K. R. (KEN) WELCH
Assistant Vice President
Environmental Management

Mailing Address:
Room 930
1416 Dodge Street
Omaha, Nebraska 68179
Fax No. (402) 271-4461

UNION PACIFIC RAILROAD COMPANY

G. (GLENN) THOMAS
Director-Environmental Operations South
S. W. (STEVE) BERKI
Director-Environmental Operations-Central
L. A. (LANNY) SCHMID
Director-Environmental Operations-West
B. A. (BROCK) NELSON
Director-Environmental Operations-North
R. L. (RICK) EADES
Director-Environmental Site Remediation

January 20, 1998

Dr. Ata-ur-Rahman
Permits Section
Industrial & Hazardous Waste Division
Texas Natural Resource Conservation Commission
12100 Park 35 Circle
Building A, Room 122
MC 130
Austin, Texas 78753

Subject: Transmittal, Second Semiannual Report - July 1, 1997 through December 31, 1997, Houston Wood Preserving Works Site, Houston, Texas

Dear Dr. Rahman:

Pursuant to Compliance Plan No. CP-50343, issued in conjunction with Post-Closure Care Permit No. HW-50343-000, please find enclosed two copies of the referenced report. Please note that engineering management of the site changed from Terranext to ERM-Southwest, Inc. on August 1, 1997. We are pleased to introduce ERM to you as part of this transition. If you have any questions regarding the enclosed report, please call me at (402) 271-5979.

Sincerely,

UNION PACIFIC RAILROAD

Ed Honig, P.E.
Environmental Site Remediation Manager

EHH/
Enclosure

cc: Ray Risner, TNRCC - Austin
Marsha Hill, TNRCC Region 12 - Houston
Allyn Davis, EPA Region VI - Dallas
Thomas Whitehurst, ERM-Southwest, Inc.

A MEMBER OF THE ENVIRONMENTAL RESOURCES MANAGEMENT GROUP

Semiannual Monitoring Report: Second Semiannual Event 1997

Southern Pacific Transportation Company
Houston Wood Preserving Works
Houston, Texas

January 20, 1998
W.O. #422-09

ERM-SOUTHWEST, INC.
16300 Katy Freeway, Suite 300
Houston, Texas 77094-1611
(281) 578-8999

ERM®

Semiannual Monitoring Report:
Second Semiannual Event 1997

Southern Pacific Transportation Company
Houston Wood Preserving Works
Houston, Texas

Christopher E. Wenaas, E.I.T.

January 20, 1998

W.O. #422-09

Thomas D. Pacioni, P.G.

Thomas M. Whitehurst, P.G.
Principal-in-Charge

ERM-SOUTHWEST, INC.
16300 Katy Freeway, Suite 300
Houston, Texas 77094-1611
(281) 579-8999

TABLE OF CONTENTS

1.0 INTRODUCTION

1.1 BACKGROUND

On September 24 and 25, 1997, ERM-Southwest, Inc. (ERM) conducted ground water sampling operations at Southern Pacific Transportation Company's Houston Wood Preserving Works (HWPW) site, located at 4910 Liberty Road, Houston, Texas (Figure 1-1). This semiannual sampling event included all of the on-site wells and piezometers associated with a closed surface impoundment (TNRCC Permit Unit No. II.B.1) as described in the RCRA Permit No. HW-50343-000 (the Permit) and associated Compliance Plan (CP-50343), both issued by the Texas Natural Resource Commission (TNRCC). The sampling event, analytical data, and this data evaluation report represent the second semiannual monitoring period for 1997 (i.e., July 1 through December 31) and fulfill the semiannual reporting requirements defined in Compliance Plan Provision VII.B.2.

1.2 REPORT CONTENT AND ORGANIZATION

Provision VII.B.2 of the Compliance Plan requires that a specific list of items be included in each Semiannual Report. As such, each item listed below is addressed by number in Section 2 of this report. As of December 31, 1997, a recovery system had not been installed at this facility. Therefore, in the few instances where a provision refers to a recovery system (i.e., items 5, 7, and 11), a notation was made in the text and the items, as they relate to recovery wells, were not addressed in this report. The following items are required for the Semiannual Report, pursuant to CP Provision VII.B.2:

1. A narrative summary of the evaluations made in accordance with Sections V, VI, and VII of this Compliance Plan for the preceding six (6) 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. 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 (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 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 of Table III with regard to compliance with the Corrective Action objectives and compliance with the Ground-water Protection Standards;

9. Maps of the contaminated area depicting concentrations of Naphthalene, Acenaphthene, and total 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 *SECOND SEMIANNUAL GROUND WATER SAMPLING EVENT*

This section contains a discussion of each of the Semiannual Report items required by CP Provision VII.B.2.

2.1 *NARRATIVE SUMMARY OF SECOND SEMIANNUAL ACTIVITIES*

CP Provision VII.B.2.a requires a narrative summary of the evaluations made in accordance with Sections V, VI, and VII of the Compliance Plan. 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.

2.1.1 *Corrective Action Program*

For simplicity and organizational reasons, the nomenclature used to designate strata has been modified somewhat from that used in previous reports. The native cohesive and transmissive zones underlying the site have been re-designated alphabetically from shallowest to deepest. For example, the shallowest or uppermost transmissive zone (formerly called the Upper Transmissive Zone, or UTZ) is referred to as the A-Transmissive Zone, or A-TZ.

Existing wells were sampled to evaluate the extent of affected ground water in the A-Transmissive Zone (A-TZ) and the B-Transmissive Zone (B-TZ). The definition of the A-TZ and B-TZ is consistent with the UTZ and STZ defined in CP Provision I.A.

- 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.

Existing monitoring wells in the A-TZ, designated by function in CP Table III (Appendix A), include the Corrective Action Observation (CAO) wells MW-04, MW-05, MW-07, MW-08, and MW-09, and the Point of Compliance (POC) wells MW-01A, MW-02, MW-03, MW-10A, and MW-11A. Existing monitoring wells in the B-TZ include the POC wells MW-10B and MW-11B, and the POC piezometers P-10, P-11, and P-12.

2.1.2 *Ground Water Monitoring*

ERM personnel completed monitoring activities at the site on September 24 and 25, 1997. The 15 A-TZ and B-TZ wells and piezometers listed in Section 2.1.1 were located and inspected in preparation for the sampling event.

Ground water sampling was performed using procedures outlined in an 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 which drew a sample directly from the screened interval of the well.

Dedicated polyethylene tubing was prepared for each well by cutting a length of tubing such that one end would hang at the center of the screened interval. Several extra feet were included in each length allowing the tubing to reach a peristaltic pump sitting next to the well. Once placed in the well, the tubing was left in place for subsequent sampling events.

A Master-Flex® peristaltic pump was placed next to each well during sampling. Using a one-foot section of disposable silicon Redi-Flo® tubing placed around the pump head and attached to the dedicated polyethylene tubing, ground water was pumped from the screened interval of the well at a flow rate of about 0.5 L/min. A one-liter Pyrex® measuring cup was used to collect purge water in one liter increments to evaluate field parameters (temperature, pH, specific conductivity, and turbidity). When three successive readings indicated that the field parameters had stabilized, the well was sampled. A compilation of recorded field parameters is included as Appendix B to this report.

For each well, one – 250 mL polyethylene bottle, two – 40 mL glass volatile organic compound bottles, and two – 1000 mL amber glass semivolatile organic compounds bottles were filled directly from the sample tubing. The bottles, which had been previously preserved by the lab, were sealed and packed in coolers with sufficient ice to maintain a sample temperature of 4° C. The coolers were delivered to Pace Analytical Services, Inc. for analysis. Chain-of-Custody (COC) forms were completed and kept with their respective samples. Copies of the COCs are included with the analytical data in Appendix C.

2.2 *ANALYTICAL RESULTS*

The results of the chemical analyses performed on the A-TZ and B-TZ ground water samples taken during the second semiannual sampling event of 1997 are summarized in Tables 2-1 and 2-2, respectively. Those compounds reported by the laboratory to be above the Ground Water Protection Standard (GWPS) are indicated by shading on the tables. The Compliance Plan set the GWPS at the practical quantitation limit (PQL) for all compounds.

2.3 *WATER LEVEL AND TOTAL DEPTH MEASUREMENT*

Because low-flow sampling procedures were utilized for this sampling event, it was critical to minimize disruption of the water column prior to sampling. To accomplish this, water levels were measured on the afternoon of September 24, prior to sampling, using a Solinst® Model 101 electronic water level meter capable

of producing measurements to a depth of 100 feet with an accuracy of 0.01 feet. Since the meter came into contact with only the upper surface of the water column, disruption was minimized. Total depth measurements were collected following ground water sampling because the method required that a probe be dropped through the water column to the bottom of the well. Table 2-3 summarizes the results of the depth-to-water and total well depth measurements.

2.4 *POTENTIOMETRIC SURFACE MAPS*

The ground water elevation data described in Section 2.3 was used to create potentiometric surface maps of the A-TZ and B-TZ. The equipotential lines were generated by applying a linear Kriging algorithm to the data. Figure 2-1 and 2-2 show potentiometric surface maps of the A-TZ and B-TZ, respectively.

2.5 *POTENTIOMETRIC SURFACE MAPS FOR RECOVERY SYSTEM*

As of December 31, 1997, no recovery system had been installed at the closed surface impoundment. Therefore, this item was not addressed in this semiannual report.

2.6 *NON-AQUEOUS PHASE LIQUIDS*

The wells and piezometers were examined for the presence of non-aqueous phase liquids (NAPLs) after low-flow sampling was completed, in order to minimize disruption of the water column prior to sampling. An MMC® Model D-240 oil/water interface probe was used to detect light and heavy NAPLs. No NAPLs were detected in any of the wells sampled during this semiannual event.

2.7 *NAPL RECOVERIES*

As of December 31, 1997, no recovery system had been installed at the closed surface impoundment. Therefore, this item was not addressed in this semiannual report.

2.8 *ANALYTICAL DATA EVALUATION*

Section VI.D of the compliance plan describes two methods which may be used to determine the compliance status of a given well. The analytical results may either be directly compared to the GWPS (Table I in the Compliance Plan; included in Appendix A of this report), or may be statistically compared to the GWPS using the 99% significance level of the t-distribution. Table 2-4 shows the results of a direct comparison of second semiannual sampling data to the GWPS. Wells and piezometers were considered to be compliant if each of the constituents listed in Table I was reported at a concentration less than or equal to the Concentration Limit (i.e., the GWPS). Conversely, the wells and piezometers were considered non-compliant if one or more constituents were reported at concentrations above the Concentration Limit.

2.9 *BTEX, ACENAPHTHENE, AND NAPHTHALENE ISOPLETHS*

The concentration contours of these constituents were prepared using the data presented in Table 2-3. The contours were generated using a logarithmic Kriging method. Locations with reported non-detects were assigned a value equal to one-half of the reported detection limit.

A-TZ and B-TZ BTEX concentrations determined during the second semiannual sampling event of 1997 are illustrated in Figure 2-3 and 2-4, respectively. Similarly, acenaphthene and naphthalene isopleths are provided in Figures 2-5 through 2-8.

2.10 *UPDATED COMPLIANCE SCHEDULE*

An updated compliance schedule is included as Appendix D of this report.

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

No changes were made to the monitoring/corrective action program during the second semiannual period of 1997. No recovery wells or ground water recovery system is present on site. Accordingly, there were no recovery well inspections, repairs, or operations conducted. However, the POC and CAO wells were inspected twice during the semiannual monitoring period. Based on the results of the inspections, no repairs or corrective actions were warranted. A summary of the well inspections is included in the 1997 Annual Report.

2.12 *RECOMMENDATIONS FOR CHANGES*

At this time, no changes are recommended.

2.13 *OTHER REQUESTED ITEMS*

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

Figures

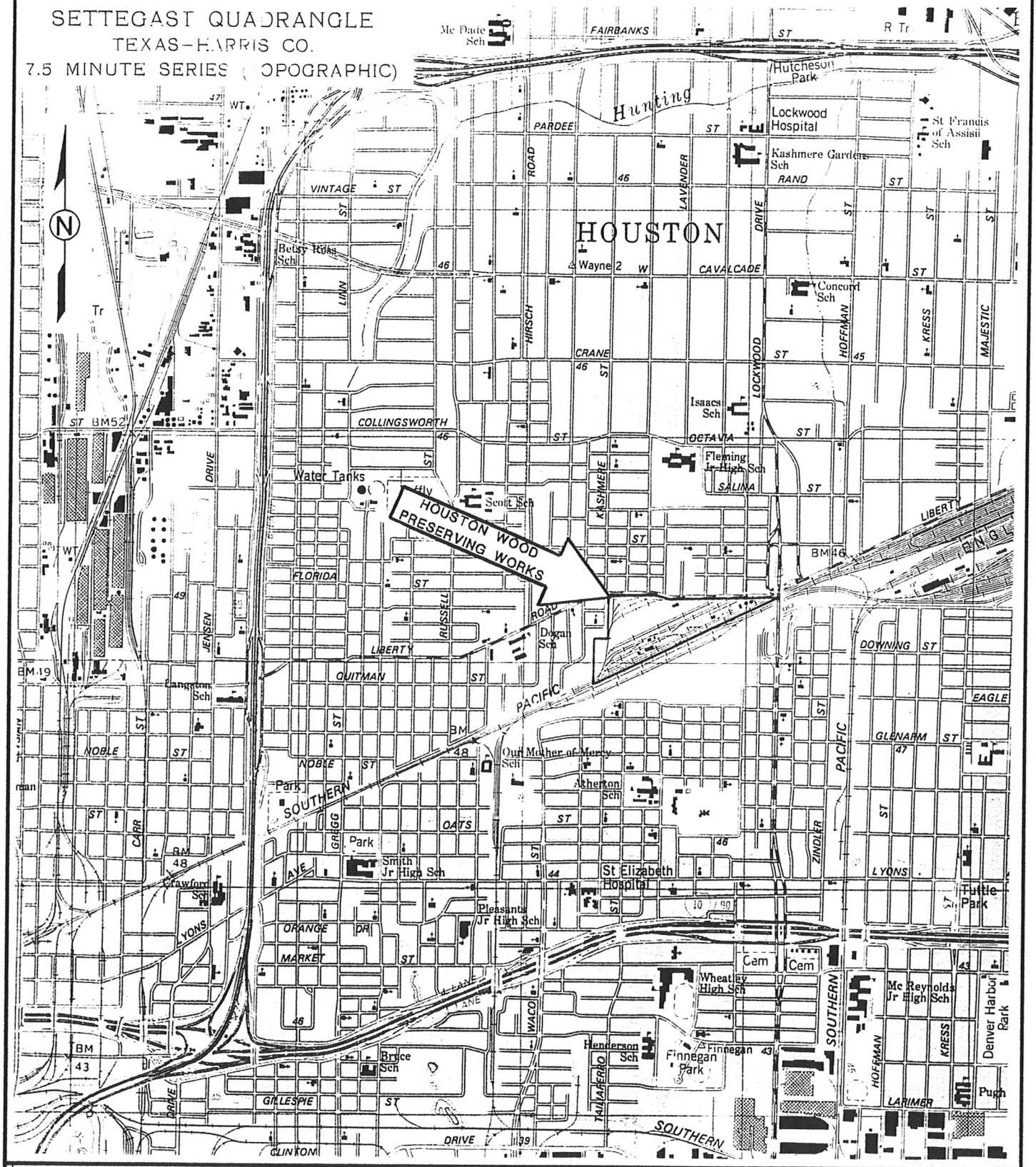

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FIGURE 1-1
SITE VICINITY MAP
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

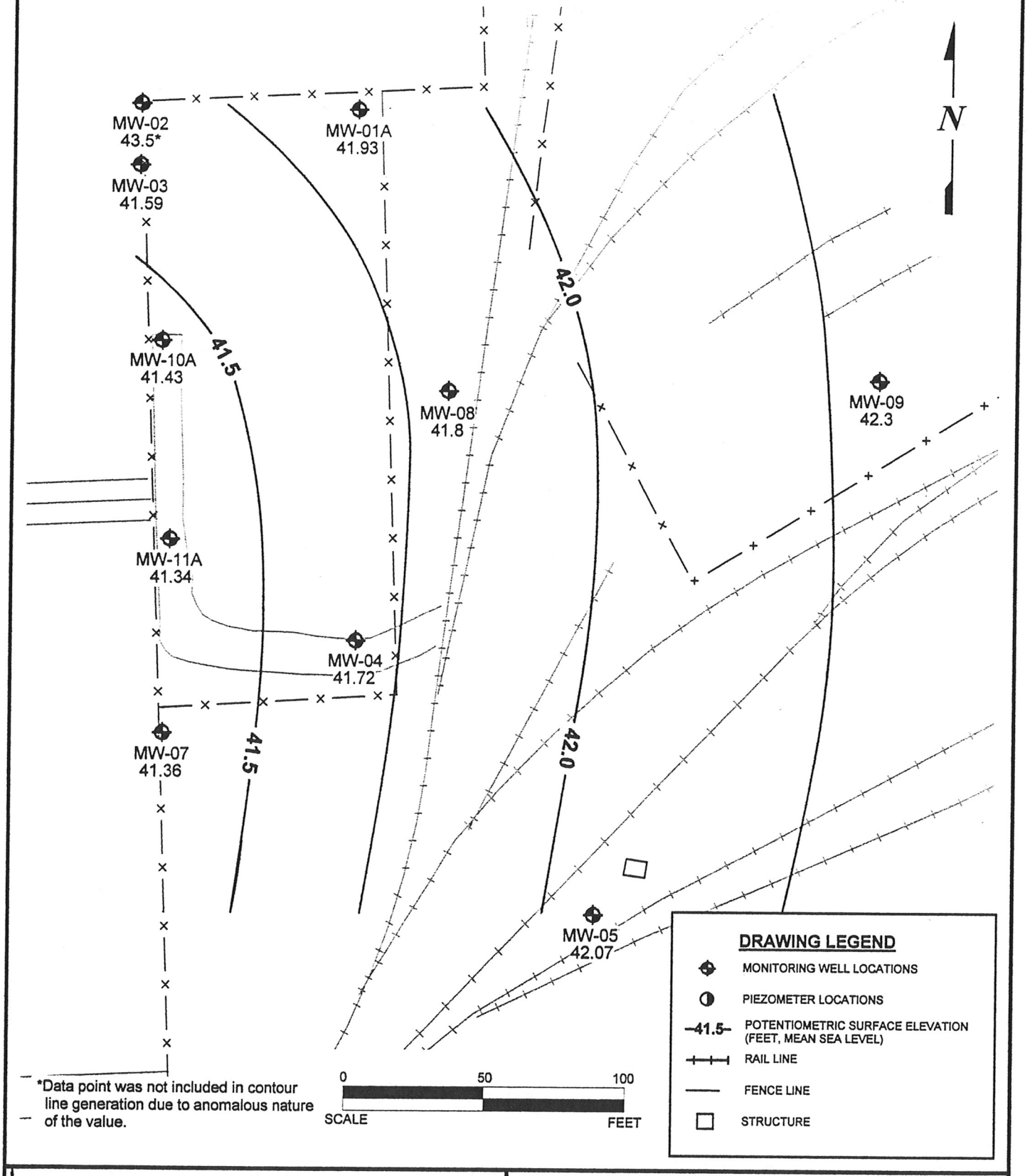

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FIGURE 2-1
A-TZ - POTENTIOMETRIC SURFACE
SEPTEMBER 24, 1997
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

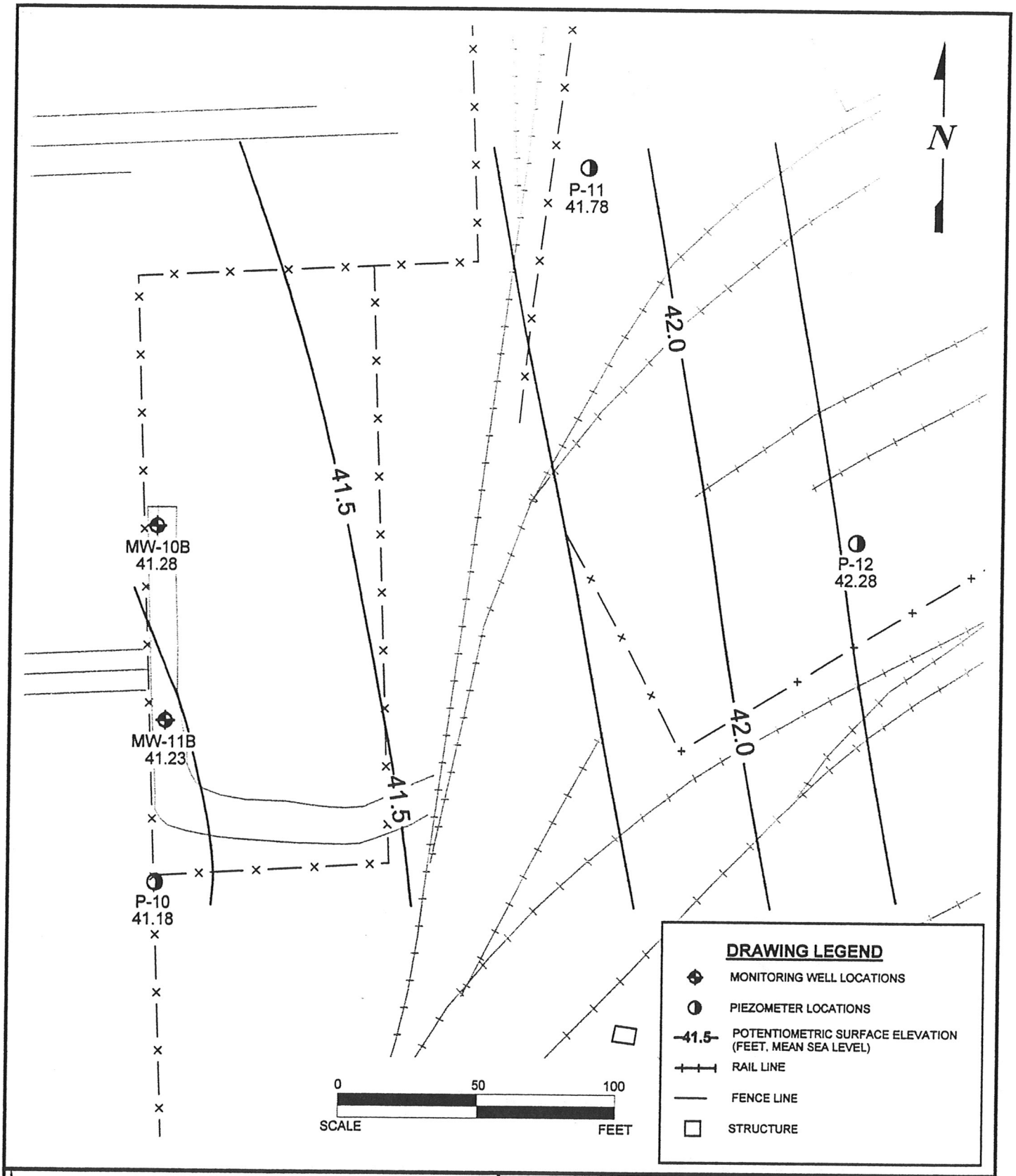

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FIGURE 2-2
B-TZ - POTENTIOMETRIC SURFACE
SEPTEMBER 25, 1997
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

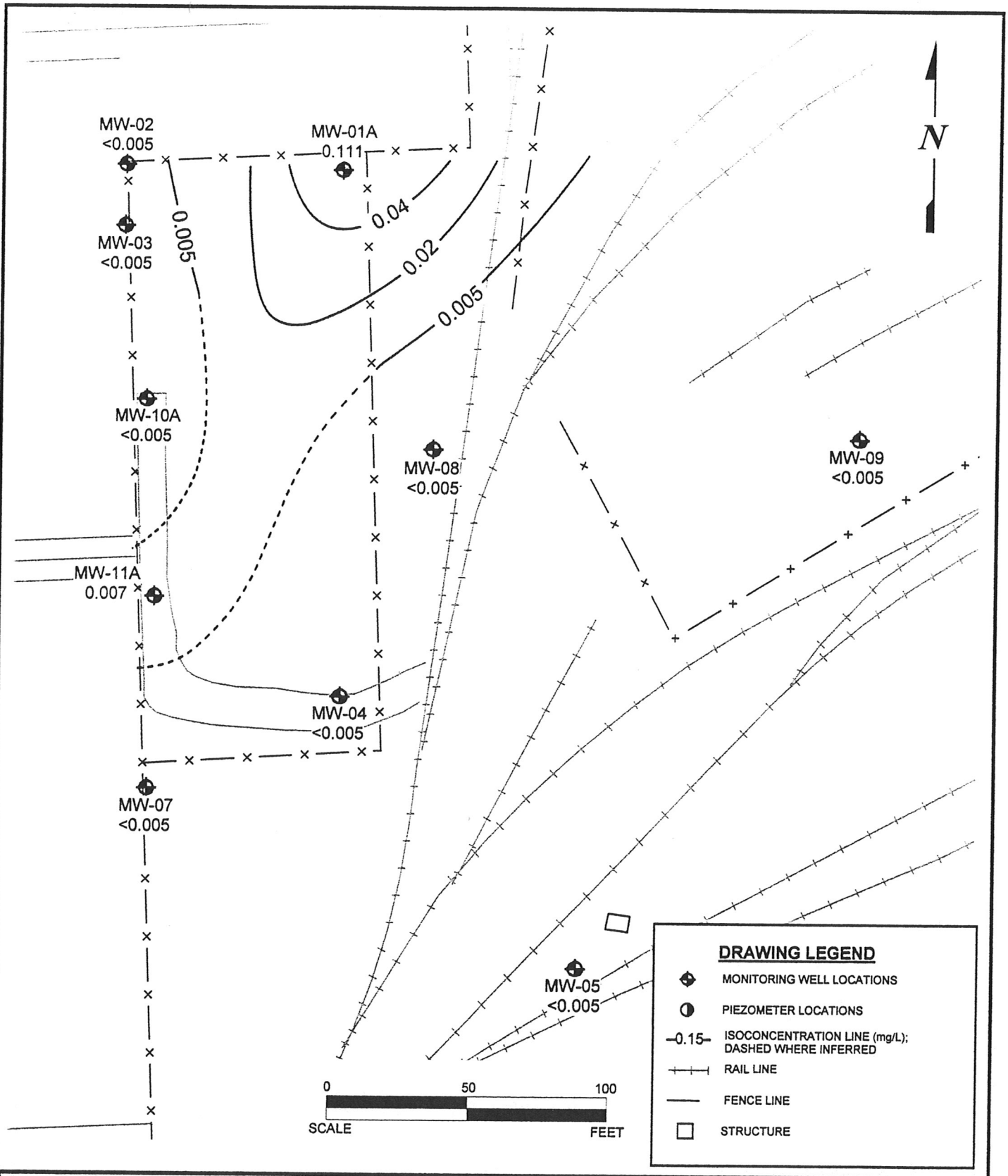

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FIGURE 2-3
TOTAL BTEX IN A-TZ GROUND WATER (mg/L)
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

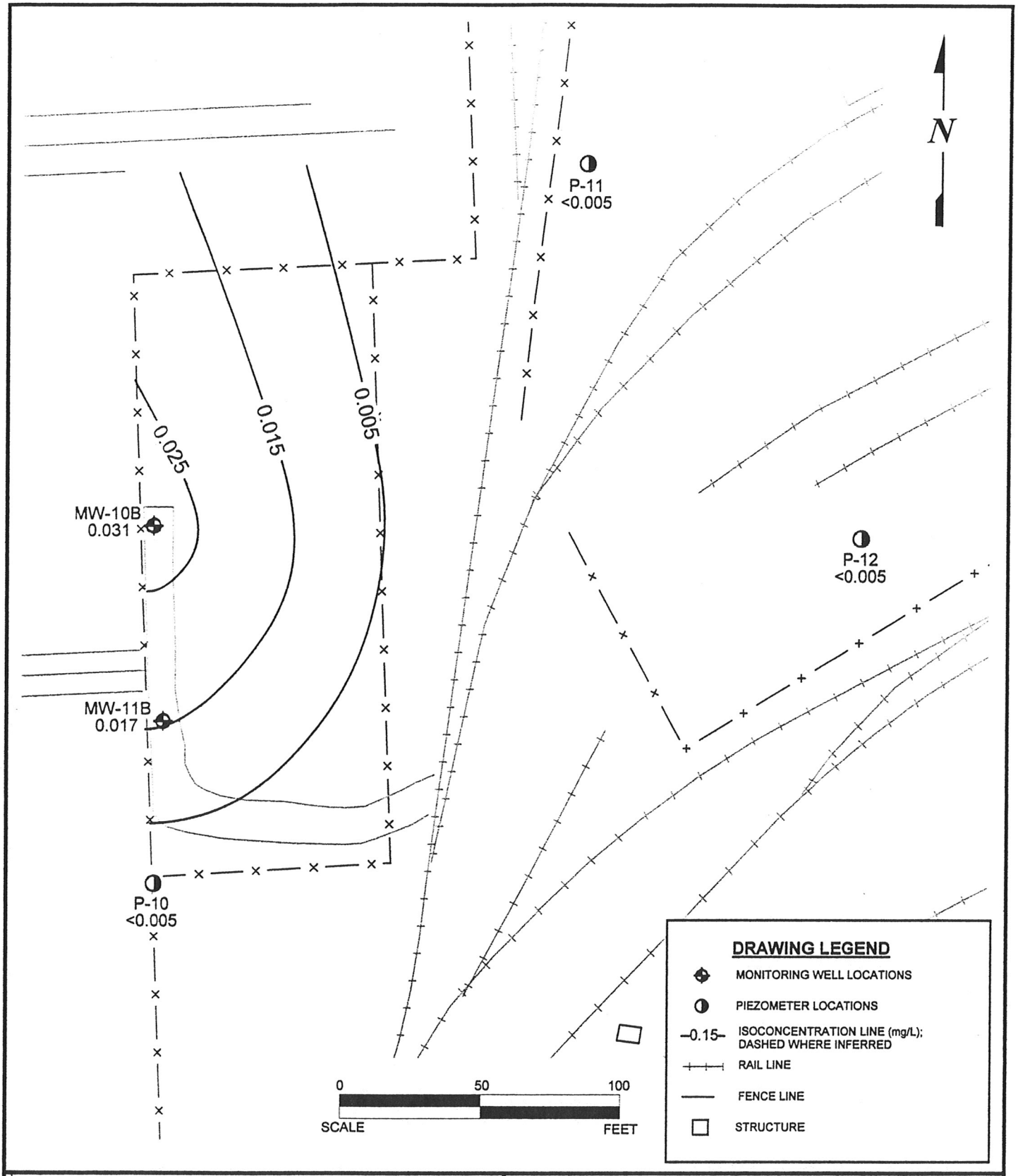

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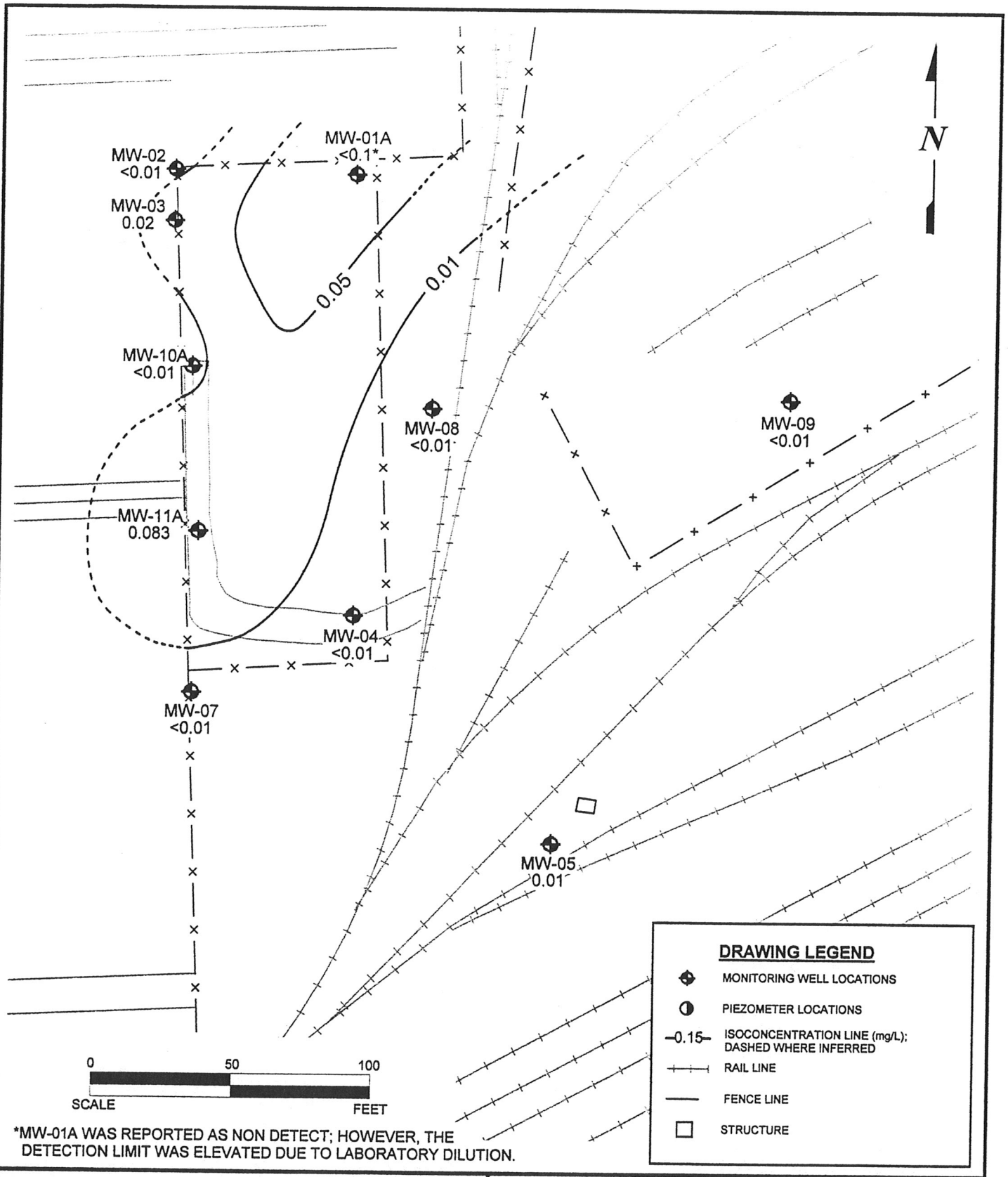
FIGURE 2-4
TOTAL BTEX IN B-TZ GROUND WATER (mg/L)
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS



*MW-01A WAS REPORTED AS NON DETECT; HOWEVER, THE DETECTION LIMIT WAS ELEVATED DUE TO LABORATORY DILUTION.

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FIGURE 2-5
ACENAPHTHENE IN A-TZ GROUND WATER (mg/L)
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

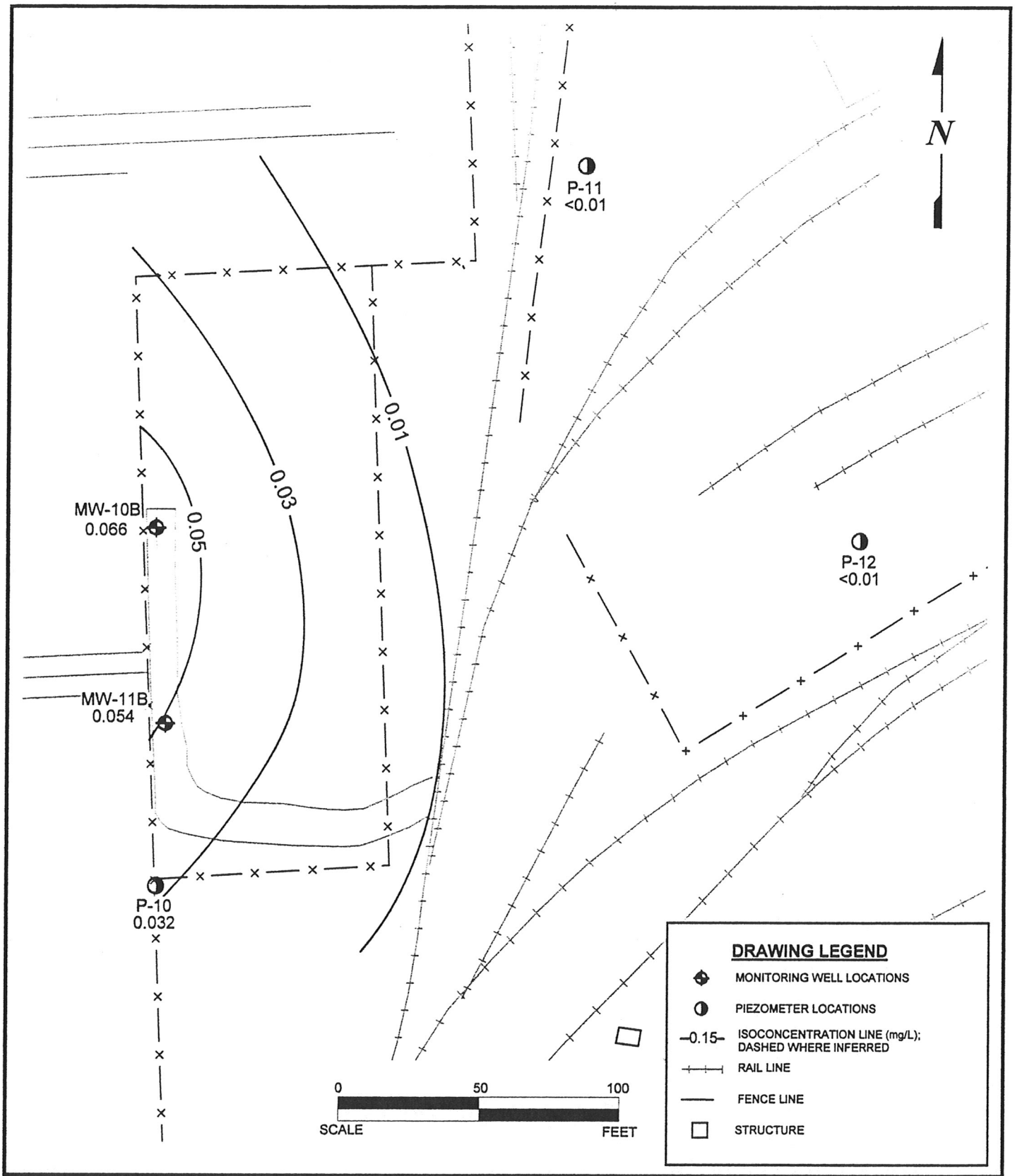

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FIGURE 2-6
ACENAPHTHENE IN B-TZ GROUND WATER (mg/L)
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

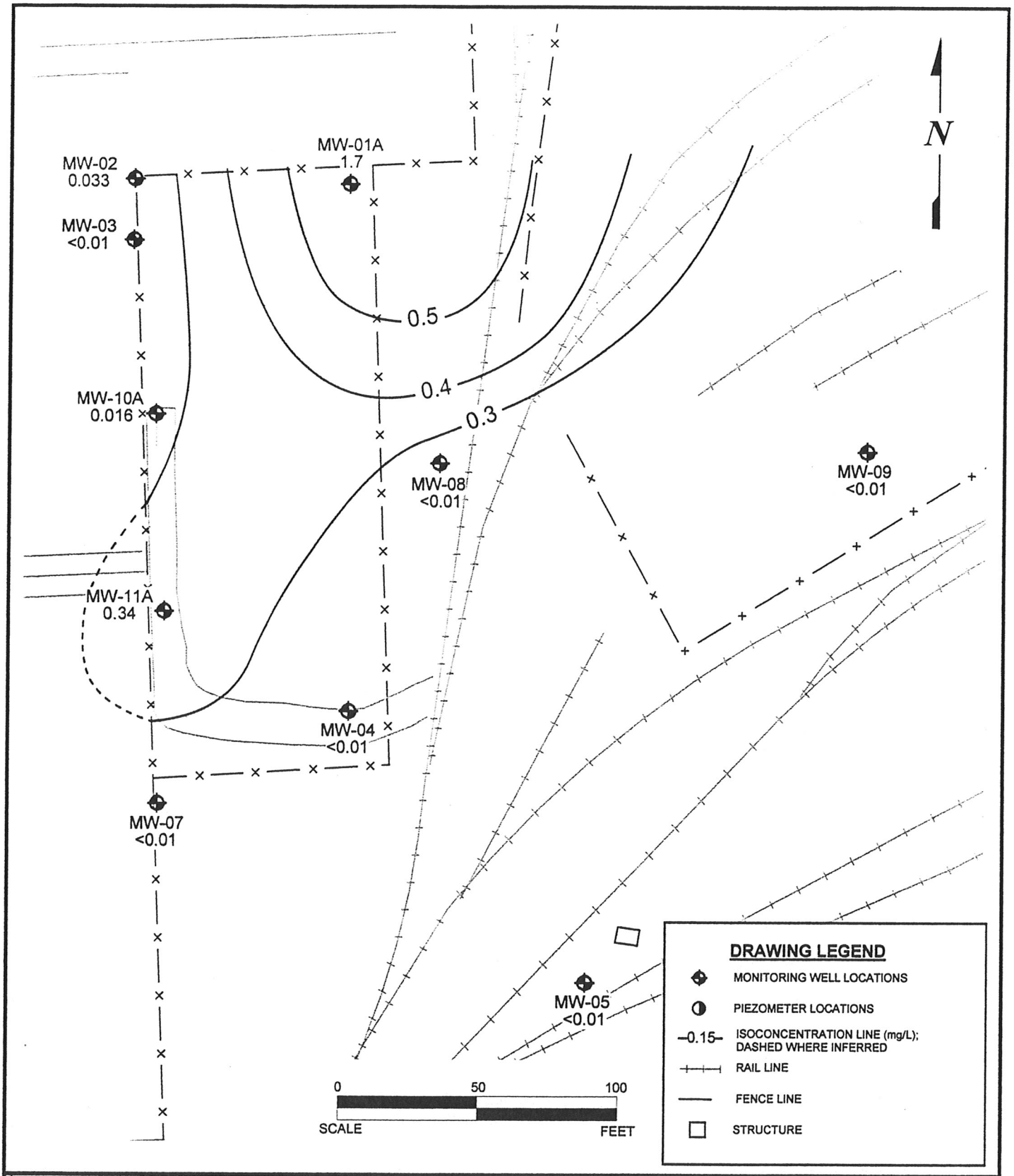

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FIGURE 2-7
NAPHTHALENE IN A-TZ GROUND WATER (mg/L)
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

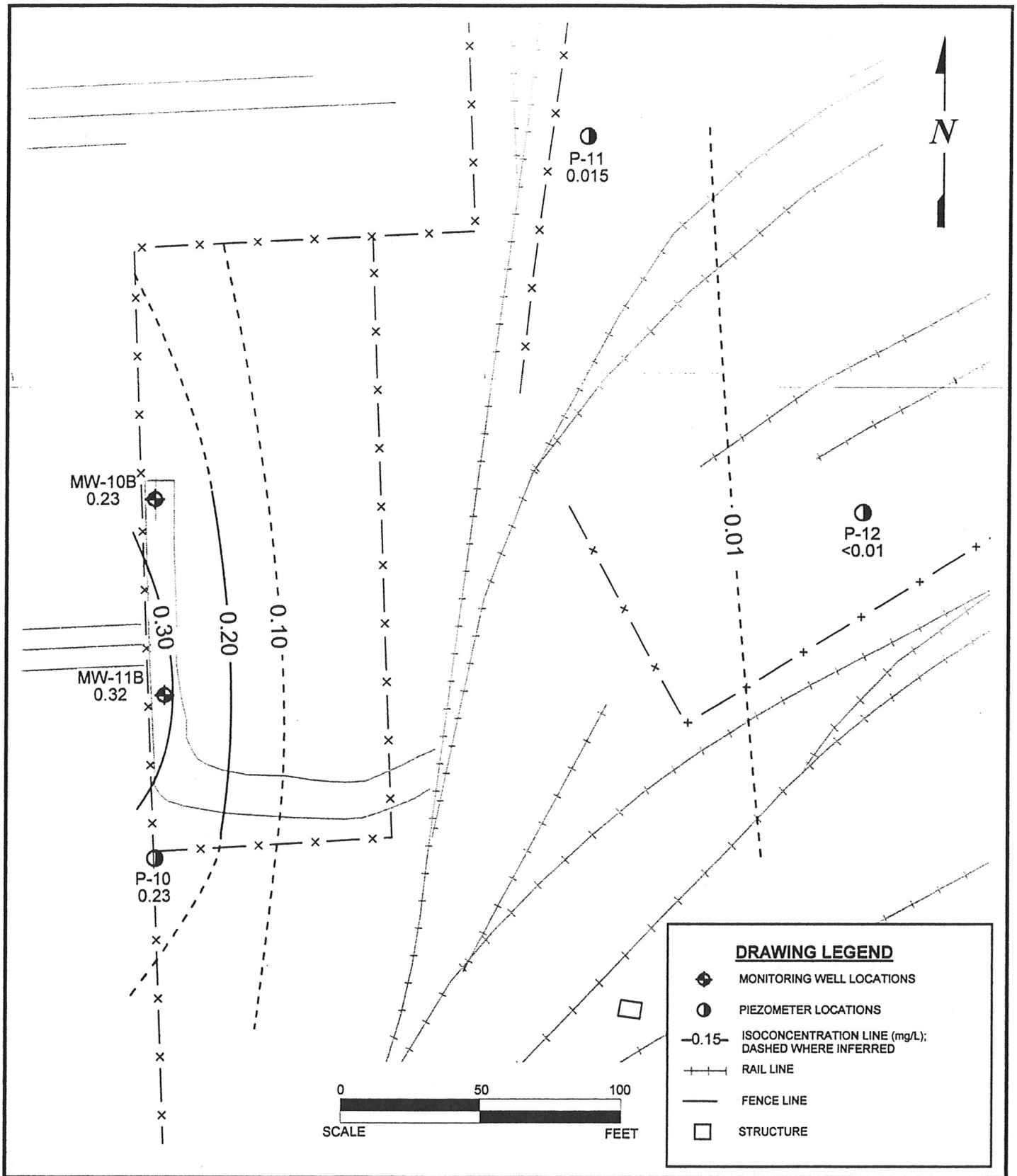

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FIGURE 2-8
NAPHTHALENE IN B-TZ GROUND WATER (mg/L)
TNRCC PERMIT UNIT No. II.B.1.
HOUSTON WOOD PRESERVING WORKS
HOUSTON, TEXAS

Tables

TABLE 2-1

Summary of Analytical Results for the A-Transmissive Zone (A-TZ)

2nd Semiannual Sampling Event, 1997
Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)[1]	MW-01A	MW-02	MW-03	MW-04	MW-05	MW-07	MW-08	MW-09	MW-10A	MW-11A
Benzene	0.005	***0.015***[2]	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	***0.038***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	***0.011***	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	0.005	***0.047***	ND	ND	ND	ND	ND	ND	ND	ND	***0.007***
Acenaphthene	0.010	ND[3]	ND	***0.020***	ND	***0.010***	ND	ND	ND	ND	***0.083***
Acenaphthylene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.010	ND[3]	ND	***0.015***	ND	ND	ND	ND	ND	ND	***0.037***
Di-n-butylphthalate	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	0.010	ND[3]	ND	***0.015***	ND	ND	ND	ND	ND	ND	***0.047***
2-Methylnaphthalene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	***0.011***
Naphthalene	0.010	***1.700***	***0.033***	ND	ND	ND	ND	ND	ND	***0.016***	***0.340***
Nitrobenzene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Nitrophenol	0.050	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.050	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	***0.018***
Phenol	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	0.010	ND[3]	ND	ND	ND	ND	ND	ND	ND	ND	ND

NOTES:

All values reported in mg/L. ND - Not detected at the Practical Quantitation Limit (PQL).

[1]PQL - *Practical Quanititation Limit* as defined on Table I of the Compliance Plan, and determined by the analytical methods of the EPA Publication SW-846, *Test Methods for Evaluating Solid Waste*, 3rd ed., November 1986, and as listed in the July 8, 1987 edition of the *Federal Register* and later editions. ***The PQL is the Ground Water Protection Standard.***

[2]Bold-italic indicates values reported above the Ground Water Protection Standard (GWPS).

[3]The compound was not detected but the reported detection limit was greater than the PQL.

BM590422-A98

TABLE 2-2

Summary of Analytical Results for the B-Transmissive Zone (B-TZ)

2nd Semiannual Sampling Event, 1997
Houston Wood Preserving Works
Houston, Texas

Analyte	PQL (GWPS)[1]	MW-10B	MW-11B	P-10	P-11	P-12
Benzene	0.005	ND	ND	ND	ND	ND
Chlorobenzene	0.005	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.005	ND	ND	ND	ND	ND
Methylene chloride	0.010	ND	ND	ND	ND	ND
Ethylbenzene	0.005	***0.015***	***0.009***	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND
Xylene (total)	0.005	***0.016***	***0.008***	ND	ND	ND
Acenaphthene	0.010	***0.066***	***0.069***	***0.032***	ND	ND
Acenaphthylene	0.010	ND	ND	ND	ND	ND
Anthracene	0.010	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.010	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.010	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.010	ND	ND	ND	ND	ND
Chrysene	0.010	ND	ND	ND	ND	ND
Dibenzofuran	0.010	***0.041***	***0.049***	***0.012***	ND	ND
Di-n-butylphthalate	0.010	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.010	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010	ND	ND	ND	ND	ND
2,6-Dinitrotoluene	0.010	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	0.010	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND	ND	ND	ND	ND
Fluoranthene	0.010	ND	ND	ND	ND	ND
Fluorene	0.010	***0.043***	***0.054***	***0.022***	***0.016***	ND
2-Methylnaphthalene	0.010	***0.010***	***0.025***	ND	ND	ND
Naphthalene	0.010	***0.230***	***0.370***	***0.230***	***0.015***	ND
Nitrobenzene	0.010	ND	ND	ND	ND	ND
p-Nitrophenol	0.050	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010	ND	ND	ND	ND	ND
Pentachlorophenol	0.050	ND	ND	ND	ND	ND
Phenanthrene	0.010	***0.034***	***0.058***	***0.011***	ND	ND
Phenol	0.010	ND	ND	ND	ND	ND
Pyrene	0.010	ND	ND	ND	ND	ND

NOTES:

All values reported in mg/L. ND - Not detected at the Practical Quantitation Limit (PQL).

[1]PQL - *Practical Quanititation Limit* as defined on Table I of the Compliance Plan, and determined by the analytical methods of the EPA Publication SW-846, *Test Methods for Evaluating Solid Waste*, 3rd ed., November 1986, and as listed in the July 8, 1987 edition of the *Federal Register* and later editions. ***The PQL is the Ground Water Protection Standard.***

[2]Bold-italic indicates values reported above the Ground Water Protection Standard (GWPS).

[3]The compound was not detected but the reported detection limit was greater than the PQL.

TABLE 2-3

Water Level and Total Depth of Well Measurement

2nd Semi-Annual Sampling Event, 1997
Houston Wood Preserving Works
Houston, Texas

Well ID	Top of Casing Elevation (msl)	Depth to Water (DTW)	Water Surface Elevation (msl)	Total Depth of Well (TD)	Well Bottom Elevation (msl)
MW-01A	47.95'	6.02'	41.93'	19.65'	28.30'
MW-02	48.03'	4.53'	43.50'	18.49'	29.54'
MW-03	48.55'	6.96'	41.59'	20.56'	27.99'
MW-04	49.85'	8.13'	41.72'	21.80'	28.05'
MW-05	49.35'	7.28'	42.07'	27.36'	21.99'
MW-07	48.86'	7.50'	41.36'	24.76'	24.10'
MW-08	49.37'	7.57'	41.80'	25.03'	24.34'
MW-09	49.29'	6.99'	42.30'	25.39'	23.90'
P-10	47.72'	6.54'	41.18'	42.83'	4.89'
P-11	49.02'	7.24'	41.78'	42.78'	6.24'
P-12	48.82'	6.54'	42.28'	42.85'	5.97'
MW-10A	49.90'	8.47'	41.43'	25.57'	24.33'
MW-10B	49.97'	8.69'	41.28'	46.50'	3.47'
MW-11A	50.04'	8.70'	41.34'	23.88'	26.16'
MW-11B	50.19'	8.96'	41.23'	46.64'	3.55'

TABLE 2-4

Compliance Status of Wells and Piezometers

2nd Semi-Annual Sampling Event, 1997
Houston Wood Preserving Works
Houston, Texas

Monitoring Location	Compliance Status	
A-TZ Wells	Compliant	Non-Compliant
MW-01A		X
MW-02		X
MW-03		X
MW-04	X	
MW-05	X	
MW-07	X	
MW-08	X	
MW-09	X	
MW-10A		X
MW-11A		X
B-TZ Wells	Compliant	Non-Compliant
MW-10B		X
MW-11B		X
P-10		X
P-11		X
P-12	X	

Compliance Plan Tables

Appendix A

January 20, 1998
W.O. #422-09

ERM-SOUTHWEST, INC.
16300 Katy Freeway, Suite 300
Houston, Texas 77094-1611
(281) 579-8999

BM590422-A98

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(2ethylhexyl)phthalate	ND (0.010)
Bis(2-chlororethoxy)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 III

Designation of Wells by Function

1. POINT OF COMPLIANCE WELLS	SAMPLING FREQUENCY
A. Upper Transmissive Zone (existing)	
MW-1	Semiannual
MW-2	Semiannual
MW-3	Semiannual
MW-10*	Semiannual
MW-11*	Semiannual

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	Semiannual
MW-5	Semiannual
MW-7	Semiannual
MW-8	Semiannual
MW-9	Semiannual

* 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

January 20, 1998
W.O. #422-09

ERM-SOUTHWEST, INC.
16300 Katy Freeway, Suite 300
Houston, Texas 77094-1611
(281) 579-8999

BM590422-A98

TABLE B-1

Ground Water Sampling Field Parameters

2nd Semiannual Sampling Event, 1997
Houston Wood Preserving Works
Houston, Texas

Well ID	MW-01A	MW-02	MW-03	MW-04	MW-05	MW-07	MW-08	MW-09
Time	0854	0953	1020	0817	015	1418	1555	1647
Temperature (°C)	25.8	26.4	26.6	27.3	26.5	25.4	26.3	28.0
pH (Stnd. Units)	6.61	6.75	6.78	6.65	6.80	6.73	6.73	6.59
Specific Conductivity (uS)	1227	476	995	833	521	985	674	731
Turbidity (ntu)	0.54	15.00	0.23	0.59	1.83	0.75	0.53	0.27

Well ID	MW-10A	MW-10B	MW-11A	MW-11B	P-10	P-11	P-12
Time	1055	1121	1152	1221	1450	1618	1715
Temperature (°C)	25.6	23.8	26.6	26.1	24.6	25.9	25.6
pH (Standard Units)	6.71	6.65	6.66	6.72	6.84	6.68	6.72
Specific Conductivity (uS)	1480	1356	1146	1108	1100	1300	1313
Turbidity (ntu)	0.63	1.92	0.46	0.28	0.38	0.21	0.28

Laboratory Analytical Reports

Appendix C

January 20, 1998
W.O. #422-09

ERM-SOUTHWEST, INC.
16300 Katy Freeway, Suite 300
Houston, Texas 77094-1611
(281) 579-8999

Data File: /var/chem/insty.i/y103097.b/ys103012.d
Report Date: 30-Oct-97 18:04:09

PACE ANALYTICAL SERVICES, INC.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: MED
Data Type: MS DATA
SpikeList File:
Method File: /var/chem/insty.i/y103097.b/Y8260J28.m
Misc Info:

Client SDG: b103097
Fraction: VOA
Client Smp ID: H460358
Operator: TS
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 5 Dibromofluorometha	50.00	45.43	90.86	86-118
$ 6 Toluene-d8 (surr)	50.00	49.48	98.96	88-110
$ 7 4-Bromofluorobenze	50.00	47.09	94.18	86-115

Data File: /var/chem/insta.i/102997.b/av102908.d
Report Date: 30-Oct-97 13:31:41

PACE ANALYTICAL SERVICES, INC.

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: MS DATA
SpikeList File: lcsms.spk
Method File: /var/chem/insta.i/102997.b/1028SVA.m
Misc Info:

Client SDG: 102997
Fraction: SV
Operator: HGV
SampleType: LCS
Quant Type: ISTD

SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 7 2-Fluorophenol	200.00	69.06	34.53	21-100
$ 8 Phenol-d5	200.00	91.42	45.71	10-94
$ 9 Nitrobenzene-d5	100.00	82.71	82.71	35-114
$ 10 2-Fluorobiphenyl	100.00	78.07	78.07	43-116
$ 11 2,4,6-Tribromophen	200.00	119.47	59.73	10-123
$ 12 Terphenyl-d14	100.00	77.74	77.74	33-141

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

Pace Analytical

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME:	ERM SOUTHWEST INC.	LIMS CLIENT:	0119 0025
ADDRESS:	16300 KATY FREEWAY, SUITE 300	PACE PROJECT:	H47151
	HOUSTON, TX 77094-	PACE CLIENT:	621284
ATTENTION:	TOM PACIONI	P.O. NO:	HWPW 422-09
SAMPLE ID:	HWPW-MW-1A	DATE SAMPLED:	25-SEP-97 0854
SAMPLE NO:	H459494	DATE RECEIVED:	26-SEP-97
SAMPLE MATRIX:	WATER	PROJECT MANAGER:	Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	15	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	38	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	11	ug/L
		Xylenes (total)	47	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 200	ug/L
		2,4-Dimethylphenol	< 200	ug/L
		2,4-Dinitrotoluene	< 200	ug/L
		2,6-Dinitrotoluene	< 200	ug/L
		2-Chloronaphthalene	< 200	ug/L
		2-Methylnaphthalene	< 200	ug/L
		4,6-Dinitro-o-cresol	< 1000	ug/L
		4-Nitrophenol	< 1000	ug/L
		Acenaphthene	< 200	ug/L
		Acenaphthylene	< 200	ug/L
		Anthracene	< 200	ug/L
		Benzo(a)anthracene	< 200	ug/L
		Benzo(a)pyrene	< 200	ug/L
		Chrysene	< 200	ug/L
		Di-n-butylphthalate	< 200	ug/L
		Dibenzofuran	< 200	ug/L
		Fluoranthene	< 200	ug/L
		Fluorene	< 200	ug/L
		N-Nitrosodiphenylamine	< 200	ug/L
		Naphthalene	1,700	ug/L
		Nitrobenzene	< 200	ug/L
		Pentachlorophenol	< 1000	ug/L
		Phenanthrene	< 200	ug/L
		Phenol	< 200	ug/L
		Pyrene	< 200	ug/L
		bis(2-Chloroethoxy)methane	< 200	ug/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-1A
SAMPLE NO: H459494

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 200	ug/L
5	I590	Solids, Dissolved at 180C	839	mg/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-2
SAMPLE NO: H459495
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 0944
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	33	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-2
SAMPLE NO: H459495

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	392	mg/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-3
SAMPLE NO: H459496
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1020
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	20	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	15	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	15	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-3
SAMPLE NO: H459496

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	723	mg/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

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November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-4
SAMPLE NO: H459497
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 0817
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-4
SAMPLE NO: H459497

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	616	mg/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
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November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-5
SAMPLE NO: H459498
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1525
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-5
SAMPLE NO: H459498

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	453	mg/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878
Section A Page 11

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-7
SAMPLE NO: H459499
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1418
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
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November 05, 1997
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-7
SAMPLE NO: H459499

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	664	mg/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-8
SAMPLE NO: H459500
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1555
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

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November 05, 1997
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-8
SAMPLE NO: H459500

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	553	mg/L

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-9
SAMPLE NO: H459501
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1647
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-9
SAMPLE NO: H459501

LN	TEST CODE	DETERMINATION	RESULT	UNITS
5	I590	bis(2-Ethylhexyl)phthalate	< 10	ug/L
		Solids, Dissolved at 180C	498	mg/L

REPORT OF LABORATORY ANALYSIS

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Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-10A
SAMPLE NO: H459502
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1055
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	16	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-10A
SAMPLE NO: H459502

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	1,036	mg/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
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Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-10B
SAMPLE NO: H459503
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1121
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	15	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	16	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	66	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	41	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	43	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	230	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	34	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-10B
SAMPLE NO: H459503

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	880	mg/L

REPORT OF LABORATORY ANALYSIS

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Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-11A
SAMPLE NO: H459504
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1155
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	7	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	11	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	83	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	37	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	47	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	340	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	18	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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Houston, TX 77058
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Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-11A
SAMPLE NO: H459504

LN	TEST CODE	DETERMINATION	RESULT	UNITS
5	I590	bis(2-Ethylhexyl)phthalate	< 10	ug/L
		Solids, Dissolved at 180C	812	mg/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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Report No.: 00064878
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-11B
SAMPLE NO: H459505
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1221
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	9	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	8	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	19	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	54	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	41	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	46	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	320	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	49	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-11B
SAMPLE NO: H459505

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	735	mg/L

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-MW-11B-DUP
SAMPLE NO: H459506
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1221
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	8	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	8	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	31	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	84	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	57	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	61	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	420	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	66	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

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Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-MW-11B-DUP
SAMPLE NO: H459506

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	744	mg/L

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-P-10
SAMPLE NO: H459507
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1450
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	32	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	12	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	22	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	230	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	11	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

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900 Gemini Avenue
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-P-10
SAMPLE NO: H459507

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	703	mg/L

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Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-P-11
SAMPLE NO: H459508
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1618
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	16	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	15	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-P-11
SAMPLE NO: H459508

LN	TEST CODE	DETERMINATION	RESULT	UNITS
5	I590	bis(2-Ethylhexyl)phthalate	< 10	ug/L
		Solids, Dissolved at 180C	835	mg/L

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-P-12
SAMPLE NO: H459509
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1715
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-P-12
SAMPLE NO: H459509

LN	TEST CODE	DETERMINATION	RESULT	UNITS
5	I590	bis(2-Ethylhexyl)phthalate	< 10	ug/L
		Solids, Dissolved at 180C	875	mg/L

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Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
ADDRESS: 16300 KATY FREEWAY, SUITE 300
HOUSTON, TX 77094-
ATTENTION: TOM PACIONI

LIMS CLIENT: 0119 0025
PACE PROJECT: H47151
PACE CLIENT: 621284
P.O. NO: HWPW 422-09

SAMPLE ID: HWPW-EB
SAMPLE NO: H459510
SAMPLE MATRIX: WATER

DATE SAMPLED: 25-SEP-97 1750
DATE RECEIVED: 26-SEP-97
PROJECT MANAGER: Elessa Sommers

LN	TEST CODE	DETERMINATION	RESULT	UNITS
1	OVTCW2	8260A TCL Volatiles in Water		
		1,2-Dichloroethane	< 5	ug/L
		Benzene	< 5	ug/L
		Chlorobenzene	< 5	ug/L
		Ethylbenzene	< 5	ug/L
		Methylene chloride	< 5	ug/L
		Toluene	< 5	ug/L
		Xylenes (total)	< 5	ug/L
3	OSVTCW	TCL - Semi-volatile Extractables in Water		
		1,2-Diphenylhydrazine	< 10	ug/L
		2,4-Dimethylphenol	< 10	ug/L
		2,4-Dinitrotoluene	< 10	ug/L
		2,6-Dinitrotoluene	< 10	ug/L
		2-Chloronaphthalene	< 10	ug/L
		2-Methylnaphthalene	< 10	ug/L
		4,6-Dinitro-o-cresol	< 50	ug/L
		4-Nitrophenol	< 50	ug/L
		Acenaphthene	< 10	ug/L
		Acenaphthylene	< 10	ug/L
		Anthracene	< 10	ug/L
		Benzo(a)anthracene	< 10	ug/L
		Benzo(a)pyrene	< 10	ug/L
		Chrysene	< 10	ug/L
		Di-n-butylphthalate	< 10	ug/L
		Dibenzofuran	< 10	ug/L
		Fluoranthene	< 10	ug/L
		Fluorene	< 10	ug/L
		N-Nitrosodiphenylamine	< 10	ug/L
		Naphthalene	< 10	ug/L
		Nitrobenzene	< 10	ug/L
		Pentachlorophenol	< 50	ug/L
		Phenanthrene	< 10	ug/L
		Phenol	< 10	ug/L
		Pyrene	< 10	ug/L
		bis(2-Chloroethoxy)methane	< 10	ug/L

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900 Gemini Avenue
Houston, TX 77058
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AMENDED LABORATORY ANALYSIS REPORT

CLIENT NAME: ERM SOUTHWEST INC.
SAMPLE ID: HWPW-EB
SAMPLE NO: H459510

LN	TEST CODE	DETERMINATION	RESULT	UNITS
		bis(2-Ethylhexyl)phthalate	< 10	ug/L
5	I590	Solids, Dissolved at 180C	< 5	mg/L

REPORT OF LABORATORY ANALYSIS

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED SUPPLEMENTAL INFORMATION

LN	TEST CODE	LCSR BLNK BATCH	DUP/MS MS/MSD BATCH	SAMPLE PREPARATION LR-METHOD	SAMPLE PREPARATION DATE/TIME	SAMPLE PREPARATION ANALYST	SAMPLE ANALYSIS LR-METHOD	SAMPLE ANALYSIS DATE/TIME	SAMPLE ANALYSIS ANALYST	SAMPLE ANALYSIS INSTRUMENT
SAMPLE ID: HWPW-MW-1A								SAMPLE NO: H459494		
1	OVTCW2	78366	78281	NA						
5	I590	78319	78319	NA			19-8260A	01-OCT-97 1809	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	30-SEP-97 1630	C P	008WAT
							19-8270B	08-OCT-97 0736	HGV	GCMSZ
SAMPLE ID: HWPW-MW-2								SAMPLE NO: H459495		
1	OVTCW2	78366	78281	NA						
5	I590	78319	78319	NA			19-8260A	01-OCT-97 1835	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	30-SEP-97 1630	C P	008WAT
							19-8270B	04-OCT-97 0358	HGV	GCMSZ
SAMPLE ID: HWPW-MW-3								SAMPLE NO: H459496		
1	OVTCW2	78366	78281	NA						
5	I590	78319	78319	NA			19-8260A	01-OCT-97 1902	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	30-SEP-97 1630	C P	008WAT
							19-8270B	04-OCT-97 0449	HGV	GCMSZ
SAMPLE ID: HWPW-MW-4								SAMPLE NO: H459497		
1	OVTCW2	78366	78281	NA						
5	I590	78319	78319	NA			19-8260A	01-OCT-97 1928	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	30-SEP-97 1630	C P	008WAT
							19-8270B	04-OCT-97 0540	HGV	GCMSZ
SAMPLE ID: HWPW-MW-5								SAMPLE NO: H459498		
1	OVTCW2	78366	78281	NA						
5	I590	78319	78319	NA			19-8260A	01-OCT-97 1954	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	30-SEP-97 1630	C P	008WAT
							19-8270B	04-OCT-97 0631	HGV	GCMSZ
SAMPLE ID: HWPW-MW-7								SAMPLE NO: H459499		
1	OVTCW2	78366	78281	NA						
5	I590	78319	78319	NA			19-8260A	01-OCT-97 2021	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	30-SEP-97 1630	C P	008WAT
							19-8270B	04-OCT-97 0722	HGV	GCMSZ
SAMPLE ID: HWPW-MW-8								SAMPLE NO: H459500		
1	OVTCW2	78366	78281	NA						
5	I590	78288	78288	NA			19-8260A	01-OCT-97 2047	MH	GCMSB
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	02-160.1	29-SEP-97 1600	C P	008WAT
							19-8270B	04-OCT-97 0813	HGV	GCMSZ

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED SUPPLEMENTAL INFORMATION

LN	TEST CODE	LCSR BLNK BATCH	DUP/MS MS/MSD BATCH	SAMPLE PREPARATION LR-METHOD	SAMPLE PREPARATION DATE/TIME	SAMPLE PREPARATION ANALYST	SAMPLE ANALYSIS LR-METHOD	SAMPLE ANALYSIS DATE/TIME	SAMPLE ANALYSIS ANALYST	SAMPLE ANALYSIS INSTRUMENT
SAMPLE ID: HWPW-MW-9								SAMPLE NO: H459501		
1	OVTCW2	78366	78281	NA			19-8260A	01-OCT-97 2113	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	19-8270B	04-OCT-97 0904	HGV	GCMSZ
SAMPLE ID: HWPW-MW-10A								SAMPLE NO: H459502		
1	OVTCW2	78366	78344	NA			19-8260A	01-OCT-97 2140	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1258	HGV	GCMSA
SAMPLE ID: HWPW-MW-10B								SAMPLE NO: H459503		
1	OVTCW2	78366	78344	NA			19-8260A	01-OCT-97 2206	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1347	HGV	GCMSA
SAMPLE ID: HWPW-MW-11A								SAMPLE NO: H459504		
1	OVTCW2	78419	78344	NA			19-8260A	02-OCT-97 1523	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1436	HGV	GCMSA
SAMPLE ID: HWPW-MW-11B								SAMPLE NO: H459505		
1	OVTCW2	78366	78366	NA			19-8260A	01-OCT-97 2259	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78367	78367	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1525	HGV	GCMSA
SAMPLE ID: HWPW-MW-11B-DUP								SAMPLE NO: H459506		
1	OVTCW2	78366	78344	NA			19-8260A	01-OCT-97 2259	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78368	78368	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1615	HGV	GCMSA
SAMPLE ID: HWPW-P-10								SAMPLE NO: H459507		
1	OVTCW2	78419	78169	NA			19-8260A	02-OCT-97 1338	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78368	78368	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1704	HGV	GCMSA

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
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AMENDED SUPPLEMENTAL INFORMATION

LN	TEST CODE	LCSR BLNK BATCH	DUP/MS MS/MSD BATCH	SAMPLE PREPARATION LR-METHOD	SAMPLE PREPARATION DATE/TIME	SAMPLE PREPARATION ANALYST	SAMPLE ANALYSIS LR-METHOD	SAMPLE ANALYSIS DATE/TIME	SAMPLE ANALYSIS ANALYST	SAMPLE ANALYSIS INSTRUMENT
SAMPLE ID: HWPW-P-11									SAMPLE NO: H459508	
1	OVTCW2	78419	78163	NA			19-8260A	02-OCT-97 1405	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78368	78368	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1753	HGV	GCMSA
SAMPLE ID: HWPW-P-12									SAMPLE NO: H459509	
1	OVTCW2	78419	78344	NA			19-8260A	02-OCT-97 1431	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78368	78368	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1842	HGV	GCMSA
SAMPLE ID: HWPW-EB									SAMPLE NO: H459510	
1	OVTCW2	78419	78344	NA			19-8260A	02-OCT-97 1457	MH	GCMSB
5	I590	78288	78288	NA			02-160.1	29-SEP-97 1600	C P	008WAT
3	OSVTCW	78368	78368	19-3510B	29-SEP-97 0900	R R	19-8270B	03-OCT-97 1931	HGV	GCMSA

LR Method Literature Reference

02 EPA-Methods for Chemical Analysis of Water & Wastes, 1984.
19 EPA-Test Methods for Evaluating Solid Waste, 3rd ed, Nov. 1986 and updates

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-MW-1A				SAMPLE NO: H459494	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	95	-	
		Dibromofluoromethane	111	-	
		Toluene-d8	97	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	2*	-	
		2-Fluorobiphenyl	2*	-	
		2-Fluorophenol	1*	-	
		Nitrobenzene-d5	*	-	
		Phenol-d5	1*	-	
		p-Terphenyl-d14	2*	-	
		* The surrogates were not recovered due to the dilution required by matrix interferences or high analyte concentration.			
SAMPLE ID: HWPW-MW-2				SAMPLE NO: H459495	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	97	-	
		Dibromofluoromethane	107	-	
		Toluene-d8	95	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	60	-	
		2-Fluorobiphenyl	49	-	
		2-Fluorophenol	44	-	
		Nitrobenzene-d5	42	-	
		Phenol-d5	38	-	
		p-Terphenyl-d14	17*	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-MW-3				SAMPLE NO: H459496	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	98	-	
		Dibromofluoromethane	106	-	
		Toluene-d8	97	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	44	-	
		2-Fluorobiphenyl	43	-	
		2-Fluorophenol	20*	-	
		Nitrobenzene-d5	18*	-	

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900 Gemini Avenue
Houston, TX 77058
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Fax: 713-488-4661

AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-MW-3				SAMPLE NO: H459496	
		Phenol-d5	22	-	
		p-Terphenyl-d14	45	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-MW-4				SAMPLE NO: H459497	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	97	-	
		Toluene-d8	100	-	
4	$BNAW	GC/MS BNA Surrogates	96	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	50	-	
		2-Fluorophenol	42*	-	
		Nitrobenzene-d5	35	-	
		Phenol-d5	38	-	
		p-Terphenyl-d14	40	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.	50	-	
SAMPLE ID: HWPW-MW-5				SAMPLE NO: H459498	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	99	-	
		Toluene-d8	106	-	
4	$BNAW	GC/MS BNA Surrogates	97	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	50	-	
		2-Fluorophenol	45	-	
		Nitrobenzene-d5	26	-	
		Phenol-d5	22*	-	
		p-Terphenyl-d14	30	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.	44	-	

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AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-MW-7				SAMPLE NO: H459499	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	97	-	
		Dibromofluoromethane	100	-	
		Toluene-d8	95	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	50	-	
		2-Fluorobiphenyl	74	-	
		2-Fluorophenol	24	-	
		Nitrobenzene-d5	26*	-	
		Phenol-d5	32	-	
		p-Terphenyl-d14	47	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-MW-8				SAMPLE NO: H459500	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	98	-	
		Dibromofluoromethane	104	-	
		Toluene-d8	98	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	48	-	
		2-Fluorobiphenyl	57	-	
		2-Fluorophenol	32	-	
		Nitrobenzene-d5	33*	-	
		Phenol-d5	40	-	
		p-Terphenyl-d14	47	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-MW-9				SAMPLE NO: H459501	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	98	-	
		Dibromofluoromethane	103	-	
		Toluene-d8	98	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	55	-	
		2-Fluorobiphenyl	52	-	
		2-Fluorophenol	26	-	

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900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-MW-9				SAMPLE NO: H459501	
		Nitrobenzene-d5	21*	-	
		Phenol-d5	29	-	
		p-Terphenyl-d14	55	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-MW-10A				SAMPLE NO: H459502	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	98	-	
		Dibromofluoromethane	106	-	
		Toluene-d8	99	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	52	-	
		2-Fluorobiphenyl	45	-	
		2-Fluorophenol	33	-	
		Nitrobenzene-d5	31*	-	
		Phenol-d5	28	-	
		p-Terphenyl-d14	46	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-MW-10B				SAMPLE NO: H459503	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			1
		4-Bromofluorobenzene	96	-	
		Dibromofluoromethane	106	-	
		Toluene-d8	96	-	
4	$BNAW	GC/MS BNA Surrogates			3
		2,4,6-Tribromophenol	52	-	
		2-Fluorobiphenyl	49	-	
		2-Fluorophenol	28	-	
		Nitrobenzene-d5	26*	-	
		Phenol-d5	34	-	
		p-Terphenyl-d14	44	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			

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900 Gemini Avenue
Houston, TX 77058
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Fax: 713-488-4661

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AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-MW-11A				SAMPLE NO: H459504	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	94	-	
		Toluene-d8	99	-	
4	$BNAW	GC/MS BNA Surrogates	95	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	52	-	
		2-Fluorophenol	46	-	
		Nitrobenzene-d5	25	-	
		Phenol-d5	30*	-	
		p-Terphenyl-d14	26	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.	44	-	
SAMPLE ID: HWPW-MW-11B				SAMPLE NO: H459505	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	96	-	
		Toluene-d8	105	-	
4	$BNAW	GC/MS BNA Surrogates	96	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	45	-	
		2-Fluorophenol	48	-	
		Nitrobenzene-d5	27	-	
		Phenol-d5	19*	-	
		p-Terphenyl-d14	19	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.	38	-	
SAMPLE ID: HWPW-MW-11B-DUP				SAMPLE NO: H459506	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	97	-	
		Toluene-d8	108	-	
4	$BNAW	GC/MS BNA Surrogates	92	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	53	-	
		2-Fluorophenol	50	-	
			20*	-	

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AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-MW-11B-DUP				SAMPLE NO: H459506	
		Nitrobenzene-d5	24*	-	
		Phenol-d5	28	-	
		p-Terphenyl-d14	44	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-P-10				SAMPLE NO: H459507	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	95	-	
		Toluene-d8	110	-	
4	$BNAW	GC/MS BNA Surrogates	99	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	48	-	
		2-Fluorophenol	49	-	
		Nitrobenzene-d5	20*	-	
		Phenol-d5	17*	-	
		p-Terphenyl-d14	20	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.	46	-	
SAMPLE ID: HWPW-P-11				SAMPLE NO: H459508	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	97	-	
		Toluene-d8	104	-	
4	$BNAW	GC/MS BNA Surrogates	96	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	46	-	
		2-Fluorophenol	51	-	
		Nitrobenzene-d5	20*	-	
		Phenol-d5	14*	-	
		p-Terphenyl-d14	24	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.	68	-	

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Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

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AMENDED SURROGATE STANDARD RECOVERY

LN	TEST CODE	SURROGATE COMPOUND	PERCENT RECOVERY	ACCEPTANCE LIMITS	REF LN
SAMPLE ID: HWPW-P-12				SAMPLE NO: H459509	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	97	-	
		Toluene-d8	95	-	
4	$BNAW	GC/MS BNA Surrogates	96	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	41	-	
		2-Fluorophenol	44	-	
		Nitrobenzene-d5	19*	-	
		Phenol-d5	14*	-	
		p-Terphenyl-d14	17	-	
			47	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			
SAMPLE ID: HWPW-EB				SAMPLE NO: H459510	
2	$VOA2W	GC/MS Volatiles Surrogates (8260)			
		4-Bromofluorobenzene			1
		Dibromofluoromethane	99	-	
		Toluene-d8	102	-	
4	$BNAW	GC/MS BNA Surrogates	98	-	
		2,4,6-Tribromophenol			3
		2-Fluorobiphenyl	39	-	
		2-Fluorophenol	47	-	
		Nitrobenzene-d5	44	-	
		Phenol-d5	35*	-	
		p-Terphenyl-d14	26	-	
			47	-	
		* The surrogate recovery was outside the acceptance limits; however, 1 base/ neutral and 1 acid surrogate are allowed to be outside limits, per lab QC policy.			

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900 Gemini Avenue
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AMENDED LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	LCS % RECOVERY	LCSD % RECOVERY	ACCEPTANCE LIMITS	RPD
BATCH NO: 78288				SAMPLE NO: H392655	
I590	Solids, Dissolved at 180C	98.1		-	
BATCH NO: 78319				SAMPLE NO: H392710	
I590	Solids, Dissolved at 180C	96.8		-	
BATCH NO: 78366				SAMPLE NO: H392768	
OVTCW2	8260A TCL Volatiles in Water				
	1,1-Dichloroethene	86		-	
	Benzene	103		-	
	Chlorobenzene	103		-	
	Toluene	98		-	
	Trichloroethene	100		-	
BATCH NO: 78367				SAMPLE NO: H392770	
OSVTCW	TCL - Semi-volatile Extractables in Water				
	1,2,4-Trichlorobenzene	35*		-	
	1,4-Dichlorobenzene	30*		-	
	2,4-Dinitrotoluene	60		-	
	2-Chlorophenol	38		-	
	4-Chloro-3-methylphenol	43		-	
	4-Nitrophenol	60		-	
	Acenaphthene	43*		-	
	N-Nitrosodi-n-propylamine	39*		-	
	Pentachlorophenol	55		-	
	Phenol	38		-	
	Pyrene	63		-	
BATCH NO: 78368				SAMPLE NO: H392772	
OSVTCW	TCL - Semi-volatile Extractables in Water				
	1,2,4-Trichlorobenzene	40		-	
	1,4-Dichlorobenzene	39		-	
	2,4-Dinitrotoluene	58		-	
	2-Chlorophenol	36		-	
	4-Chloro-3-methylphenol	44		-	
	4-Nitrophenol	70		-	

* The laboratory control sample spike recoveries are unacceptable. Acceptable method performance for these analytes has been demonstrated in the matrix spike recovery.

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Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

AMENDED LABORATORY CONTROL SAMPLE RECOVERY

TEST CODE	DETERMINATION	LCS % RECOVERY	LCSD % RECOVERY	ACCEPTANCE LIMITS	RPD
	Acenaphthene	48		-	
	N-Nitroso-di-n-propylamine	42		-	
	Pentachlorophenol	70		-	
	Phenol	36		-	
	Pyrene	57		-	
BATCH NO: 78419				SAMPLE NO: H392835	
OVTCW2	8260A TCL Volatiles in Water				
	1,1-Dichloroethene	98		-	
	Benzene	114		-	
	Chlorobenzene	114		-	
	Toluene	106		-	
	Trichloroethene	114		-	

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AMENDED METHOD BLANK DATA

TEST CODE	DETERMINATION	RESULT	UNIT
BATCH NO: 78288		SAMPLE NO: H392656	
I590	Solids, Dissolved at 180C	< 5	mg/L
BATCH NO: 78319		SAMPLE NO: H392711	
I590	Solids, Dissolved at 180C	< 5	mg/L
BATCH NO: 78366		SAMPLE NO: H392769	
OVTCW2	8260A TCL Volatiles in Water		
	1,2-Dichloroethane	< 5	ug/L
	Benzene	< 5	ug/L
	Chlorobenzene	< 5	ug/L
	Ethylbenzene	< 5	ug/L
	Methylene chloride	< 5	ug/L
	Toluene	< 5	ug/L
	Xylenes (total)	< 5	ug/L
BATCH NO: 78367		SAMPLE NO: H392771	
OSVTCW	TCL - Semi-volatile Extractables in Water		
	1,2-Diphenylhydrazine	< 10	ug/L
	2,4-Dimethylphenol	< 10	ug/L
	2,4-Dinitrotoluene	< 10	ug/L
	2,6-Dinitrotoluene	< 10	ug/L
	2-Chloronaphthalene	< 10	ug/L
	2-Methylnaphthalene	< 10	ug/L
	4,6-Dinitro-o-cresol	< 50	ug/L
	4-Nitrophenol	< 10	ug/L
	Acenaphthene	< 10	ug/L
	Acenaphthylene	< 10	ug/L
	Anthracene	< 10	ug/L
	Benzo(a)anthracene	< 10	ug/L
	Benzo(a)pyrene	< 10	ug/L
	Chrysene	< 10	ug/L
	Di-n-butylphthalate	< 10	ug/L
	Dibenzofuran	< 10	ug/L
	Fluoranthene	< 10	ug/L
	Fluorene	< 10	ug/L
	N-Nitrosodiphenylamine	< 10	ug/L
	Naphthalene	< 10	ug/L
	Nitrobenzene	< 10	ug/L
	Pentachlorophenol	< 50	ug/L

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AMENDED METHOD BLANK DATA

TEST CODE	DETERMINATION	RESULT	UNIT
	Phenanthrene	< 10	ug/L
	Phenol	< 10	ug/L
	Pyrene	< 10	ug/L
	bis(2-Chloroethoxy)methane	< 10	ug/L
	bis(2-Ethylhexyl)phthalate	< 10	ug/L

BATCH NO: 78368 SAMPLE NO: H392773

OSVTCW	TCL - Semi-volatile Extractables in Water		
	1,2,4-Trichlorobenzene	< 10	ug/L
	1,2-Dichlorobenzene	< 10	ug/L
	1,2-Diphenylhydrazine	< 10	ug/L
	1,3-Dichlorobenzene	< 10	ug/L
	1,4-Dichlorobenzene	< 10	ug/L
	1-Methylnaphthalene	< 10	ug/L
	2,4,5-Trichlorophenol	< 10	ug/L
	2,4,6-Trichlorophenol	< 10	ug/L
	2,4-Dichlorophenol	< 10	ug/L
	2,4-Dimethylphenol	< 10	ug/L
	2,4-Dinitrophenol	< 50	ug/L
	2,4-Dinitrotoluene	< 10	ug/L
	2,6-Dinitrotoluene	< 10	ug/L
	2-Chloronaphthalene	< 10	ug/L
	2-Chlorophenol	< 10	ug/L
	2-Methylnaphthalene	< 10	ug/L
	2-Methylphenol	< 10	ug/L
	2-Nitroaniline	< 50	ug/L
	2-Nitrophenol	< 10	ug/L
	3,3'-Dichlorobenzidine	< 20	ug/L
	3-Nitroaniline	< 50	ug/L
	4,6-Dinitro-o-cresol	< 50	ug/L
	4-Bromophenylphenylether	< 10	ug/L
	4-Chloro-3-methylphenol	< 10	ug/L
	4-Chloroaniline	< 10	ug/L
	4-Chlorophenylphenylether	< 10	ug/L
	4-Methylphenol	< 10	ug/L
	4-Nitroaniline	< 50	ug/L
	4-Nitrophenol	< 50	ug/L
	Acenaphthene	< 10	ug/L
	Acenaphthylene	< 10	ug/L
	Anthracene	< 10	ug/L
	Benzo(a)anthracene	< 10	ug/L
	Benzo(a)pyrene	< 10	ug/L
	Benzo(b)fluoranthene	< 10	ug/L

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

AMENDED METHOD BLANK DATA

TEST CODE	DETERMINATION	RESULT	UNIT
	Benzo(g,h,i)perylene	< 10	ug/L
	Benzo(k)fluoranthene	< 10	ug/L
	Benzoic acid	< 50	ug/L
	Benzyl alcohol	< 10	ug/L
	Butylbenzylphthalate	< 10	ug/L
	Chrysene	< 10	ug/L
	Di-n-butylphthalate	< 10	ug/L
	Di-n-octylphthalate	< 10	ug/L
	Dibenzo(a,h)anthracene	< 10	ug/L
	Dibenzofuran	< 10	ug/L
	Diethylphthalate	< 10	ug/L
	Dimethylphthalate	< 10	ug/L
	Fluoranthene	< 10	ug/L
	Fluorene	< 10	ug/L
	Hexachlorobenzene	< 10	ug/L
	Hexachlorobutadiene	< 10	ug/L
	Hexachlorocyclopentadiene	< 10	ug/L
	Hexachloroethane	< 10	ug/L
	Indeno(1,2,3-cd)pyrene	< 10	ug/L
	Isophorone	< 10	ug/L
	N-Nitroso-di-n-propylamine	< 10	ug/L
	N-Nitrosodiphenylamine	< 10	ug/L
	Naphthalene	< 10	ug/L
	Nitrobenzene	< 10	ug/L
	Pentachlorophenol	< 50	ug/L
	Phenanthrene	< 10	ug/L
	Phenol	< 10	ug/L
	Pyrene	< 10	ug/L
	bis(2-Chloroethoxy)methane	< 10	ug/L
	bis(2-Chloroethyl)ether	< 10	ug/L
	bis(2-Chloroisopropyl)ether	< 10	ug/L
	bis(2-Ethylhexyl)phthalate	< 10	ug/L

BATCH NO: 78419 SAMPLE NO: H392836

OVTCW2	8260A TCL Volatiles in Water		
	1,2-Dichloroethane	< 5	ug/L
	Benzene	< 5	ug/L
	Chlorobenzene	< 5	ug/L
	Ethylbenzene	< 5	ug/L
	Methylene chloride	< 5	ug/L
	Toluene	< 5	ug/L
	Xylenes (total)	< 5	ug/L

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
Tel: 713-488-1810
Fax: 713-488-4661

November 05, 1997
Report No.: 00064878

AMENDED DUPLICATE AND MATRIX SPIKE DATA

TEST CODE	DETERMINATION	ORIGINAL RESULT	DUPLICATE RESULT	UNITS	RANGE / RPD	MS RESULT	MS % RCVRY
BATCH NO: 78288						SAMPLE NO: H459500	
I590	Solids, Dissolved at 180C	553	567	mg/L	2.5		
BATCH NO: 78288						SAMPLE NO: H459555	
I590	Solids, Dissolved at 180C	193	197	mg/L	2.0		
BATCH NO: 78319						SAMPLE NO: H459565	
I590	Solids, Dissolved at 180C	1,253	1,239	mg/L	1.1		

REPORT OF LABORATORY ANALYSIS

Pace Analytical

Pace Analytical Services, Inc.
900 Gemini Avenue
Houston, TX 77058
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November 05, 1997
Report No.: 00064878

AMENDED MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

TEST CODE	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RCVRY	MSD PCT RCVRY
BATCH NO: 78163						SAMPLE NO: H459090	
OVTCWA	Volatiles by 8260 - Subtitle D						
	1,1-Dichloroethene	38	36	ug/L	5	95	90
	Benzene	40	39	ug/L	3	100	97
	Chlorobenzene	41	39	ug/L	7	104	97
	Toluene	39	38	ug/L	0	96	96
	Trichloroethene	38	38	ug/L	0	95	95
BATCH NO: 78169						SAMPLE NO: H458069	
OVTCW3	8260 Volatiles in Water						
	1,1-Dichloroethene	53	56	ug/L	6	132*	140*
	Benzene	44	46	ug/L	4	110	115
	Chlorobenzene	39	40	ug/L	2	98	100
	Toluene	41	41	ug/L	0	102	102
	Trichloroethene	40	43	ug/L	7	100	108
BATCH NO: 78281						SAMPLE NO: H459487	
OVSKW	Skinner List Volatiles in Water						
	1,1-Dichloroethene	38	37	ug/L	2	96	94
	Benzene	40	40	ug/L	0	100	100
	Chlorobenzene	39	41	ug/L	0	98	102
	Toluene	39	41	ug/L	5	98	103
	Trichloroethene	38	38	ug/L	4	94	94
BATCH NO: 78344						SAMPLE NO: H459462	
OVTCW2	8260A TCL Volatiles in Water						
	1,1-Dichloroethene	438		ug/L		108	
	Benzene	43		ug/L		108	
	Chlorobenzene	42		ug/L		104	
	Toluene	41		ug/L		101	
	Trichloroethene	42		ug/L		104	
BATCH NO: 78366						SAMPLE NO: H459505	
OVTCW2	8260A TCL Volatiles in Water						
	1,1-Dichloroethene	43	36	ug/L	18	108	90
	Benzene	39	37	ug/L	5	95	90

*The MS/MSD spike recovery was high for 1,1-Dichloroethene. Acceptable method performance for this analyte was demonstrated by the Laboratory Control Sample.

REPORT OF LABORATORY ANALYSIS

Pace Analytical

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AMENDED MATRIX SPIKE AND MATRIX SPIKE DUPLICATE DATA

TEST CODE	DETERMINATION	MS RESULT	MSD RESULT	UNITS	RPD	MS PCT RCVRY	MSD PCT RCVRY
	Chlorobenzene	37	37	ug/L	2	92	94
	Toluene	33	35	ug/L	5	83	87
	Trichloroethene	36	35	ug/L	3	91	88
BATCH NO: 78367						SAMPLE NO: H459499	
OSVTCW	TCL - Semi-volatile Extractables in Water						
	1,2,4-Trichlorobenzene	54	52	ug/L	4	54	52
	1,4-Dichlorobenzene	48	38	ug/L	23	48	38
	2,4-Dinitrotoluene	78	62	ug/L	23	78	62
	2-Chlorophenol	105	72	ug/L	38	52	36
	4-Chloro-3-methylphenol	119	91	ug/L	27	60	46
	4-Nitrophenol	232	112	ug/L	70	116*	56
	Acenaphthene	60	46	ug/L	26	60	46
	N-Nitroso-di-n-propylamine	56	47	ug/L	18	56	47
	Pentachlorophenol	155	125	ug/L	21	78	62
	Phenol	98	38	ug/L	88	49	19
	Pyrene	56	51	ug/L	9	56	51
	* Elevated spike recovery was observed for the compound 4-Nitrophenol in the MS.						
BATCH NO: 78368						SAMPLE NO: H459508	
OSVTCW	TCL - Semi-volatile Extractables in Water						
	1,2,4-Trichlorobenzene	23	14	ug/L	49	23*	14*
	1,4-Dichlorobenzene	24	16	ug/L	40	24*	16*
	2,4-Dinitrotoluene	57	60	ug/L	5	57	60
	2-Chlorophenol	46	27	ug/L	52	46*	14*
	4-Chloro-3-methylphenol	74	70	ug/L	6	37	35
	4-Nitrophenol	130	150	ug/L	14	65	75
	Acenaphthene	34	28	ug/L	19	34*	28*
	N-Nitroso-di-n-propylamine	24	14	ug/L	53	24*	14*
	Pentachlorophenol	130	140	ug/L	7	65	70
	Phenol	47	27	ug/L	14	24	54
	Pyrene	55	59	ug/L	7	55	59
	* The MS/MSD % recoveries are poor. Acceptable method performance for these analytes has been demonstrated in the laboratory control sample.						

REPORT OF LABORATORY ANALYSIS

Updated Compliance Schedule

Appendix D

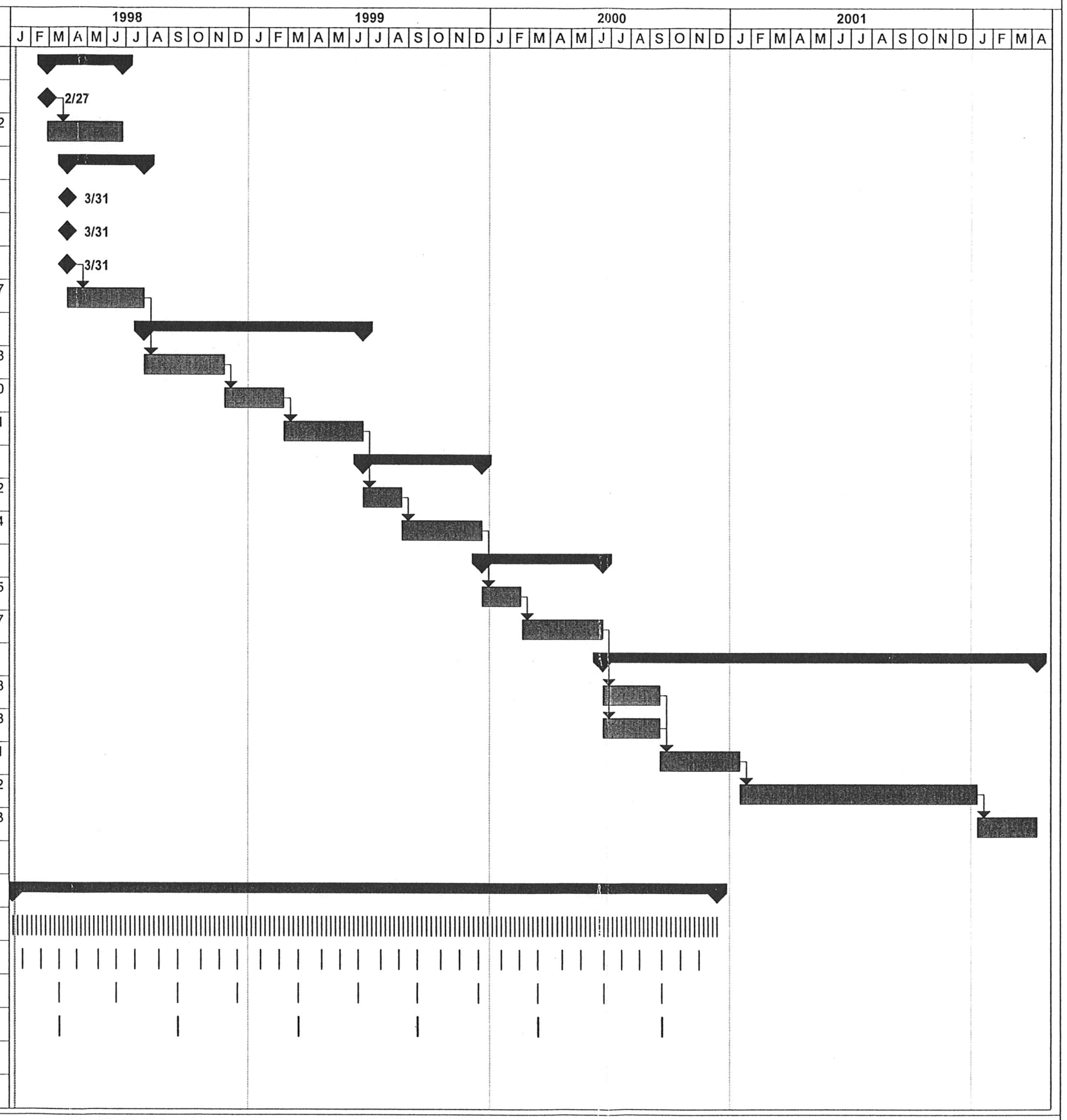
January 20, 1998
W.O. #422-09

ERM-SOUTHWEST, INC.
16300 Katy Freeway, Suite 300
Houston, Texas 77094-1611
(281) 579-8999

BM590422-A98

COMBINED EOC/RFI SEMI-ANNUAL SCHEDULE REVISION

ID	Task Name/Permit or CP Section No.	Duration	Start	Finish	Predec
1	**RFI/EOC Phase 2-A Investigation Report {Permit §VIII.I. and CP §VIII.E.}**	**87d**	**2/27/98**	**6/27/98**	
2	Submit Phase 2-A Assessment Report to TNRCC	0d	2/27/98	2/27/98	
3	TNRCC ReviewProcess	120ed	2/27/98	6/27/98	2
4	**Risk Reduction Implementation Plan {Permit §VIII.I.}**	**86d**	**3/31/98**	**7/29/98**	
5	Risk Assessment Approach	0d	3/31/98	3/31/98	
6	RFI/EOC Phase 2-B Work Plan	0d	3/31/98	3/31/98	
7	Technical Justification for Permit Modification	0d	3/31/98	3/31/98	
8	TNRCC Review Process	120ed	3/31/98	7/29/98	7
9	**RFI/EOC Phase 2-B Implementation {Permit §VIII.D. and CP §VIII.}**	**236d**	**7/29/98**	**6/24/99**	
10	Complete Phase 2-B RFI/EOC	120ed	7/29/98	11/26/98	8
11	Submit Phase 2-B Assessment Report to TNRCC	90ed	11/26/98	2/24/99	10
12	TNRCC Review Process	120ed	2/24/99	6/24/99	11
13	**Risk Assessment {Permit §VIII.I.}**	**128d**	**6/24/99**	**12/21/99**	
14	Submit RFI Risk Assessment	60ed	6/24/99	8/23/99	12
15	TNRCC Review Process	120ed	8/23/99	12/21/99	14
16	**Corrective Measures Study {Permit §VIII.I. and CP §IX.}**	**131d**	**12/21/99**	**6/20/00**	
17	Submit Corrective Measures Study	60ed	12/21/99	2/19/00	15
18	TNRCC Review Process	120ed	2/21/00	6/20/00	17
19	**Corrective Measures Implementation {Permit §VIII.J. and CP §X.}**	**473d**	**6/20/00**	**4/11/02**	
20	Submit Proposed Permit Modification	90ed	6/20/00	9/18/00	18
21	Submit Corrective Measures Implementation Work Plan	90ed	6/20/00	9/18/00	18
22	TNRCC Review Process	120ed	9/18/00	1/16/01	20,21
23	Perform Corrective Action	360ed	1/16/01	1/11/02	22
24	Submit Corrective Measures Report	90ed	1/11/02	4/11/02	23
25					
26	**Compliance Activities {Permit §IV.C. and CP §VI.}**	**770d**	**1/7/98**	**12/13/00**	
27	**Impoundment Inspections (Weekly)**	**770d**	**1/7/98**	**12/13/00**	
182	**Water Level Measurements (Monthly)**	**740d**	**1/21/98**	**11/15/00**	
218	**Monitor Well Inspections (Quarterly)**	**658d**	**3/18/98**	**9/20/00**	
230	**Ground Water Sampling (Semiannual)**	**659d**	**3/18/98**	**9/22/00**	
237					
238					

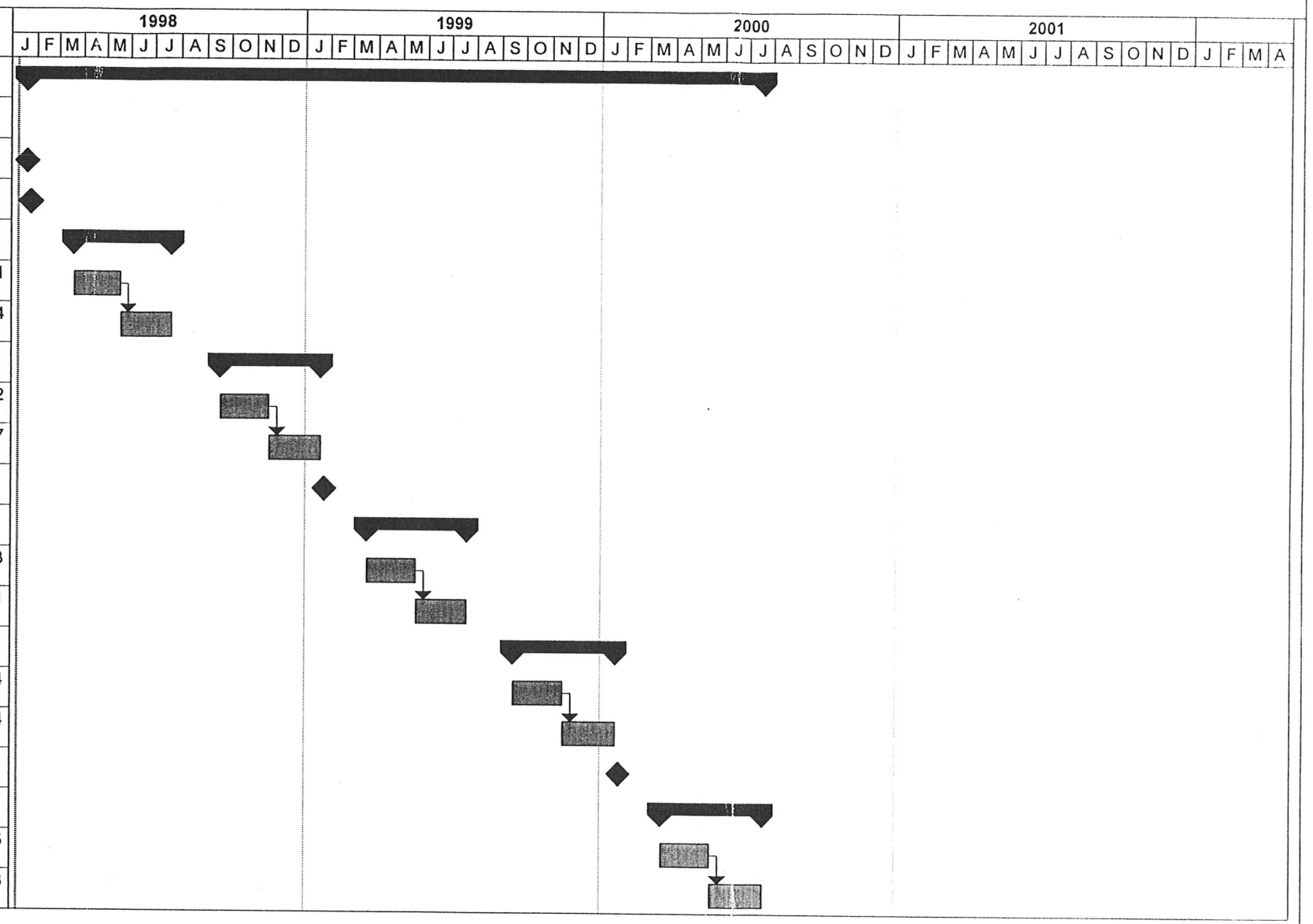


Project:
Date: 1/9/98

Task — Milestone — Rolled Up Task — Rolled Up Progress
Progress — Summary — Rolled Up Milestone

COMBINED EOC/RFI SEMI-ANNUAL SCHEDULE REVISION

ID	Task Name/Permit or CP Section No.	Duration	Start	Finish	Predec
239	**Post-Closure Care Reporting 1997 through 2000**	**656d**	**1/21/98**	**7/21/00**	
240	**Semiannual Report - January 21, 1998 {CP §VII.B.2.}**	**0d**	**1/21/98**	**1/21/98**	
241	Submit Report to TNRCC	0d	1/21/98	1/21/98	
242	**1997 Annual Report - January 25, 1998 {Permit §V.F. and §III.B.1}**	**1d**	**1/25/98**	**1/25/98**	
243	**Semiannual Report - July 21, 1998 {CP §VII.B.2.}**	**87d**	**3/20/98**	**7/21/98**	
244	Perform Data Evaluation	60ed	3/20/98	5/19/98	231
245	Submit Report to TNRCC	63ed	5/19/98	7/21/98	244
246	**Semiannual Report - January 21, 1999 {CP §VII.B.2.}**	**89d**	**9/18/98**	**1/21/99**	
247	Perform Data Evaluation	60ed	9/18/98	11/17/98	232
248	Submit Report to TNRCC	65ed	11/17/98	1/21/99	247
249	**1998 Annual Report - January 25, 1999 {Permit §V.F. and §III.B.1}**	**1d**	**1/25/99**	**1/25/99**	
250	**Semiannual Report - July 21, 1999 {CP §VII.B.2.}**	**88d**	**3/19/99**	**7/21/99**	
251	Perform Data Evaluation	60ed	3/19/99	5/18/99	233
252	Submit Report to TNRCC	64ed	5/18/99	7/21/99	251
253	**Semiannual Report - January 21, 2000 {CP §VII.B.2.}**	**91d**	**9/17/99**	**1/21/00**	
254	Perform Data Evaluation	60ed	9/17/99	11/16/99	234
255	Submit Report to TNRCC	66ed	11/16/99	1/21/00	254
256	**1999 Annual Report - January 25, 1999 {Permit §V.F. and §III.B.1}**	**1d**	**1/25/00**	**1/25/00**	
257	**Semiannual Report - July 21, 2000 {CP §VII.B.2.}**	**91d**	**3/17/00**	**7/21/00**	
258	Perform Data Evaluation	60ed	3/17/00	5/16/00	235
259	Submit Report to TNRCC	66ed	5/16/00	7/21/00	258



Project:
Date: 1/9/98

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress