13 Client ID: MW-8-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004 1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004 1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/26/2004 2333	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2300	1.00000
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 2027	1.00000

Lab ID: 270409-14 Client ID: MW-5-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96167		03/18/2004 1400	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96166		03/18/2004 1400	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	96918	96167	03/27/2004 0003	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	96568	96166	03/23/2004 2330	1.00000

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

LABORATORY CHRONICLE

Job Number: 270409 Date: 04/06/2004

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

Lab ID: 270409-14 Client ID: MW-5-1SA04 Date Recvd: 03/17/2004 Sample Date: 03/16/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 8260B	Volatile Organics	1	96172		03/19/2004 2054	1.00000

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

ANALYTICAL REPORT

JOB NUMBER: 270473

Prepared For:

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

Attention: Chris Young

Date: 04/07/2004

Signature

04/08/04
Date

Name: Sachin G. Kudchadkar

Title: Project Manager III

E-Mail: [redacted]

Severn Trent Laboratories
6310 Rothway Drive
Houston, TX 77040

PHONE: (713) 690-4444

TOTAL NO. OF PAGES 58

SEVERN TRENT STL

04/07/2004

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

Project : UPRR-HWPW-0014419/60
Project No. : 270473
Date Received : 03/18/2004
STL Job : 270473

Dear Chris Young:

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

1. MW-3-1SA04
2. MW-2-1SA04
3. MW-01A-1SA04
4. P-12-1SA04
5. P-11-1SA04
6. P-11 MS-1SA04
7. P-11 MSD-1SA04
8. FB-031704-1SA04
9. TB02-1SA04

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

Table 1

Cross-Reference Field Sample Identifications and Laboratory Identifications

Field Identification	EPA Sample Number	Laboratory Identification	8260B	8270C	Comment
MW-3-1SA04	MW-3-1SA04	270473-1	X	X	
MW-2-1SA04	MW-2-1SA04	270473-2	X	X	
MW-01A-1SA04	MW-01A-1SA04	270473-3	X	X	
P-12-1SA04	P-12-1SA04	270473-4	X	X	
P-11-1SA04	P-11-1SA04	270473-5	X	X	
P-11MS-1SA04	P-11MS-1SA04	270473-6	X	X	Matrix Spike of sample P-11-1SA04
P-11MSD-1SA04	P-11MSD-1SA04	270473-7	X	X	Matrix Spike Duplicate of sample P-11-1SA04
FB-031704-1SA04	FB-031704-1SA04	270473-8	X	X	Field Blank
TB02-1SA04	TB02-1SA04	270473-9	X		Trip Blank

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

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	Mary Cruz for	Laboratory Director	4/8/04
Name (Printed)	Signature	Official Title (printed)	Date

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

Laboratory Name: STL-Houston	LRC Date: 04/06/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: YX	Prep Batch Number(s): 96367-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				
		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			1
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: 04/06/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: YX	Prep Batch Number(s): 96367-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: 04/06/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: YX	Prep Batch Number(s): 96367-VOA

ER #[1]	DESCRIPTION
1	Methylene chloride was detected above the MQL in the method blank analyzed on 03/22/04 at 13:16. Since methylene chloride was not detected in any samples associated with this method blank, no corrective action was required.

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: 04/07/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: ACN	Prep Batch Number(s): 96171-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				
		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			1
		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: 04/07/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: ACN	Prep Batch Number(s): 96171-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			2
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: 04/07/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: ACN	Prep Batch Number(s): 96171-SV SIM

ER #[1]	DESCRIPTION
1	The pentachlorophenol recoveries in the MS/MSD were above acceptance limits due to matrix interference.
2	All the internal standard areas in sample 270473-5 were below acceptance limits due to matrix interference. Per method requirements, no corrective action was required.

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: 04/07/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: ACN	Prep Batch Number(s): 96170-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				
		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			1,2
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				
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				4

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: 04/07/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: ACN	Prep Batch Number(s): 96170-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).
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: 04/07/04
Project Name: UPRR-HWPW-0014419 60	Laboratory Job Number: 270473
Reviewer Name: ACN	Prep Batch Number(s): 96170-SV

ER #[1]	DESCRIPTION
1	The 2,4,6-tribromophenol surrogate recoveries in samples 270473-5, 6MS, 7MSD, the LCS, and the MB were above acceptance limits. These high recoveries will not affect the quality of the reported results.
2	The 2,4,6-tribromophenol surrogate recoveries in samples 270473-6 5X and 7 5X were above acceptance limits due to the dilutions necessary for analyses.
3	The acenaphthene and fluorene recoveries in the MS and MSD and the phenanthrene recovery in the MSD were below acceptance limits. The 2-methyl-4,6-dinitrophenol recoveries in the MS and MSD and the naphthalene recovery in the MSD were above acceptance limits. All excursions were due to matrix interference.
4	The acenapthene SQLs in samples 270473-1, 5, 6, and 7 were elevated due to the dilutions necessary for analyses. Additionally, the fluorene SQL in sample 270473-5 was elevated due to the dilution necessary for analysis.
5	All the internal standard areas in samples 270473-5 1X and 7 1X were above acceptance limits due to matrix interference. Per method requirements, no corrective action was required.

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

TRENT STL 270473

CHAIN OF CUSTODY RECORD

Customer Information		Project Information			Analysis/Method	No. 57216-9
PO	726270	PROJECT NAME	99000484/HWPW	A	8260	
WO	422-102/10	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-3-1SA04	$Na_2S_2O_3$, HCl		Water	3/17/04	0852	7	X	X	X																
2	MW-2-1SA04			Water		0950	7	X	X	X																
3	MW-01A-1SA04			Water		1040	7	X	X	X																
4	P-12-1SA04			Water		1250	7	X	X	X																
5	P-11-1SA04			Water		0855	7	X	X	X																
6	P-11MS-1SA04			Water		0920	7	X	X	X																
7	P-11MSD-1SA04			Water		0950	7	X	X	X																
8	FB-031704-1SA04			Water		1300	7	X	X	X																

Sampler: TRISTRAM DODDS ANDY SANCHEZ | Shipment Method: | Airbill No.: | Required TurnAround: 14 Days/28

1. Relinquished By:	Date	2. Relinquished By:	Date	3. Relinquished By:	Date
TRISTRAM DODDS	03/17/04		3-18-04		
Company Name: ERM S.W	Time 1630	Company Name: STL	Time 1226	Company Name:	Time
1. Received By:	Date 3-18-04	2. Received By:	Date 3.18.04	3. Received By:	Date
Company Name: STL	Time 1120	Company Name: STL	Time 12:24	Company Name:	Time

Severn Trent Laboratories 6310 Rothway Drive Houston, TX 77040 (713) 690-4444

SEVERN TRENT STL

CHAIN OF CUSTODY RECORD

Customer Information		Project Information		Analysis/Method	No. 57216-10
PO	726270	PROJECT NAME	99000484/HWPW	A 8260 B 8270LL C 8270SIM D E F Level 2/ TRRP data package G H I J K L M N O P Q R S	
WO	422-102/10	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	TB02-15A04	HCl		Water	—	—	2	X																		
2				Water																						
3				Water																						
4				Water																						
5				Water																						
6				Water																						
7				Water																						
8				Water																						

Sampler: TRISTRAM DODDS | Shipment Method: PICK-UP | Airbill No.: | Required TurnAround: 14 Days/28

1. Relinquished By:	Date	2. Relinquished By:	Date	3. Relinquished By:	Date
TRISTRAM DODDS	03/17/04		3-18-04		
Company Name: ERM SW	Time 1630	Company Name: SR	Time 1226	Company Name:	Time
1. Received By:	Date 3-18-04	2. Received By: A. Rodriguez	Date 3/18/04	3. Received By:	Date
Company Name: SR	Time 1120	Company Name: S.R	Time 12:20	Company Name:	Time

rpjsckl | Job Sample Receipt Checklist Report | V2

Job Number.: 270473 Location.: 57216 Check List Number.: 1 Description.:
Customer Job ID.....: Job Check List Date.: Date of the Report..: 03/18/2004
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	2.5,3.1,2.7,3.0,2.7,2.4
...If "no", is sample an air matrix?(no temp req.)		
Thermometer ID	Y	404,402,324,368,325,
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	ACR

ACR 3.18.04

STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: ERM

CARRIER/DRIVER NAME: Phu

PROJECT:

UNPACKED BY: PW

DATE RECEIVED: 2004 MAR 18 PM 12:26

UNPACKED STAMP: 2004 MAR 18 PM 4:39

TOTAL # COOLERS RECEIVED: 6

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)				
Allgreen 1095	Y	C Y	Y	3.0	356	N	
		B N	N				
B/W 320		C Y	Y	2.7	325		
		B N	N				
R/W 22		C Y	Y	2.4	402		
		B N	N				

C = COOLER B = BOTTLES

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

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

****

SPECIFIC PROJECT INFORMATION

JOB NUMBER: 270473

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: 40

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	56	Y	

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 ___

STL HOUSTON - SAMPLE RECEIPT CHECKLIST

CLIENT NAME: ERM

CARRIER/DRIVER NAME: Phx

PROJECT: 2004 MAR 18 PM 12:26

UNPACKED BY: PN

DATE RECEIVED:

UNPACKED STAMP: 2004 MAR 18 PM 4:38

TOTAL # COOLERS RECEIVED: 6

COOLER CHECKLIST

COOLER ID	COC PRESENT (Y/N)	CUSTODY TAPE		COOLER TEMP (°C)	THERM ID	TEMP BLK PRESENT (Y/N)	List Sample Bottles in Eacn Cooler if out of Temperature
		PRESENT (Y/N)	INTACT (Y/N)				
R/W/B 416	Y	C Y	Y	2.5	404	N	
		B N	N				
B/W Elab		C Y	Y	3.1	402		
		B N	N				
Achwrite 1075		C Y	Y	2.7	324		
		B N	N				

C = COOLER B = BOTTLES

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

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

****

SPECIFIC PROJECT INFORMATION

JOB NUMBER: 270473

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: 40

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	50	Y	

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: 270473 Date: 4/7/04

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

Customer Sample ID: MW-3-1SA04 Laboratory Sample ID: 270473-001

Date/Time Sampled .....: 3/17/04 8:52 Sample Matrix .....: Water

Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/22/04 21:50	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/22/04 21:50	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/22/04 21:50	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/22/04 21:50	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/22/04 21:50	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/22/04 21:50	96367	1	zfl
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/22/04 21:50	96367	1	zfl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-3-1SA04
Date/Time Sampled .....: 3/17/04 8:52
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-001
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											5-3-04
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/30/04 20:45	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/24/04 11:55	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/30/04 20:45	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/30/04 20:45	97046	1	acn
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 11:55	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/24/04 11:55	97017	1	acn
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/24/04 11:55	97017	1	acn
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/24/04 11:55	97017	1	acn
Acenaphthene	83-32-9	0.1104		0.000078	0.0005	0.0003	mg/L	3/26/04 15:43	97017	4	acn
Acenaphthylene	208-96-8	0.000833	JL	0.00008	0.0005	0.000076	mg/L	3/24/04 11:55	97017	1	acn
Anthracene	120-12-7	0.00129	JL	0.00013	0.0005	0.000124	mg/L	3/24/04 11:55	97017	1	acn
Benzo(a)anthracene	56-55-3	0.000379	J JL	0.00028	0.0005	0.000267	mg/L	3/24/04 11:55	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000511		0.000007	0.0001	0.000007	mg/L	3/30/04 20:45	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/30/04 20:45	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-3-1SA04 Laboratory Sample ID: 270473-001

Date/Time Sampled .....: 3/17/04 8:52 Sample Matrix .....: Water

Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000943	U	0.00018	0.0005	0.000172	mg/L	3/24/04	11:55	97017	1	acn
Chrysene	218-01-9	0.00052	JL	0.000094	0.0005	0.00009	mg/L	3/24/04	11:55	97017	1	acn
Dibenzofuran	132-64-9	0.0097	JL	0.00008	0.0005	0.000076	mg/L	3/24/04	11:55	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.000654	U	0.00015	0.0005	0.000143	mg/L	3/24/04	11:55	97017	1	acn
Fluoranthene	206-44-0	0.01034	JL	0.000098	0.0005	0.000093	mg/L	3/24/04	11:55	97017	1	acn
Fluorene	86-73-7	0.0427	JL	0.000071	0.0005	0.000068	mg/L	3/24/04	11:55	97017	1	acn
Naphthalene	91-20-3	0.000264	JJL	0.00007	0.0005	0.000067	mg/L	3/24/04	11:55	97017	1	acn
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/24/04	11:55	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	11:55	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	UR	0.00004	0.0003	0.000038	mg/L	3/30/04	20:45	97046	1	acn
Phenanthrene	85-01-8	0.000663	JL	0.000081	0.0005	0.000077	mg/L	3/24/04	11:55	97017	1	acn
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/24/04	11:55	97017	1	acn
Pyrene	129-00-0	0.004965	JL	0.000088	0.0005	0.000084	mg/L	3/24/04	11:55	97017	1	acn

5-3-04

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-2-1SA04
Laboratory Sample ID: 270473-002
Date/Time Sampled .....: 3/17/04 9:50
Sample Matrix .....: Water
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/22/04 19:42	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/22/04 19:42	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/22/04 19:42	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/22/04 19:42	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/22/04 19:42	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/22/04 19:42	96367	1	zfl
Xylenes (total)	1330-20-7	0.0122	J	0.00441	0.015	0.00441	mg/L	3/22/04 19:42	96367	1	zfl

94

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473

Date: 4/7/04

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

Customer Sample ID: MW-2-1SA04

Date/Time Sampled .....: 3/17/04 9:50

Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-002

Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/30/04 21:15	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/24/04 12:25	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/30/04 21:15	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/30/04 21:15	97046	1	acn
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 12:25	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/24/04 12:25	97017	1	acn
2-Methylnaphthalene	91-57-6	0.001694		0.00007	0.0005	0.000067	mg/L	3/24/04 12:25	97017	1	acn
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/24/04 12:25	97017	1	acn
Acenaphthene	83-32-9	0.03018		0.000078	0.0005	0.000074	mg/L	3/24/04 12:25	97017	1	acn
Acenaphthylene	208-96-8	0.000418	J	0.00008	0.0005	0.000076	mg/L	3/24/04 12:25	97017	1	acn
Anthracene	120-12-7	0.001494		0.00013	0.0005	0.000124	mg/L	3/24/04 12:25	97017	1	acn
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/24/04 12:25	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/30/04 21:15	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/30/04 21:15	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-2-1SA04
Date/Time Sampled .....: 3/17/04 9:50
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-002
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/24/04	12:25	97017	1	acn
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	12:25	97017	1	acn
Dibenzofuran	132-64-9	0.01945		0.00008	0.0005	0.000076	mg/L	3/24/04	12:25	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.000792	u	0.00015	0.0005	0.000143	mg/L	3/24/04	12:25	97017	1	acn
Fluoranthene	206-44-0	0.001861		0.000098	0.0005	0.000093	mg/L	3/24/04	12:25	97017	1	acn
Fluorene	86-73-7	0.02035		0.000071	0.0005	0.000068	mg/L	3/24/04	12:25	97017	1	acn
Naphthalene	91-20-3	0.000604		0.00007	0.0005	0.000067	mg/L	3/24/04	12:25	97017	1	acn
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/24/04	12:25	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	12:25	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	U R	0.00004	0.0003	0.000038	mg/L	3/30/04	21:15	97046	1	acn
Phenanthrene	85-01-8	0.002468		0.000081	0.0005	0.000077	mg/L	3/24/04	12:25	97017	1	acn
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/24/04	12:25	97017	1	acn
Pyrene	129-00-0	0.000883		0.000088	0.0005	0.000084	mg/L	3/24/04	12:25	97017	1	acn

5-3-04

LBC

LBC

96

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-01A-1SA04
Date/Time Sampled .....: 3/17/04 10:40
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-003
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/22/04 20:07	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/22/04 20:07	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/22/04 20:07	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/22/04 20:07	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/22/04 20:07	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/22/04 20:07	96367	1	zfl
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/22/04 20:07	96367	1	zfl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-01A-1SA04
Date/Time Sampled .....: 3/17/04 10:40
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-003
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	3/30/04 21:44	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/24/04 12:55	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/30/04 21:44	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	3/30/04 21:44	97046	1	acn
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 12:55	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/24/04 12:55	97017	1	acn
2-Methylnaphthalene	91-57-6	0.005221		0.00007	0.0005	0.000067	mg/L	3/24/04 12:55	97017	1	acn
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/24/04 12:55	97017	1	acn
Acenaphthene	83-32-9	0.04226		0.000078	0.0005	0.000074	mg/L	3/24/04 12:55	97017	1	acn
Acenaphthylene	208-96-8	0.000785		0.00008	0.0005	0.000076	mg/L	3/24/04 12:55	97017	1	acn
Anthracene	120-12-7	0.001854		0.00013	0.0005	0.000124	mg/L	3/24/04 12:55	97017	1	acn
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/24/04 12:55	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	3/30/04 21:44	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	3/30/04 21:44	97046	1	acn

93

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: MW-01A-1SA04
Laboratory Sample ID: 270473-003
Date/Time Sampled .....: 3/17/04 10:40
Sample Matrix .....: Water
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000973	U	0.00018	0.0005	0.000172	mg/L	3/24/04	12:55	97017	1	acn
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	12:55	97017	1	acn
Dibenzofuran	132-64-9	0.0194		0.00008	0.0005	0.000076	mg/L	3/24/04	12:55	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.000691	U	0.00015	0.0005	0.000143	mg/L	3/24/04	12:55	97017	1	acn
Fluoranthene	206-44-0	0.003337		0.000098	0.0005	0.000093	mg/L	3/24/04	12:55	97017	1	acn
Fluorene	86-73-7	0.02334		0.000071	0.0005	0.000068	mg/L	3/24/04	12:55	97017	1	acn
Naphthalene	91-20-3	0.000919		0.00007	0.0005	0.000067	mg/L	3/24/04	12:55	97017	1	acn
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/24/04	12:55	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	12:55	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	U R	0.00004	0.0003	0.000038	mg/L	3/30/04	21:44	97046	1	acn
Phenanthrene	85-01-8	0.002194		0.000081	0.0005	0.000077	mg/L	3/24/04	12:55	97017	1	acn
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/24/04	12:55	97017	1	acn
Pyrene	129-00-0	0.00117		0.000088	0.0005	0.000084	mg/L	3/24/04	12:55	97017	1	acn

5-3-04 LBL LBL LBL

99

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-12-1SA04
Date/Time Sampled .....: 3/17/04 12:50
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-004
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/22/04 20:33	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/22/04 20:33	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/22/04 20:33	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/22/04 20:33	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/22/04 20:33	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/22/04 20:33	96367	1	zfl
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/22/04 20:33	96367	1	zfl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-12-1SA04
Date/Time Sampled .....: 3/17/04 12:50
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-004
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	4/1/04	1:02	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/24/04	13:25	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	4/1/04	1:02	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	4/1/04	1:02	97046	1	acn
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04	13:25	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/24/04	13:25	97017	1	acn
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/24/04	13:25	97017	1	acn
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/24/04	13:25	97017	1	acn
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/24/04	13:25	97017	1	acn
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04	13:25	97017	1	acn
Anthracene	120-12-7	0.000124	U	0.00013	0.0005	0.000124	mg/L	3/24/04	13:25	97017	1	acn
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/24/04	13:25	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	4/1/04	1:02	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	4/1/04	1:02	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473

Date: 4/7/04

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

Customer Sample ID: P-12-1SA04

Laboratory Sample ID: 270473-004

Date/Time Sampled .....: 3/17/04 12:50

Sample Matrix .....: Water

Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.001748	U	0.00018	0.0005	0.000172	mg/L	3/24/04	13:25	97017	1	acn
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	13:25	97017	1	acn
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04	13:25	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.000922	U	0.00015	0.0005	0.000143	mg/L	3/24/04	13:25	97017	1	acn
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/24/04	13:25	97017	1	acn
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/24/04	13:25	97017	1	acn
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/24/04	13:25	97017	1	acn
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/24/04	13:25	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	13:25	97017	1	acn
Pentachlorophenol	87-86-5	0.000337	JL	0.00004	0.0003	0.000038	mg/L	4/1/04	1:02	97046	1	acn
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/24/04	13:25	97017	1	acn
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/24/04	13:25	97017	1	acn
Pyrene	129-00-0	0.007348		0.000088	0.0005	0.000084	mg/L	3/24/04	13:25	97017	1	acn

5-3-04 LBC LBC LBC

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473

Date: 4/7/04

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

Customer Sample ID: P-11-1SA04

Laboratory Sample ID: 270473-005

Date/Time Sampled .....: 3/17/04 8:55

Sample Matrix .....: Water

Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/23/04 13:15	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/23/04 13:15	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/23/04 13:15	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/23/04 13:15	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/23/04 13:15	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/23/04 13:15	96367	1	zfl
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/23/04 13:15	96367	1	zfl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11-1SA04
Date/Time Sampled .....: 3/17/04 8:55
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-005
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											5-3-04
1,2-Diphenylhydrazine	122-66-7	0.00005	U UJ	0.00005	0.0001	0.00005	mg/L	4/1/04 0:33	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/24/04 10:24	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000009	U UJ	0.000009	0.0001	0.000009	mg/L	4/1/04 0:33	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000026	U UJ	0.000027	0.0001	0.000026	mg/L	4/1/04 0:33	97046	1	acn
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 10:24	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/24/04 10:24	97017	1	acn
2-Methylnaphthalene	91-57-6	0.001097		0.00007	0.0005	0.000067	mg/L	3/24/04 10:24	97017	1	acn
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/24/04 10:24	97017	1	acn
Acenaphthene	83-32-9	0.1301		0.000078	0.0005	0.00037	mg/L	3/26/04 15:13	97017	5	acn
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 10:24	97017	1	acn
Anthracene	120-12-7	0.005611		0.00013	0.0005	0.000124	mg/L	3/24/04 10:24	97017	1	acn
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/24/04 10:24	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000007	U UJ	0.000007	0.0001	0.000007	mg/L	4/1/04 0:33	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000009	U UJ	0.000009	0.0001	0.000009	mg/L	4/1/04 0:33	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11-1SA04
Date/Time Sampled .....: 3/17/04 8:55
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-005
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000904	U	0.00018	0.0005	0.000172	mg/L	3/24/04	10:24	97017	1	acn
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	10:24	97017	1	acn
Dibenzofuran	132-64-9	0.003985		0.00008	0.0005	0.000076	mg/L	3/24/04	10:24	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.000923	U	0.00015	0.0005	0.000143	mg/L	3/24/04	10:24	97017	1	acn
Fluoranthene	206-44-0	0.008623		0.000098	0.0005	0.000093	mg/L	3/24/04	10:24	97017	1	acn
Fluorene	86-73-7	0.05025		0.000071	0.0005	0.00034	mg/L	3/26/04	15:13	97017	5	acn
Naphthalene	91-20-3	0.007031		0.00007	0.0005	0.000067	mg/L	3/24/04	10:24	97017	1	acn
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/24/04	10:24	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	10:24	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	U R	0.00004	0.0003	0.000038	mg/L	4/1/04	0:33	97046	1	acn
Phenanthrene	85-01-8	0.01956		0.000081	0.0005	0.000077	mg/L	3/24/04	10:24	97017	1	acn
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/24/04	10:24	97017	1	acn
Pyrene	129-00-0	0.00445		0.000088	0.0005	0.000084	mg/L	3/24/04	10:24	97017	1	acn

5-3-04

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11 MS-1SA04 Laboratory Sample ID: 270473-006

Date/Time Sampled .....: 3/17/04 9:20 Sample Matrix .....: Water

Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8260B, Water												
1,2-Dichloroethane	107-06-2	0.052		0.00136	0.005	0.00136	mg/L	3/23/04	14:09	96367	1	zfl
Benzene	71-43-2	0.045		0.00143	0.005	0.00143	mg/L	3/23/04	14:09	96367	1	zfl
Chlorobenzene	108-90-7	0.0602		0.00155	0.005	0.00155	mg/L	3/23/04	14:09	96367	1	zfl
Ethylbenzene	100-41-4	0.0591		0.00137	0.005	0.00137	mg/L	3/23/04	14:09	96367	1	zfl
Methylene Chloride	75-09-2	0.0457		0.0013	0.005	0.0013	mg/L	3/23/04	14:09	96367	1	zfl
Toluene	108-88-3	0.0574		0.00136	0.005	0.00136	mg/L	3/23/04	14:09	96367	1	zfl
Xylenes (total)	1330-20-7	0.175		0.00441	0.015	0.00441	mg/L	3/23/04	14:09	96367	1	zfl

9 of 16

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11 MS-1SA04
Laboratory Sample ID: 270473-006
Date/Time Sampled .....: 3/17/04 9:20
Sample Matrix .....: Water
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.00096		0.00005	0.0001	0.00005	mg/L	3/30/04	14:26	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.007108		0.000122	0.0005	0.000116	mg/L	3/24/04	10:54	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.00089		0.000009	0.0001	0.000009	mg/L	3/30/04	14:26	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000869		0.000027	0.0001	0.000026	mg/L	3/30/04	14:26	97046	1	acn
2-Chloronaphthalene	91-58-7	0.008183		0.00008	0.0005	0.000076	mg/L	3/24/04	10:54	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.01457		0.00031	0.0015	0.000295	mg/L	3/24/04	10:54	97017	1	acn
2-Methylnaphthalene	91-57-6	0.008782		0.00007	0.0005	0.000067	mg/L	3/24/04	10:54	97017	1	acn
4-Nitrophenol	100-02-7	0.002937		0.000299	0.0015	0.000285	mg/L	3/24/04	10:54	97017	1	acn
Acenaphthene	83-32-9	0.115		0.000078	0.0005	0.00037	mg/L	4/1/04	20:16	97017	5	acn
Acenaphthylene	208-96-8	0.008813		0.00008	0.0005	0.000076	mg/L	3/24/04	10:54	97017	1	acn
Anthracene	120-12-7	0.01343		0.00013	0.0005	0.000124	mg/L	3/24/04	10:54	97017	1	acn
Benzo(a)anthracene	56-55-3	0.008749		0.00028	0.0005	0.000267	mg/L	3/24/04	10:54	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000762		0.000007	0.0001	0.000007	mg/L	3/30/04	14:26	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000776		0.000009	0.0001	0.000009	mg/L	3/30/04	14:26	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11 MS-1SA04
Laboratory Sample ID: 270473-006
Date/Time Sampled .....: 3/17/04 9:20
Sample Matrix .....: Water
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.006581		0.00018	0.0005	0.000172	mg/L	3/24/04	10:54	97017	1	acn
Chrysene	218-01-9	0.008946		0.000094	0.0005	0.00009	mg/L	3/24/04	10:54	97017	1	acn
Dibenzofuran	132-64-9	0.01175		0.00008	0.0005	0.000076	mg/L	3/24/04	10:54	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.009483		0.00015	0.0005	0.000143	mg/L	3/24/04	10:54	97017	1	acn
Fluoranthene	206-44-0	0.01768		0.000098	0.0005	0.000093	mg/L	3/24/04	10:54	97017	1	acn
Fluorene	86-73-7	0.04594		0.000071	0.0005	0.000068	mg/L	3/24/04	10:54	97017	1	acn
Naphthalene	91-20-3	0.01838		0.00007	0.0005	0.000067	mg/L	3/24/04	10:54	97017	1	acn
Nitrobenzene	98-95-3	0.007007		0.00015	0.0005	0.000143	mg/L	3/24/04	10:54	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.009583		0.000094	0.0005	0.00009	mg/L	3/24/04	10:54	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/30/04	14:26	97046	1	acn
Phenanthrene	85-01-8	0.02322		0.000081	0.0005	0.000077	mg/L	3/24/04	10:54	97017	1	acn
Phenol	108-95-2	0.003133		0.0001	0.0005	0.0000953	mg/L	3/24/04	10:54	97017	1	acn
Pyrene	129-00-0	0.01345		0.000088	0.0005	0.000084	mg/L	3/24/04	10:54	97017	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11 MSD-1SA04
Laboratory Sample ID: 270473-007
Date/Time Sampled .....: 3/17/04 9:50
Sample Matrix .....: Water
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8260B, Water											
1,2-Dichloroethane	107-06-2	0.0498		0.00136	0.005	0.00136	mg/L	3/23/04 15:03	96367	1	zfl
Benzene	71-43-2	0.042		0.00143	0.005	0.00143	mg/L	3/23/04 15:03	96367	1	zfl
Chlorobenzene	108-90-7	0.0574		0.00155	0.005	0.00155	mg/L	3/23/04 15:03	96367	1	zfl
Ethylbenzene	100-41-4	0.0553		0.00137	0.005	0.00137	mg/L	3/23/04 15:03	96367	1	zfl
Methylene Chloride	75-09-2	0.0419		0.0013	0.005	0.0013	mg/L	3/23/04 15:03	96367	1	zfl
Toluene	108-88-3	0.054		0.00136	0.005	0.00136	mg/L	3/23/04 15:03	96367	1	zfl
Xylenes (total)	1330-20-7	0.164		0.00441	0.015	0.00441	mg/L	3/23/04 15:03	96367	1	zfl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11 MSD-1SA04
Date/Time Sampled .....: 3/17/04 9:50
Date/Time Received .....: 3/18/04 12:26

Laboratory Sample ID: 270473-007
Sample Matrix .....: Water

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
Method: SW-846 8270C, Water												
1,2-Diphenylhydrazine	122-66-7	0.0008		0.00005	0.0001	0.00005	mg/L	3/30/04	14:55	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.007212		0.000122	0.0005	0.000116	mg/L	3/24/04	11:24	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000862		0.000009	0.0001	0.000009	mg/L	3/30/04	14:55	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000879		0.000027	0.0001	0.000026	mg/L	3/30/04	14:55	97046	1	acn
2-Chloronaphthalene	91-58-7	0.008028		0.00008	0.0005	0.000076	mg/L	3/24/04	11:24	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.01439		0.00031	0.0015	0.000295	mg/L	3/24/04	11:24	97017	1	acn
2-Methylnaphthalene	91-57-6	0.008967		0.00007	0.0005	0.000067	mg/L	3/24/04	11:24	97017	1	acn
4-Nitrophenol	100-02-7	0.004705		0.000299	0.0015	0.000285	mg/L	3/24/04	11:24	97017	1	acn
Acenaphthene	83-32-9	0.1004		0.000078	0.0005	0.00037	mg/L	4/1/04	20:46	97017	5	acn
Acenaphthylene	208-96-8	0.008463		0.00008	0.0005	0.000076	mg/L	3/24/04	11:24	97017	1	acn
Anthracene	120-12-7	0.01314		0.00013	0.0005	0.000124	mg/L	3/24/04	11:24	97017	1	acn
Benzo(a)anthracene	56-55-3	0.008396		0.00028	0.0005	0.000267	mg/L	3/24/04	11:24	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000779		0.000007	0.0001	0.000007	mg/L	3/30/04	14:55	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.00074		0.000009	0.0001	0.000009	mg/L	3/30/04	14:55	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: P-11 MSD-1SA04 Laboratory Sample ID: 270473-007

Date/Time Sampled .....: 3/17/04 9:50 Sample Matrix .....: Water

Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.007069		0.00018	0.0005	0.000172	mg/L	3/24/04	11:24	97017	1	acn
Chrysene	218-01-9	0.008753		0.000094	0.0005	0.00009	mg/L	3/24/04	11:24	97017	1	acn
Dibenzofuran	132-64-9	0.01117		0.00008	0.0005	0.000076	mg/L	3/24/04	11:24	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.009282		0.00015	0.0005	0.000143	mg/L	3/24/04	11:24	97017	1	acn
Fluoranthene	206-44-0	0.01683		0.000098	0.0005	0.000093	mg/L	3/24/04	11:24	97017	1	acn
Fluorene	86-73-7	0.04196		0.000071	0.0005	0.000068	mg/L	3/24/04	11:24	97017	1	acn
Naphthalene	91-20-3	0.01966		0.00007	0.0005	0.000067	mg/L	3/24/04	11:24	97017	1	acn
Nitrobenzene	98-95-3	0.00778		0.00015	0.0005	0.000143	mg/L	3/24/04	11:24	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.01004		0.000094	0.0005	0.00009	mg/L	3/24/04	11:24	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	3/30/04	14:55	97046	1	acn
Phenanthrene	85-01-8	0.02084		0.000081	0.0005	0.000077	mg/L	3/24/04	11:24	97017	1	acn
Phenol	108-95-2	0.003327		0.0001	0.0005	0.0000953	mg/L	3/24/04	11:24	97017	1	acn
Pyrene	129-00-0	0.01314		0.000088	0.0005	0.000084	mg/L	3/24/04	11:24	97017	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: FB-031704-1SA04
Laboratory Sample ID: 270473-008
Date/Time Sampled .....: 3/17/04 13:00
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/22/04 20:58	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/22/04 20:58	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/22/04 20:58	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/22/04 20:58	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/22/04 20:58	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/22/04 20:58	96367	1	zfl
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/22/04 20:58	96367	1	zfl

212

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: FB-031704-1SA04
Laboratory Sample ID: 270473-008
Date/Time Sampled .....: 3/17/04 13:00
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time	Batch	D.F.	Analyst
Method: SW-846 8270C, Water											
1,2-Diphenylhydrazine	122-66-7	0.00005	U	0.00005	0.0001	0.00005	mg/L	4/2/04 12:20	97046	1	acn
2,4-Dimethylphenol	105-67-9	0.000116	U	0.000122	0.0005	0.000116	mg/L	3/24/04 13:55	97017	1	acn
2,4-Dinitrotoluene	121-14-2	0.000009	U	0.000009	0.0001	0.000009	mg/L	4/2/04 12:20	97046	1	acn
2,6-Dinitrotoluene	606-20-2	0.000026	U	0.000027	0.0001	0.000026	mg/L	4/2/04 12:20	97046	1	acn
2-Chloronaphthalene	91-58-7	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 13:55	97017	1	acn
2-Methyl-4,6-dinitrophenol	534-52-1	0.000295	U	0.00031	0.0015	0.000295	mg/L	3/24/04 13:55	97017	1	acn
2-Methylnaphthalene	91-57-6	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/24/04 13:55	97017	1	acn
4-Nitrophenol	100-02-7	0.000285	U	0.000299	0.0015	0.000285	mg/L	3/24/04 13:55	97017	1	acn
Acenaphthene	83-32-9	0.000074	U	0.000078	0.0005	0.000074	mg/L	3/24/04 13:55	97017	1	acn
Acenaphthylene	208-96-8	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04 13:55	97017	1	acn
Anthracene	120-12-7	0.000124	U	0.00013	0.0005	0.000124	mg/L	3/24/04 13:55	97017	1	acn
Benzo(a)anthracene	56-55-3	0.000267	U	0.00028	0.0005	0.000267	mg/L	3/24/04 13:55	97017	1	acn
Benzo(a)pyrene	50-32-8	0.000007	U	0.000007	0.0001	0.000007	mg/L	4/2/04 12:20	97046	1	acn
bis(2-chloroethoxy)methane	111-91-1	0.000009	U	0.000009	0.0001	0.000009	mg/L	4/2/04 12:20	97046	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: FB-031704-1SA04
Laboratory Sample ID: 270473-008
Date/Time Sampled .....: 3/17/04 13:00
Sample Matrix .....: Field Blank
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	FLAG	MDL	MQL	SQL	UNITS	Analysis Date/Time		Batch	D.F.	Analyst
bis(2-ethylhexyl)phthalate	117-81-7	0.000172	U	0.00018	0.0005	0.000172	mg/L	3/24/04	13:55	97017	1	acn
Chrysene	218-01-9	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	13:55	97017	1	acn
Dibenzofuran	132-64-9	0.000076	U	0.00008	0.0005	0.000076	mg/L	3/24/04	13:55	97017	1	acn
Di-n-butyl Phthalate	84-74-2	0.000361	J	0.00015	0.0005	0.000143	mg/L	3/24/04	13:55	97017	1	acn
Fluoranthene	206-44-0	0.000093	U	0.000098	0.0005	0.000093	mg/L	3/24/04	13:55	97017	1	acn
Fluorene	86-73-7	0.000068	U	0.000071	0.0005	0.000068	mg/L	3/24/04	13:55	97017	1	acn
Naphthalene	91-20-3	0.000067	U	0.00007	0.0005	0.000067	mg/L	3/24/04	13:55	97017	1	acn
Nitrobenzene	98-95-3	0.000143	U	0.00015	0.0005	0.000143	mg/L	3/24/04	13:55	97017	1	acn
n-Nitrosodiphenylamine	86-30-6	0.00009	U	0.000094	0.0005	0.00009	mg/L	3/24/04	13:55	97017	1	acn
Pentachlorophenol	87-86-5	0.000038	U	0.00004	0.0003	0.000038	mg/L	4/2/04	12:20	97046	1	acn
Phenanthrene	85-01-8	0.000077	U	0.000081	0.0005	0.000077	mg/L	3/24/04	13:55	97017	1	acn
Phenol	108-95-2	0.0000953	U	0.0001	0.0005	0.0000953	mg/L	3/24/04	13:55	97017	1	acn
Pyrene	129-00-0	0.000084	U	0.000088	0.0005	0.000084	mg/L	3/24/04	13:55	97017	1	acn

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

TRRP Laboratory Test Results

Job Number: 270473 Date: 4/7/04

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

Customer Sample ID: TB02-1SA04
Laboratory Sample ID: 270473-009
Date/Time Sampled .....: 3/17/04 0:00
Sample Matrix .....: Trip Blank
Date/Time Received .....: 3/18/04 12:26

TEST METHOD	CAS #	RESULT	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	0.005	0.00136	mg/L	3/22/04 21:24	96367	1	zfl
Benzene	71-43-2	0.00143	U	0.00143	0.005	0.00143	mg/L	3/22/04 21:24	96367	1	zfl
Chlorobenzene	108-90-7	0.00155	U	0.00155	0.005	0.00155	mg/L	3/22/04 21:24	96367	1	zfl
Ethylbenzene	100-41-4	0.00137	U	0.00137	0.005	0.00137	mg/L	3/22/04 21:24	96367	1	zfl
Methylene Chloride	75-09-2	0.0013	U	0.0013	0.005	0.0013	mg/L	3/22/04 21:24	96367	1	zfl
Toluene	108-88-3	0.00136	U	0.00136	0.005	0.00136	mg/L	3/22/04 21:24	96367	1	zfl
Xylenes (total)	1330-20-7	0.00441	U	0.00441	0.015	0.00441	mg/L	3/22/04 21:24	96367	1	zfl

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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...: acn
Method Description.: Semivolatile Organics - SIM Analysis Batch(s)...: 97046

LCS	Laboratory Control Sample	SVS031904J	96171		03/26/2004	1643

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.40815		0.500000	0	81.6		30-130	
bis(2-chloroethoxy)methane, Water	0.39598		0.500000	0	79.2		30-130	
2,4-Dinitrotoluene, Water	0.34998		0.500000	0	70.0		60-140	
2,6-Dinitrotoluene, Water	0.38170		0.500000	0	76.3		60-140	
Pentachlorophenol, Water	0.44238		0.500000	0	88.5		30-130	
1,2-Diphenylhydrazine, Water	0.35261		0.500000	0	70.5		30-130	

MB	Method Blank	SVS030204B	96171		03/26/2004	1614

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	SVS031904K	270487-5		03/27/2004	0101

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.00533		0.500000	0	1		30-130	A
bis(2-chloroethoxy)methane, Water	0.32463		0.500000	0	65		30-130	
2,4-Dinitrotoluene, Water	0.37354		0.500000	0	75		24-96	
2,6-Dinitrotoluene, Water	0.05316		0.500000	0	11		30-130	A
Pentachlorophenol, Water	0.07038		0.500000	0.08095	-2		5-103	A
1,2-Diphenylhydrazine, Water	0.49820		0.500000	0	100		60-140	

MS	Matrix Spike	SVS031904K	270473-6		03/30/2004	1426

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.39981		0.500000	0	80		30-130	
bis(2-chloroethoxy)methane, Water	0.40727		0.500000	0	81		30-130	
2,4-Dinitrotoluene, Water	0.46723		0.500000	0	93		24-96	
2,6-Dinitrotoluene, Water	0.45608		0.500000	0	91		30-130	
Pentachlorophenol, Water	0		0.500000	0	0		5-103	A
1,2-Diphenylhydrazine, Water	0.50650		0.500000	0	101		60-140	

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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	SVS031904K	270487-6		03/27/2004 0131

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.38920	0.00533	0.500000	0	78		30.0-130.0	
					194.6		40.0	A
bis(2-chloroethoxy)methane, Water	0.08520	0.32463	0.500000	0	17		30.0-130.0	A
					116.8		30.0	A
2,4-Dinitrotoluene, Water	0.42472	0.37354	0.500000	0	85		24.0-96.0	
					12.8		30.0	
2,6-Dinitrotoluene, Water	0.36223	0.05316	0.500000	0	72		30.0-130.0	
					148.8		30.0	A
Pentachlorophenol, Water	0.44253	0.07038	0.500000	0.08095	72		5.0-103.0	
					145.1		40.0	A
1,2-Diphenylhydrazine, Water	0.37416	0.49820	0.500000	0	75		60.0-140.0	
					28.6		40.0	

MSD	Matrix Spike Duplicate	SVS031904K	270473-7		03/30/2004 1455

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzo(a)pyrene, Water	0.40878	0.39981	0.500000	0	82		30.0-130.0	
					2.2		40.0	
bis(2-chloroethoxy)methane, Water	0.38843	0.40727	0.500000	0	78		30.0-130.0	
					4.7		30.0	
2,4-Dinitrotoluene, Water	0.45250	0.46723	0.500000	0	90		24.0-96.0	
					3.2		30.0	
2,6-Dinitrotoluene, Water	0.46132	0.45608	0.500000	0	92		30.0-130.0	
					1.1		30.0	
Pentachlorophenol, Water	0	0	0.500000	0	0		5.0-103.0	A
					0.0		40.0	
1,2-Diphenylhydrazine, Water	0.42003	0.50650	0.500000	0	84		60.0-140.0	
					18.7		40.0	

Test Method.....: SW-846 8270C Units.....: ug/L Analyst...: acn
Method Description.: Semivolatile Organics, Low Level Batch(s)...: 97017

LCS	Laboratory Control Sample	SVS031904J	96170		03/24/2004 0954

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	4.51515		5.000000		90.3		32-165	
Acenaphthylene, Water	4.28688		5.000000		85.7		10-150	
Anthracene, Water	4.69058		5.000000		93.8		23-178	
Benzo(a)anthracene, Water	4.59001		5.000000		91.8		25-180	
bis(2-ethylhexyl)phthalate, Water	4.43400		5.000000		88.7		25-173	
2-Chloronaphthalene, Water	4.14884		5.000000		83.0		23-143	
Chrysene, Water	4.87471		5.000000		97.5		23-180	
Dibenzofuran, Water	4.33981		5.000000		86.8		35-153	
Di-n-butyl Phthalate, Water	4.88014		5.000000		97.6		28-185	
Fluoranthene, Water	4.99281		5.000000		99.9		28-180	
Fluorene, Water	4.54334		5.000000		90.9		30-189	
2-Methylnaphthalene, Water	4.37877		5.000000		87.6		26-168	
Naphthalene, Water	4.50582		5.000000		90.1		36-139	
Nitrobenzene, Water	4.04906		5.000000		81.0		17-163	

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

117

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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	SVS031904J	96170		03/24/2004	0954

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
ɲ-Nitrosodiphenylamine, Water	4.22516		5.000000		84.5		58-174	
Phenanthrene, Water	4.73803		5.000000		94.8		26-166	
Pyrene, Water	4.79426		5.000000		95.9		28-173	
2,4-Dimethylphenol, Water	3.98393		5.000000		79.7		23-157	
2-Methyl-4,6-dinitrophenol, Water	6.63299		5.000000		132.7		10-164	
4-Nitrophenol, Water	1.68863		5.000000		33.8		10-92	
Phenol, Water	1.88209		5.000000		37.6		20-83	

MB	Method Blank	SVS030204B	96170		03/24/2004	0924

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	0.46517							
2-Chloronaphthalene, Water	0							
Chrysene, Water	0							
Dibenzofuran, Water	0							
Di-n-butyl Phthalate, Water	0							
Fluoranthene, Water	0							
Fluorene, Water	0							
2-Methylnaphthalene, Water	0							
Naphthalene, Water	0							
Nitrobenzene, Water	0							
ɲ-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							

MS	Matrix Spike	SVS031904J	270473-6		03/24/2004	1054

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	53.3120		5.000000	60.1102	-136		46-118	A
Acenaphthylene, Water	4.62612		5.000000	0	93		30-130	
Anthracene, Water	7.04877		5.000000	2.94562	82		30-130	
Benzo(a)anthracene, Water	4.59274		5.000000	0	92		60-140	
bis(2-ethylhexyl)phthalate, Water	3.45457		5.000000	0.47470	60		60-140	
2-Chloronaphthalene, Water	4.29566		5.000000	0	86		30-130	
Chrysene, Water	4.69620		5.000000	0	94		30-130	
Dibenzofuran, Water	6.16582		5.000000	2.09195	81		30-130	
Di-n-butyl Phthalate, Water	4.97772		5.000000	0.48477	90		30-130	
Fluoranthene, Water	9.28271		5.000000	4.52645	95		30-130	
Fluorene, Water	24.1132		5.000000	26.2599	-43		30-130	A
2-Methylnaphthalene, Water	4.61007		5.000000	0.57605	81		60-140	
Naphthalene, Water	9.64878		5.000000	3.69100	119		30-130	
Nitrobenzene, Water	3.67836		5.000000	0	74		30-130	

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

118

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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	SVS031904J	270473-6		03/24/2004	1054

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
n-Nitrosodiphenylamine, Water	5.03064		5.000000	0	101		30-130	
Phenanthrene, Water	12.1892		5.000000	10.2660	38		30-130	
Pyrene, Water	7.05869		5.000000	2.33622	94		26-115	
2,4-Dimethylphenol, Water	3.73116		5.000000	0	75		30-130	
2-Methyl-4,6-dinitrophenol, Water	7.64746		5.000000	0	153		30-130	A
4-Nitrophenol, Water	1.54175		5.000000	0	31		10-80	
Phenol, Water	1.64469		5.000000	0	33		10-112	

MS	Matrix Spike	SVS031904J	270487-5		03/26/2004	1243

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	83.3035		5.000000	64.9434	367		46-118	A
Acenaphthylene, Water	5.36357		5.000000	1.16795	84		30-130	
Anthracene, Water	10.2028		5.000000	4.46504	115		30-130	
Benzo(a)anthracene, Water	4.13756		5.000000	0	83		60-140	
bis(2-ethylhexyl)phthalate, Water	3.65060		5.000000	0	73		60-140	
2-Chloronaphthalene, Water	4.18500		5.000000	0	84		30-130	
Chrysene, Water	4.45336		5.000000	0	89		30-130	
Dibenzofuran, Water	68.0533		5.000000	51.2082	337		30-130	A
Di-n-butyl Phthalate, Water	4.09481		5.000000	0.18434	78		30-130	
Fluoranthene, Water	7.40360		5.000000	1.64592	115		30-130	
Fluorene, Water	32.8590		5.000000	23.8964	179		30-130	A
2-Methylnaphthalene, Water	179.271		5.000000	147.082	644		60-140	A
Naphthalene, Water	1046.96		5.000000	883.465	3270		30-130	A
Nitrobenzene, Water	4.32643		5.000000	0	87		30-130	
n-Nitrosodiphenylamine, Water	5.26653		5.000000	0	105		30-130	
Phenanthrene, Water	41.9080		5.000000	27.3125	292		30-130	A
Pyrene, Water	6.43954		5.000000	0.89682	111		26-115	
2,4-Dimethylphenol, Water	11.1798		5.000000	13.1414	-39		30-130	A
2-Methyl-4,6-dinitrophenol, Water	4.85979		5.000000	0	97		30-130	
4-Nitrophenol, Water	4.80372		5.000000	0	96		10-80	A
Phenol, Water	12.2559		5.000000	27.5809	-306		10-112	A

MSD	Matrix Spike Duplicate	SVS031904J	270473-7		03/24/2004	1124

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	49.5673	53.3120	5.000000	60.1102	-211		46.0-118.0	A
					7.3		31.0	
Acenaphthylene, Water	4.44235	4.62612	5.000000	0	89		30.0-130.0	
					4.1		50.0	
Anthracene, Water	6.89767	7.04877	5.000000	2.94562	79		30.0-130.0	
					2.2		50.0	
Benzo(a)anthracene, Water	4.40712	4.59274	5.000000	0	88		60.0-140.0	
					4.1		30.0	
bis(2-ethylhexyl)phthalate, Water	3.71070	3.45457	5.000000	0.47470	65		60.0-140.0	
					7.1		30.0	
2-Chloronaphthalene, Water	4.21405	4.29566	5.000000	0	84		30.0-130.0	
					1.9		50.0	
Chrysene, Water	4.59464	4.69620	5.000000	0	92		30.0-130.0	
					2.2		50.0	

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

119

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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	SVS031904J	270473-7		03/24/2004	1124

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Dibenzofuran, Water	5.86220	6.16582	5.000000	2.09195	75		30.0-130.0	
					5.0		50.0	
Di-n-butyl Phthalate, Water	4.87269	4.97772	5.000000	0.48477	88		30.0-130.0	
					2.1		50.0	
Fluoranthene, Water	8.83696	9.28271	5.000000	4.52645	86		30.0-130.0	
					4.9		50.0	
Fluorene, Water	22.0247	24.1132	5.000000	26.2599	-85		30.0-130.0	A
					9.1		50.0	
2-Methylnaphthalene, Water	4.70695	4.61007	5.000000	0.57605	83		60.0-140.0	
					2.1		30.0	
Naphthalene, Water	10.3225	9.64878	5.000000	3.69100	133		30.0-130.0	A
					6.7		50.0	
Nitrobenzene, Water	4.08400	3.67836	5.000000	0	82		30.0-130.0	
					10.5		50.0	
n-Nitrosodiphenylamine, Water	5.27158	5.03064	5.000000	0	105		30.0-130.0	
					4.7		50.0	
Phenanthrene, Water	10.9384	12.1892	5.000000	10.2660	13		30.0-130.0	A
					10.8		50.0	
Pyrene, Water	6.89964	7.05869	5.000000	2.33622	91		26.0-115.0	
					2.3		31.0	
2,4-Dimethylphenol, Water	3.78560	3.73116	5.000000	0	76		30.0-130.0	
					1.4		50.0	
2-Methyl-4,6-dinitrophenol, Water	7.55386	7.64746	5.000000	0	151		30.0-130.0	A
					1.2		50.0	
4-Nitrophenol, Water	2.47005	1.54175	5.000000	0	49		10.0-80.0	
					46.3		50.0	
Phenol, Water	1.74628	1.64469	5.000000	0	35		10.0-112.0	
					6.0		23.0	

MSD	Matrix Spike Duplicate	SVS031904J	270487-6		03/26/2004	1313

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Acenaphthene, Water	91.6818	83.3035	5.000000	64.9434	535		46.0-118.0	A
					9.6		31.0	
Acenaphthylene, Water	5.60802	5.36357	5.000000	1.16795	89		30.0-130.0	
					4.5		50.0	
Anthracene, Water	10.8178	10.2028	5.000000	4.46504	127		30.0-130.0	
					5.9		50.0	
Benzo(a)anthracene, Water	4.07256	4.13756	5.000000	0	81		60.0-140.0	
					1.6		30.0	
bis(2-ethylhexyl)phthalate, Water	3.36344	3.65060	5.000000	0	67		60.0-140.0	
					8.2		30.0	
2-Chloronaphthalene, Water	4.48931	4.18500	5.000000	0	90		30.0-130.0	
					7.0		50.0	
Chrysene, Water	4.31293	4.45336	5.000000	0	86		30.0-130.0	
					3.2		50.0	
Dibenzofuran, Water	76.2719	68.0533	5.000000	51.2082	501		30.0-130.0	A
					11.4		50.0	
Di-n-butyl Phthalate, Water	4.34191	4.09481	5.000000	0.18434	83		30.0-130.0	
					5.9		50.0	
Fluoranthene, Water	7.80390	7.40360	5.000000	1.64592	123		30.0-130.0	
					5.3		50.0	

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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	SVS031904J	270487-6		03/26/2004	1313

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Fluorene, Water	36.0795	32.8590	5.000000	23.8964	244		30.0-130.0	A
					9.3		50.0	
2-Methylnaphthalene, Water	193.146	179.271	5.000000	147.082	921		60.0-140.0	A
					7.5		30.0	
Naphthalene, Water	1096.98	1046.96	5.000000	883.465	4270		30.0-130.0	A
					4.7		50.0	
Nitrobenzene, Water	5.57249	4.32643	5.000000	0	111		30.0-130.0	
					25.2		50.0	
n-Nitrosodiphenylamine, Water	5.62571	5.26653	5.000000	0	113		30.0-130.0	
					6.6		50.0	
Phenanthrene, Water	46.0460	41.9080	5.000000	27.3125	375		30.0-130.0	A
					9.4		50.0	
Pyrene, Water	6.29780	6.43954	5.000000	0.89682	108		26.0-115.0	
					2.2		31.0	
2,4-Dimethylphenol, Water	11.0135	11.1798	5.000000	13.1414	-43		30.0-130.0	A
					1.5		50.0	
2-Methyl-4,6-dinitrophenol, Water	4.84082	4.85979	5.000000	0	97		30.0-130.0	
					0.4		50.0	
4-Nitrophenol, Water	5.67291	4.80372	5.000000	0	113		10.0-80.0	A
					16.6		50.0	
Phenol, Water	20.6377	12.2559	5.000000	27.5809	-139		10.0-112.0	A
					51.0		23.0	A

Test Method.....: SW-846 8260B Units.....: ug/L Analyst...: zfl
Method Description.: Volatile Organics Batch(s)...: 96367

LCS	Laboratory Control Sample	VS031904E			03/22/2004	1225

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	46.3090		50.00	ND	92.6		68-127	
Chlorobenzene, Water	47.7691		50.00	ND	95.5		65-129	
1,2-Dichloroethane, Water	45.5158		50.00	ND	91.0		65-133	
Ethylbenzene, Water	49.8117		50.00	ND	99.6		64-132	
Methylene Chloride, Water	52.0137		50.00	5.17618	104.0		54-133	
Toluene, Water	50.0604		50.00	ND	100.1		63-127	
Xylenes (total), Water	138.313		150.0	ND	92.2		37-161	

LCS	Laboratory Control Sample	VS031904E			03/23/2004	1437

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	45.8101		50.00	ND	91.6		68-127	
Chlorobenzene, Water	62.7053		50.00	ND	125.4		65-129	
1,2-Dichloroethane, Water	53.1850		50.00	ND	106.4		65-133	
Ethylbenzene, Water	63.9643		50.00	ND	127.9		64-132	
Methylene Chloride, Water	41.6148		50.00	4.78271	83.2		54-133	
Toluene, Water	60.8159		50.00	ND	121.6		63-127	
Xylenes (total), Water	188.069		150.0	ND	125.4		37-161	

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

121

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank	VS031904C			03/22/2004	1316

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	5.17618							
Toluene, Water	ND							
Xylenes (total), Water	ND							

MB	Method Blank	VS031904C			03/23/2004	1221

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	4.78271							
Toluene, Water	ND							
Xylenes (total), Water	ND							

MS	Matrix Spike	VS031904E	270437-5	10.00000	03/22/2004	1459

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	44.7849		50.00	ND	90		65-125	
Chlorobenzene, Water	45.5915		50.00	ND	91		74-122	
1,2-Dichloroethane, Water	42.1885		50.00	ND	84		60-140	
Ethylbenzene, Water	47.3761		50.00	ND	95		60-140	
Methylene Chloride, Water	51.3256		50.00	4.40250	94		60-140	
Toluene, Water	47.8910		50.00	ND	96		76-125	
Xylenes (total), Water	131.231		150.0	ND	87		60-140	

MS	Matrix Spike	VS031904E	270473-6		03/23/2004	1409

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	44.9573		50.00	ND	90		65-125	
Chlorobenzene, Water	60.2032		50.00	ND	120		74-122	
1,2-Dichloroethane, Water	52.0068		50.00	ND	104		60-140	
Ethylbenzene, Water	59.0748		50.00	ND	118		60-140	
Methylene Chloride, Water	45.7127		50.00	ND	91		60-140	
Toluene, Water	57.4455		50.00	ND	115		76-125	
Xylenes (total), Water	175.064		150.0	ND	117		60-140	

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY CONTROL RESULTS

Job Number.: 270473 Report Date.: 04/07/2004

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	VS031904E	270437-5	10.00000	03/22/2004	1525

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	48.5827	44.7849	50.00	ND	97		65.0-125.0	
					8.1		30.0	
Chlorobenzene, Water	49.9521	45.5915	50.00	ND	100		74.0-122.0	
					9.1		30.0	
1,2-Dichloroethane, Water	43.5711	42.1885	50.00	ND	87		60.0-140.0	
					3.2		30.0	
Ethylbenzene, Water	53.8869	47.3761	50.00	ND	108		60.0-140.0	
					12.9		30.0	
Methylene Chloride, Water	54.0959	51.3256	50.00	4.40250	99		60.0-140.0	
					5.3		30.0	
Toluene, Water	53.6063	47.8910	50.00	ND	107		76.0-125.0	
					11.3		30.0	
Xylenes (total), Water	147.458	131.231	150.0	ND	98		60.0-140.0	
					11.6		30.0	

MSD	Matrix Spike Duplicate	VS031904E	270473-7		03/23/2004	1503

Parameter/Test Description	QC Result	QC Result	True Value	Orig. Value	Calc. Result	*	Limits	F
Benzene, Water	41.9731	44.9573	50.00	ND	84		65.0-125.0	
					6.9		30.0	
Chlorobenzene, Water	57.4490	60.2032	50.00	ND	115		74.0-122.0	
					4.7		30.0	
1,2-Dichloroethane, Water	49.7601	52.0068	50.00	ND	100		60.0-140.0	
					4.4		30.0	
Ethylbenzene, Water	55.3332	59.0748	50.00	ND	111		60.0-140.0	
					6.5		30.0	
Methylene Chloride, Water	41.8777	45.7127	50.00	ND	84		60.0-140.0	
					8.8		30.0	
Toluene, Water	54.0497	57.4455	50.00	ND	108		76.0-125.0	
					6.1		30.0	
Xylenes (total), Water	164.460	175.064	150.0	ND	110		60.0-140.0	
					6.2		30.0	

PB	Prep. Blank	VS031904C		20.00000	03/23/2004	1154

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

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

123

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 270473 Report Date.: 04/07/2004

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

Method.....: Volatile Organics Method Code...: 8260 Prep Batch....:
Batch(s).....: 96367 Test Matrix...: Water Equipment Code: GCMSVOA07

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
270437- 5	MS	MW18	03/22/2004	77.1	114.4	80.0	98.4
270437- 5	MSD	MW18	03/22/2004	74.4	115.5	79.3	101.2
270473- 1		MW-3-1SA04	03/22/2004	71.5	104.7	78.4	100.0
270473- 2		MW-2-1SA04	03/22/2004	73.7	111.6	78.4	98.2
270473- 3		MW-01A-1SA04	03/22/2004	71.2	101.7	75.4	94.5
270473- 4		P-12-1SA04	03/22/2004	74.8	110.1	81.1	104.3
270473- 5		P-11-1SA04	03/23/2004	120.1	98.1	119.7	104.8
270473- 6		P-11 MS-1SA04	03/23/2004	88.2	110.8	88.6	115.0
270473- 6	MS	P-11 MS-1SA04	03/23/2004	88.2	110.8	88.6	115.0
270473- 7		P-11 MSD-1SA04	03/23/2004	84.2	109.7	87.0	108.9
270473- 7	MSD	P-11 MSD-1SA04	03/23/2004	84.2	109.7	87.0	108.9
270473- 8		FB-031704-1SA04	03/22/2004	71.3	103.7	77.7	95.1
270473- 9		TB02-1SA04	03/22/2004	72.9	106.0	78.4	93.9
963671--21	LCS		03/22/2004	78.5	111.1	78.4	99.8
963671--21	MB		03/22/2004	96.8	105.1	95.5	98.3
963672--21	LCS		03/23/2004	99.4	114.1	98.2	120.6
963672--21	MB		03/23/2004	118.1	99.2	119.9	105.2

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

Method.....: Volatile Organics Method Code...: 8260 Prep Batch....:
Batch(s).....: 96367 Test Matrix...: TCLP Equipment Code: GCMSVOA07

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
96237--21	PB		03/23/2004	114.8	88.4	118.6	106.3

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 270473 Report Date.: 04/07/2004

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

Method.....: Semivolatile Organics, Low Level Method Code...: 8270LL Prep Batch....: 96170
Batch(s).....: 97017 Test Matrix...: Water Equipment Code: EGCMS07

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	2FLUPH	NITRD5	PHEND6	TERD14
270473- 1		MW-3-1SA04	03/24/2004	101.2	71.2	33.3	72.1	23.8	86.7
270473- 1		MW-3-1SA04	03/26/2004	89.2	91.4	27.7	80.6	27.9	106.0
270473- 2		MW-2-1SA04	03/24/2004	120.4	70.9	32.4	68.9	22.7	96.3
270473- 3		MW-01A-1SA04	03/24/2004	120.3	83.6	41.2	85.1	21.8	92.7
270473- 4		P-12-1SA04	03/24/2004	116.2	64.8	38.3	76.7	26.5	100.0
270473- 5		P-11-1SA04	03/24/2004	143.7K	99.2	49.8	90.1	32.0	108.6
270473- 5		P-11-1SA04	03/26/2004	110.2	108.5	31.9	95.8	36.3	126.1
270473- 6		P-11 MS-1SA04	03/24/2004	142.4d	96.8	40.1	84.0	33.0	101.1
270473- 6		P-11 MS-1SA04	04/01/2004	112.9	89.3	48.0	92.1	35.4	94.6
270473- 6	MS	P-11 MS-1SA04	03/24/2004	142.4K	96.8	40.1	84.0	33.0	101.1
270473- 7		P-11 MSD-1SA04	03/24/2004	136.1d	96.5	49.4	90.0	33.9	97.3
270473- 7		P-11 MSD-1SA04	04/01/2004	100.4	88.0	46.1	87.1	30.7	82.2
270473- 7	MSD	P-11 MSD-1SA04	03/24/2004	136.1K	96.5	49.4	90.0	33.9	97.3
270473- 8		FB-031704-1SA04	03/24/2004	81.3	75.3	44.5	84.1	29.2	93.5
270487- 5	MS	MW-17C MS - RFI	03/26/2004	108.9	96.9	63.7	102.3	35.4	103.7
270487- 6	MSD	MW-17C MSD - RFI	03/26/2004	109.2	97.8	35.6	107.4	62.7	96.5
961701--21	LCS		03/24/2004	136.2K	98.3	49.7	93.4	37.5	104.2
961701--21	MB		03/24/2004	130.1K	96.0	55.9	92.6	37.4	103.0

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

SURROGATE RECOVERIES REPORT

Job Number.: 270473 Report Date.: 04/07/2004

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

Method.....: Semivolatile Organics - SIM Analysis Method Code...: 8270SI Prep Batch....: 96171
Batch(s).....: 97046 Test Matrix...: Water Equipment Code: EGCMS08

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	NITRD5	TERD14
270473- 1		MW-3-1SA04	03/30/2004	67.8	61.3	67.6	78.2
270473- 2		MW-2-1SA04	03/30/2004	76.2	64.2	68.2	85.3
270473- 3		MW-01A-1SA04	03/30/2004	81.8	60.9	82.5	84.2
270473- 4		P-12-1SA04	04/01/2004	87.1	73.8	71.1	87.3
270473- 5		P-11-1SA04	04/01/2004	97.1	88.4	82.3	98.3
270473- 6		P-11 MS-1SA04	03/30/2004	30.3	82.3	83.9	93.8
270473- 6	MS	P-11 MS-1SA04	03/30/2004	30.3	82.3	83.9	93.8
270473- 7		P-11 MSD-1SA04	03/30/2004	22.6	82.8	77.7	97.5
270473- 7	MSD	P-11 MSD-1SA04	03/30/2004	22.6	82.8	77.7	97.5
270473- 8		FB-031704-1SA04	04/02/2004	68.9	77.3	69.6	85.6
270487- 5	MS	MW-17C MS - RFI	03/27/2004	99.3	90.6	114.2A	86.8
270487- 6	MSD	MW-17C MSD - RFI	03/27/2004	82.0	80.5	29.7A	85.5
961711--21	LCS		03/26/2004	81.3	80.0	79.0	85.0
961711--21	MB		03/26/2004	92.7	92.2	92.8	92.2

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

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 04/07/2004

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.

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

QUALITY ASSURANCE METHODS
REFERENCES AND NOTES

Report Date: 04/07/2004

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 - 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.

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
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
MD - Method Duplicate
MDL - Method Detection Limit
MS - Matrix Spike

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 04/07/2004

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
DU - Duplicate

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.

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

LABORATORY CHRONICLE

Job Number: 270473 Date: 04/07/2004

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

Lab ID: 270473-1 Client ID: MW-3-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
	Data Package Validation	1	97400		04/07/2004 0000	
	Electronic Data Deliverables	1				
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96171		03/19/2004 1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96170		03/19/2004 1100	
	GC/MS Semi-Volatile Package Production	1	97103		04/02/2004 0000	
	GC/MS Volatiles Data Package Production	1	96373		03/24/2004 1300	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	03/30/2004 2045	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004 1155	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/26/2004 1543	4.00000
SW-846 8260B	Volatile Organics	1	96367		03/22/2004 2150	1.00000

Lab ID: 270473-2 Client ID: MW-2-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96171		03/19/2004 1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96170		03/19/2004 1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	03/30/2004 2115	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004 1225	1.00000
SW-846 8260B	Volatile Organics	1	96367		03/22/2004 1942	1.00000

Lab ID: 270473-3 Client ID: MW-01A-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96171		03/19/2004 1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96170		03/19/2004 1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	03/30/2004 2144	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004 1255	1.00000
SW-846 8260B	Volatile Organics	1	96367		03/22/2004 2007	1.00000

Lab ID: 270473-4 Client ID: P-12-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96171		03/19/2004 1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96170		03/19/2004 1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	04/01/2004 0102	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004 1325	1.00000
SW-846 8260B	Volatile Organics	1	96367		03/22/2004 2033	1.00000

Lab ID: 270473-5 Client ID: P-11-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96171		03/19/2004 1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96170		03/19/2004 1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	04/01/2004 0033	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004 1024	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/26/2004 1513	5.00000
SW-846 8260B	Volatile Organics	1	96367		03/23/2004 1315	1.00000

Lab ID: 270473-6 Client ID: P-11 MS-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96170		03/19/2004 1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96171		03/19/2004 1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	03/30/2004 1426	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004 1054	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	04/01/2004 2016	5.00000
SW-846 8260B	Volatile Organics	1	96367		03/23/2004 1409	1.00000

Lab ID: 270473-7 Client ID: P-11 MSD-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96170		03/19/2004 1100	

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

SEVERN TRENT STL

LABORATORY CHRONICLE

Job Number: 270473 Date: 04/07/2004

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

Lab ID: 270473-7 Client ID: P-11 MSD-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96171		03/19/2004	1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	03/30/2004	1455	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004	1124	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	04/01/2004	2046	5.00000
SW-846 8260B	Volatile Organics	1	96367		03/23/2004	1503	1.00000

Lab ID: 270473-8 Client ID: FB-031704-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 3510C	Extraction (Sep. Funnel) SVOC - SIM	1	96171		03/19/2004	1100	
SW-846 3510C	Extraction (Sep. Funnel) SVOC Low Level	1	96170		03/19/2004	1100	
SW-846 8270C	Semivolatile Organics - SIM Analysis	1	97046	96171	04/02/2004	1220	1.00000
SW-846 8270C	Semivolatile Organics, Low Level	1	97017	96170	03/24/2004	1355	1.00000
SW-846 8260B	Volatile Organics	1	96367		03/22/2004	2058	1.00000

Lab ID: 270473-9 Client ID: TB02-1SA04 Date Recvd: 03/18/2004 Sample Date: 03/17/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
SW-846 8260B	Volatile Organics	1	96367		03/22/2004	2124	1.00000

6310 Rothway Drive • Houston, TX 77040 • Tel: 713 690 4444 • Fax: 713 690 5646 • www.stl-inc.com

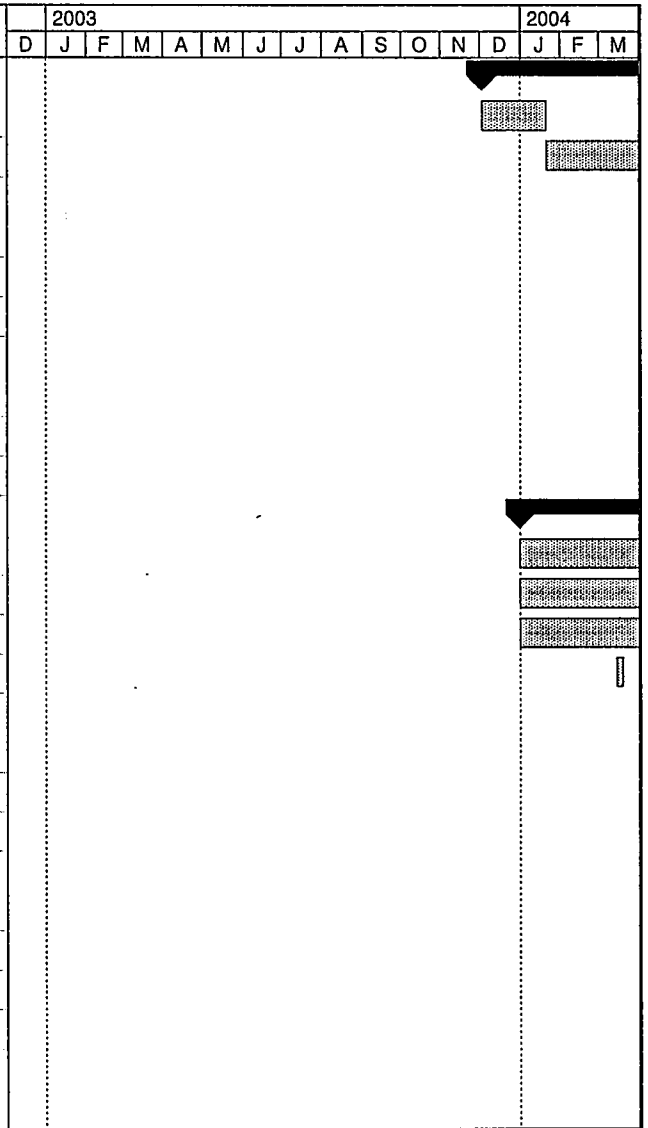
Updated Compliance Schedule

Appendix D

July 21, 2004
Project No. 0014419

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

ID	Task Name/Permit or CP Section No.	Start	Finish
1	**Addendum to RFI Report {Permit VIII.I}**	**12/3/03**	**10/12/04**
2	Field Investigation Activities	12/3/03	1/21/04
3	Prepare and Submit Affected Property Assessment Report (APAR)	1/22/04	6/11/04
4	TCEQ Review Process	6/14/04	10/12/04
5	**Corrective Measures Study {Permit VIII.I and CP IX}**	**10/13/04**	**10/13/04**
6	Not Required under the Texas Risk Reduction Program (TRRP) for RCRA sites	10/13/04	10/13/04
7	**Corrective Measures Implementation {Permit VIII.J and CP X}**	**10/13/04**	**11/10/05**
8	Prepare and Submit Response Action Plan (RAP)	10/13/04	2/10/05
9	TCEQ Review Process	2/11/05	5/12/05
10	Implement Corrective Action	5/13/05	8/11/05
11	Prepare and Submit Corrective Measures Report (RAER/RACR/PRACR)	8/12/05	11/10/05
12	**Compliance Activities {Permit IV,C and CP VI}**	**1/1/04**	**12/31/04**
13	Impoundment Inspections (Weekly)	1/1/04	12/31/04
14	Water Level Measurements (Semiannually)	1/1/04	12/31/04
15	Monitor Well Inspections (Quarterly)	1/1/04	12/31/04
16	Ground Water Sampling (First Semiannual)	3/15/04	3/19/04
17	Ground Water Sampling (Second Semiannual)	9/13/04	9/17/04
18	**Post-Closure Care Reporting**	**4/19/04**	**1/20/05**
19	**Semiannual Report - July 21, 2004 {CP VII.B.2}**	**4/19/04**	**7/20/04**
20	Perform Data Evaluation	4/19/04	7/19/04
21	Submit Report to TCEQ	7/20/04	7/20/04
22	**Semiannual Report - January 21, 2005 {CP VII.B.2}**	**10/18/04**	**1/20/05**
23	Perform Data Evaluation	10/18/04	1/19/05
24	Submit Report to TCEQ	1/20/05	1/20/05
25	**2004 Annual Report - January 25, 2005 {Permit V.F and III.B.1}**	**12/1/04**	**1/25/05**
26	Perform Data Evaluation	12/1/04	1/24/05
27	Submit Report to TCEQ	1/25/05	1/25/05

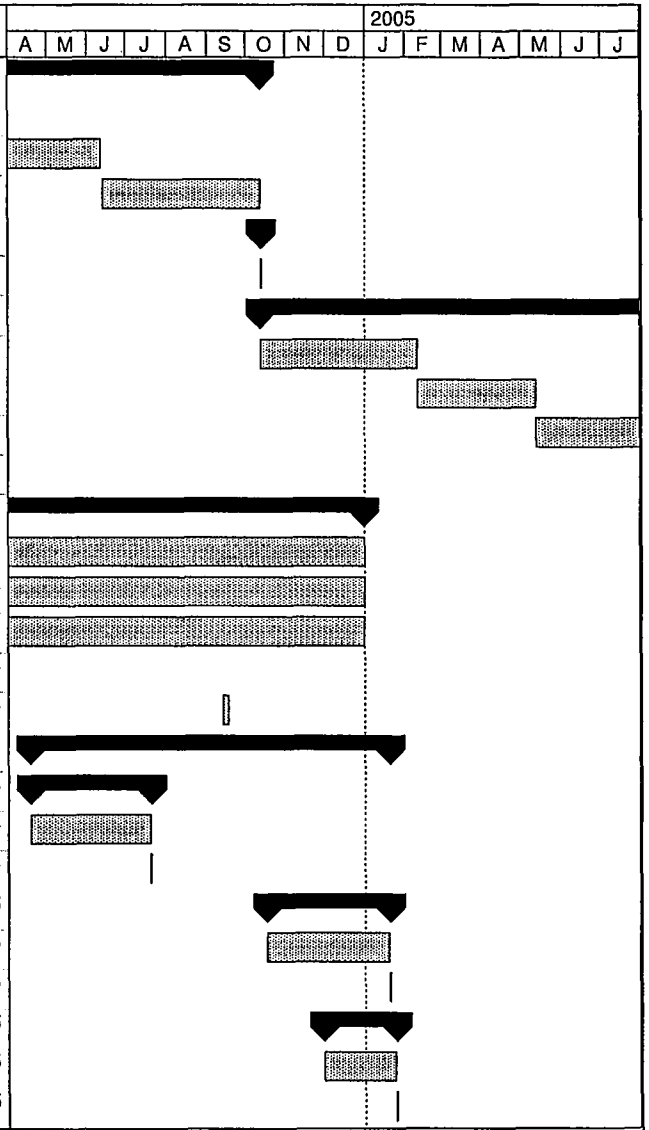


Compliance Schedule
UPRR Houston Wood Preserving Works Site
Houston, Texas

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

G:\2004\006287\0014419\5706Hsch.mpp

ID	Task Name/Permit or CP Section No.	Start	Finish
1	**Addendum to RFI Report {Permit VIII.I}**	**12/3/03**	**10/12/04**
2	Field Investigation Activities	12/3/03	1/21/04
3	Prepare and Submit Affected Property Assessment Report (APAR)	1/22/04	6/11/04
4	TCEQ Review Process	6/14/04	10/12/04
5	**Corrective Measures Study {Permit VIII.I and CP IX}**	**10/13/04**	**10/13/04**
6	Not Required under the Texas Risk Reduction Program (TRRP) for RCRA sites	10/13/04	10/13/04
7	**Corrective Measures Implementation {Permit VIII.J and CP X}**	**10/13/04**	**11/10/05**
8	Prepare and Submit Response Action Plan (RAP)	10/13/04	2/10/05
9	TCEQ Review Process	2/11/05	5/12/05
10	Implement Corrective Action	5/13/05	8/11/05
11	Prepare and Submit Corrective Measures Report (RAER/RACR/PRACR)	8/12/05	11/10/05
12	**Compliance Activities {Permit IV,C and CP VI}**	**1/1/04**	**12/31/04**
13	Impoundment Inspections (Weekly)	1/1/04	12/31/04
14	Water Level Measurements (Semiannually)	1/1/04	12/31/04
15	Monitor Well Inspections (Quarterly)	1/1/04	12/31/04
16	Ground Water Sampling (First Semiannual)	3/15/04	3/19/04
17	Ground Water Sampling (Second Semiannual)	9/13/04	9/17/04
18	**Post-Closure Care Reporting**	**4/19/04**	**1/20/05**
19	**Semiannual Report - July 21, 2004 {CP VII.B.2}**	**4/19/04**	**7/20/04**
20	Perform Data Evaluation	4/19/04	7/19/04
21	Submit Report to TCEQ	7/20/04	7/20/04
22	**Semiannual Report - January 21, 2005 {CP VII.B.2}**	**10/18/04**	**1/20/05**
23	Perform Data Evaluation	10/18/04	1/19/05
24	Submit Report to TCEQ	1/20/05	1/20/05
25	**2004 Annual Report - January 25, 2005 {Permit V.F and III.B.1}**	**12/1/04**	**1/25/05**
26	Perform Data Evaluation	12/1/04	1/24/05
27	Submit Report to TCEQ	1/25/05	1/25/05



Compliance Schedule
UPRR Houston Wood Preserving Works Site
Houston, Texas

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

G:\2004\006287\0014419\5706Hsch.mpp