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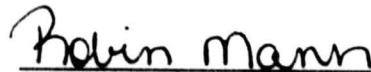
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Southern Pacific Transportation Company

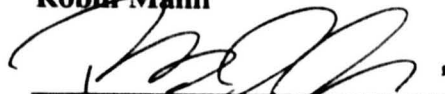
**Semiannual Monitoring Report:**  
**First Semiannual Event 1998**  
*Houston Wood Preserving Works*  
*Houston, Texas*

July 16, 1998

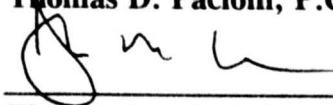
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## **1.0 INTRODUCTION**

### **1.1 BACKGROUND**

On March 3 and 4, 1998, Environmental Resources Management (ERM) conducted ground water sampling activities 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 the on-site wells and piezometers associated with a closed surface impoundment (TNRCC Permit Unit No. II.B.1) as described in RCRA Permit No. HW-50343-000 and associated Compliance Plan (CP-50343), both issued by the Texas Natural Resource Conservation Commission (TNRCC). The sampling event, analytical data, and this data evaluation report represent the first semiannual monitoring period for 1998 (i.e., January 1 through June 30) and fulfill the semiannual reporting requirements described in Compliance Plan Section VII.B.2.

### **1.2 REPORT CONTENT AND ORGANIZATION**

Section VII.B.2 of the Compliance Plan (CP) 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 2.0 of this report. As of June 30, 1998, 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 Section VII.B.2:

1. A narrative summary of the evaluations made in accordance with CP Sections V, VI, and VII for the preceding six-month period. These periods shall be January 1 through June 30 and July 1 through December 31;
2. The results of the chemical analyses, submitted in a tabulated format in a form acceptable to the Executive Director, which clearly indicates each parameter that exceeds the Ground Water Protection Standard (GWPS). Copies of the original laboratory report for chemical analyses showing detection limits and quality control and quality assurance data shall be provided if requested by the Executive Director;
3. Tabulation of all water level elevations (relative to mean sea level), depth to water measurements, and total depth of well measurements collected since the data that was submitted in the previous semiannual report;
4. Potentiometric surface maps showing the elevation of the water table at the time of sampling;

5. If a recovery system is installed, potentiometric surface maps showing delineation of the radius of influence, minimum and maximum gradient within the hydrologically influenced area, and the direction of ground-water flow gradients outside the radius of influence;
6. A notation of the presence or absence of NAPLs, both light and dense phases, in each well during each sampling event since the last event covered in the previous semiannual report and tabulation of depth and thickness of NAPLs, if detected;
7. If a recovery system is installed, monthly tabulations of quantities of recovered ground-water and NAPLs (if encountered), and graphs of weekly recorded flow rates versus time for the recovery wells during each quarter;
8. Tabulation of all data evaluation results pursuant to Section VI.D and status of each well listed on CP Table III with regard to compliance with the corrective action objectives and compliance with the Ground-water Protection Standards;
9. Maps of the contaminated area depicting concentrations of naphthalene, acenaphthene, and total benzene, toluene, ethylbenzene, and xylenes (BTEX) as isopleth contours;
10. An updated schedule summary as required by Section XI.A;
11. Summary of any changes made to the monitoring/corrective action program and a summary of recovery well inspections, repairs, and any operational difficulties;
12. Recommendation for any changes; and,
13. Any other items requested by the Executive Director.

## **2.0 FIRST SEMIANNUAL GROUND WATER SAMPLING EVENT**

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

### **2.1 NARRATIVE SUMMARY OF FIRST SEMIANNUAL ACTIVITIES**

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

#### **2.1.1 Corrective Action Program**

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 definitions of the A-TZ and B-TZ are consistent with the UTZ and STZ, respectively, as 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 March 3 and 4, 1998. 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 a U.S. EPA document titled *Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures* (EPA/540/S-95/504) published in April 1996. Purging and sampling were performed using a low-flow pump which drew a sample directly from the screened interval of the well.

Dedicated polyethylene tubing placed in the well during the previous sampling event was used for this sampling event. A Master-Flex<sup>®</sup> peristaltic pump was placed next to each well during sampling. Using a one-foot section of disposable silicon 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 approximately 0.5 L/min. A one-liter Pyrex<sup>®</sup> measuring cup was used to collect purge water in one-liter increments to evaluate field parameters, including 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 in Appendix B.

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

## 2.2

### ***ANALYTICAL RESULTS***

The results of the chemical analyses performed on the A-TZ and B-TZ ground water samples collected during the first semiannual sampling event of 1998 are summarized in Tables 2-1 and 2-2, respectively. Those compounds reported by the laboratory to be above the GWPS are indicated in bold italics on the tables. The CP sets the GWPS at the practical quantitation limit (PQL) for each of the compounds analyzed.

## 2.3

### ***WATER LEVEL AND TOTAL DEPTH MEASUREMENT***

Because low-flow sampling procedures were utilized for this sampling event, it was important to reduce disruption of the water column to the extent practical prior to sampling. To accomplish this, water levels were measured on March 3 and 4, 1998, prior to sampling, using a Solinst<sup>®</sup> 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 of the water column was reduced. No non-aqueous phase liquid (NAPL) was noted on the probe at any of the wells measured. Total depth measurements were collected following ground water sampling in accordance with the methodology described in EPA's low-flow guidance (U.S. EPA, April 1996) which suggests that a probe be lowered gently through the water column to the bottom of the well following sample collection.

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 were 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. Figures 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 June 30, 1998, no recovery system had been installed at the closed surface impoundment. Therefore, this item is not addressed herein.

#### **2.6 NON-AQUEOUS PHASE LIQUIDS**

The wells and piezometers were examined for the presence of light NAPLs before low-flow sampling and dense NAPLs after low-flow sampling was completed, in order to minimize disruption of the water column prior to sampling. The low-flow sampling method resulted in little or no drawdown. Accordingly, dense NAPL measurements, if present, would not have been significantly affected by prior ground water sample collection. An MMC<sup>®</sup> Model D-240 oil/water interface probe was used to measure for light and heavy NAPLs. No NAPLs were detected in any of the wells sampled during this semiannual event.

#### **2.7 NAPL RECOVERIES**

As of June 30, 1998, no recovery system had been installed at the closed surface impoundment. Therefore, this item is not addressed herein.

#### **2.8 ANALYTICAL DATA EVALUATION**

CP Section VI.D describes two methods which may be used to determine the compliance status of a given well. The analytical results may be either directly compared to the GWPS (CP Table I; included in Appendix A herein), or statistically compared to the GWPS using the 99% significance level of the t-distribution. Table 2-4 shows the results of a direct comparison of data from the second semiannual sampling event to the GWPS. Wells and piezometers were considered to be compliant if each of the constituents listed in CP Table I was reported at a concentration less than or equal to the Concentration Limit (i.e., the GWPS). Conversely, 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 measured during the first semiannual sampling event of 1998 are illustrated in Figures 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***

A change was made to the NAPL and total well depth measurement protocol. Instead of obtaining all measurements before sampling, NAPL and depth to water were measured prior to low-flow sampling and DNAPL and total well depth were measured after sampling to reduce disturbance of the water column. 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 will be included in the 1998 Annual Report.

## 2.12 ***RECOMMENDATIONS FOR CHANGES***

Beginning with the second 1998 ground water sampling event, ground water samples required pursuant to the Compliance Plan will be collected utilizing dedicated polytetrafluoroethylene (PTFE) tubing. The PTFE tubing will be dedicated in each well, and will be affixed to disposable silicon tubing at the surface in order to collect samples using low-flow pumping.

In addition, as described in a letter to the TNRCC dated June 1, 1998, it is proposed that the following sequence of activities be continued in the second 1998 sampling event.

- measure for light non-aqueous phase liquid (LNAPL) measurements;
- complete purging and sampling; and
- measure for DNAPL and total well depth.

2.13

***OTHER REQUESTED ITEMS***

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



TABLE 2-1

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

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

Analyte	PQL & GWPS	MW-01A 3-3-98	MW-02 3-3-98	MW-03 3-3-98	MW-04 3-3-98	MW-05 3-4-98	MW-07 3-4-98	MW-08 3-4-98	MW-09 3-4-98	MW-10A 3-3-98	MW-11A 3-3-98
Benzene	0.005	<b>0.011</b>	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	<b>0.010</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylene (total)	0.005	<b>0.024</b>	ND	ND	ND	<b>0.007</b>	ND	ND	ND	ND	<b>0.006</b>
Acenaphthene	0.010	<b>0.094</b>	<b>0.026</b>	<b>0.060</b>	ND	ND	ND	<b>0.032</b>	ND	ND	<b>0.063</b>
Acenaphthylene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Chloroethoxy)methane	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzofuran	0.010	<b>0.059</b>	<b>0.020</b>	<b>0.044</b>	ND	ND	ND	<b>0.022</b>	ND	ND	<b>0.017</b>
Di-n-butylphthalate	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dimethylphenol	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4,6-Dinitro-o-cresol	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2,4-Dinitrotoluene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	<b>0.023</b>
2,6-Dinitrotoluene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Diphenylhydrazine	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
bis(2-Ethylhexyl)phthalate	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	0.010	<b>0.068</b>	<b>0.020</b>	<b>0.052</b>	ND	ND	ND	<b>0.023</b>	ND	ND	<b>0.023</b>
2-Methylnaphthalene	0.010	<b>0.041</b>	ND	ND	ND	ND	ND	<b>0.016</b>	ND	ND	ND
Naphthalene	0.010	<b>0.320</b>	<b>0.031</b>	ND	ND	ND	ND	<b>0.300</b>	ND	ND	ND
Nitrobenzene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Nitrophenol	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pentachlorophenol	0.050	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	0.010	<b>0.028</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenol	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

## NOTES:

- 1) All values reported in mg/L. ND - Not detected at the Practical Quantitation Limit (PQL).
- 2) PQL - *Practical Quantitation Limit* as defined on Table 1 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 (GWPS)*.
- 3) Bold-italic indicates values reported above the Ground Water Protection Standard.



TABLE 2-2

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

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

Analyte	PQL & GWPS	MW-10B 3-3-98	MW-11B 3-3-98	P-10 3-4-98	P-11 3-4-98	P-12 3-4-98
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	ND	ND	ND	ND	ND
Toluene	0.005	ND	ND	ND	ND	ND
Xylene (total)	0.005	ND	ND	ND	ND	ND
Acenaphthene	0.010	<b>0.018</b>	ND	<b>0.089</b>	<b>0.023</b>	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	ND	ND	<b>0.038</b>	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	<b>0.012</b>	ND	<b>0.060</b>	<b>0.014</b>	ND
2-Methylnaphthalene	0.010	ND	ND	<b>0.018</b>	ND	ND
Naphthalene	0.010	ND	ND	<b>5.800</b>	ND	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	ND	ND	<b>0.028</b>	ND	ND
Phenol	0.010	ND	ND	ND	ND	ND
Pyrene	0.010	ND	ND	ND	ND	ND

## NOTES:

- 1) All values reported in mg/L. ND - Not detected at the Practical Quantitation Limit (PQL).
- 2) PQL - *Practical Quantitation 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 (GWPS)*.
- 3) Bold-italic indicates values reported above the Ground Water Protection Standard.

TABLE 2-3

## Water Level and Total Depth of Well Measurements

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

Well ID	Top of Casing Elevation (msl)	Depth to Water (ft TOC)	Water Surface Elevation (msl)	Total Depth of Well as Measured (ft TOC)	Total Depth as Logged (ft TOC) *
MW-01A	47.95'	2.87'	45.08'	19.65'	20.20'
MW-02	48.03'	2.88'	45.15'	18.52'	20.30'
MW-03	48.55'	3.37'	45.18'	19.95'	20.90'
MW-04	49.85'	5.00'	44.85'	21.75'	23.40'
MW-05	49.35'	4.54'	44.81'	27.42'	28.30'
MW-07	48.86'	4.14'	44.72'	24.76'	N/A
MW-08	49.37'	4.38'	44.99'	25.06'	26.80'
MW-09	49.29'	4.15'	45.14'	25.40'	26.80'
MW-10A	49.90'	4.87'	45.03'	25.60'	25.90'
MW-11A	50.04'	5.16'	44.88'	24.01'	24.40'

Well ID	Top of Casing Elevation (msl)	Depth to Water (ft TOC)	Water Surface Elevation (msl)	Total Depth of Well as (ft TOC) Measured	Total Depth as Logged (ft TOC) *
MW-10B	49.97'	5.00'	44.97'	46.52'	48.80'
MW-11B	50.19'	5.35'	44.84'	46.73'	46.80'
P-10	47.72'	N/A	N/A	N/A	N/A
P-11	49.02'	4.08'	44.94'	42.79'	51.80'
P-12	48.82'	3.78'	45.04'	42.84'	51.70'

## NOTES:

- 1) msl - feet above mean sea level
- 2) ft TOC-feet below the Top Of (the well) Casing
- 3) \* Logged during well installation
- 4) N/A - Information not available

TABLE 2-4

Compliance Status of Wells and Piezometers

First Semiannual Sampling Event, 1998

Houston Wood Preserving Works

Houston, Texas

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

B-TZ Monitoring Location	Compliance Status
MW-10B	Non-Compliant
MW-11B	Compliant
P-10	Non-Compliant
P-11	Non-Compliant
P-12	Compliant



Source: U.S.G.S. Quadrangle  
 Settegast, Texas  
 1982  
 7.5 Minute Series (Topographic)



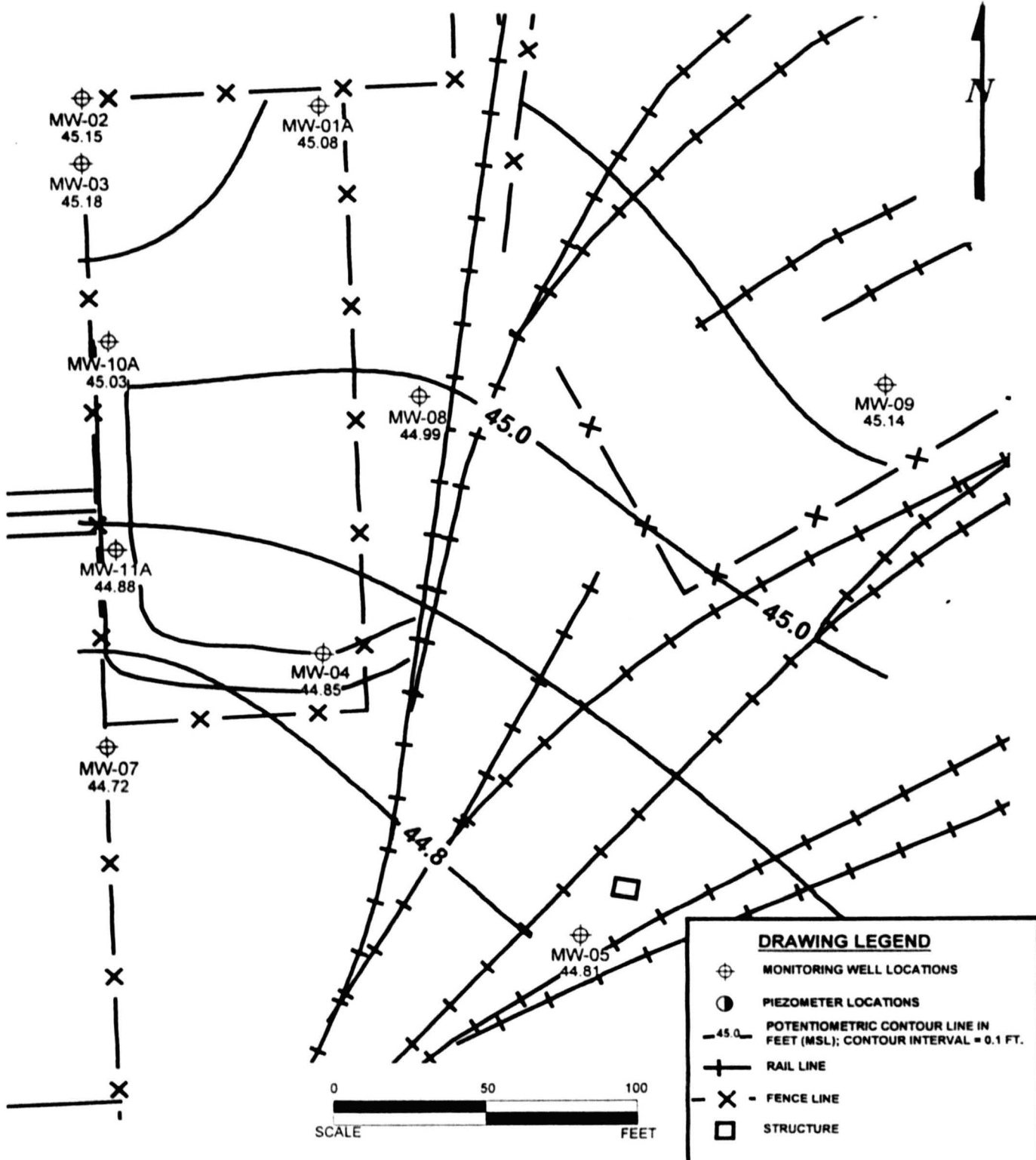
**ERM-Southwest, Inc.**  
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**ERM.**

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

DATE: 11/17/97

W.O.NO.: 42209A17

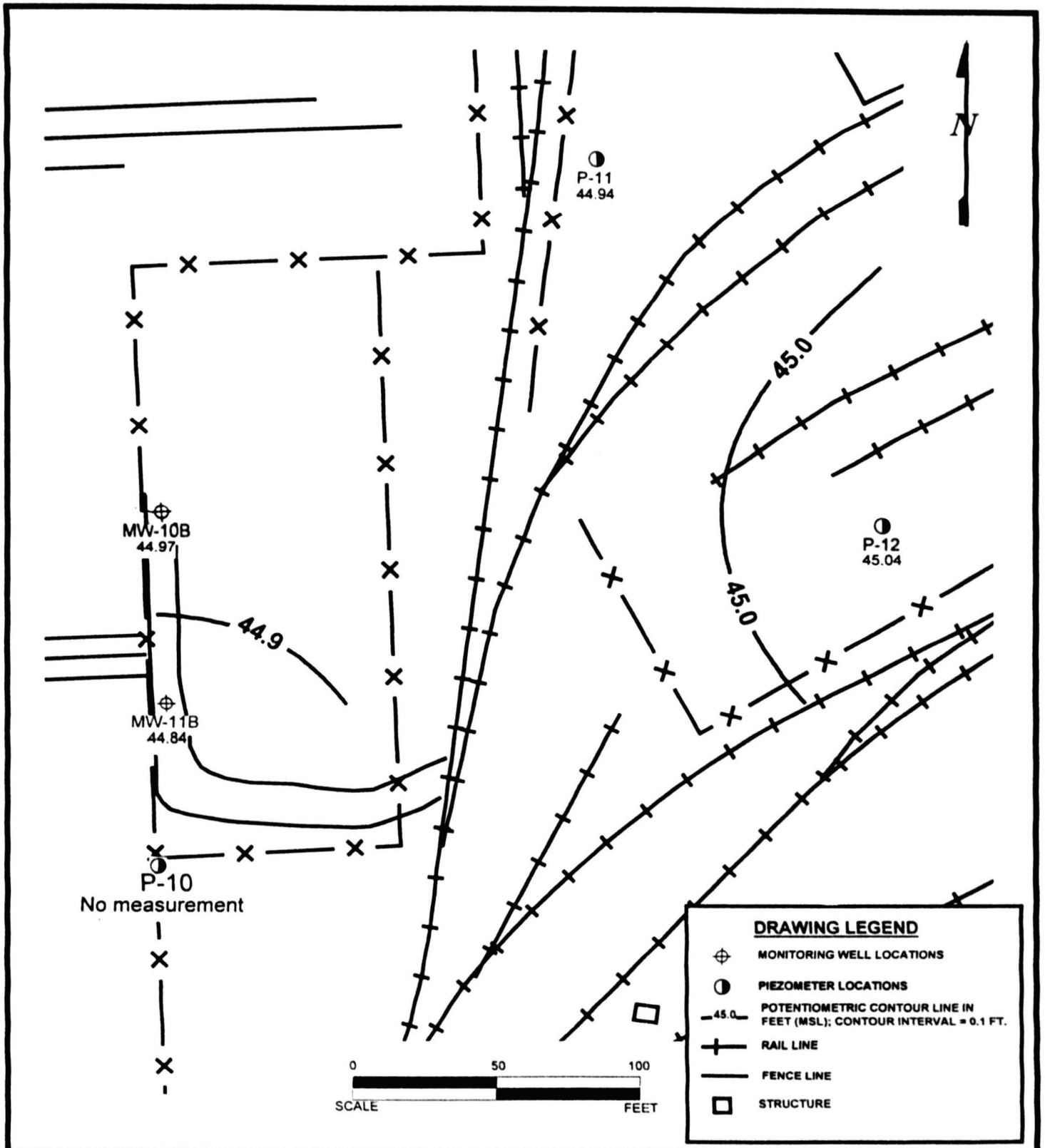


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**ERM**

DATE: 6/24/98

DRAWING NO.: 42209A51F98

FIGURE 2-1  
 A-TZ - POTENTIOMETRIC SURFACE  
 MARCH 4, 1998  
 TNRCC PERMIT UNIT No. II.B.1.  
 HOUSTON WOOD PRESERVING WORKS  
 HOUSTON, TEXAS

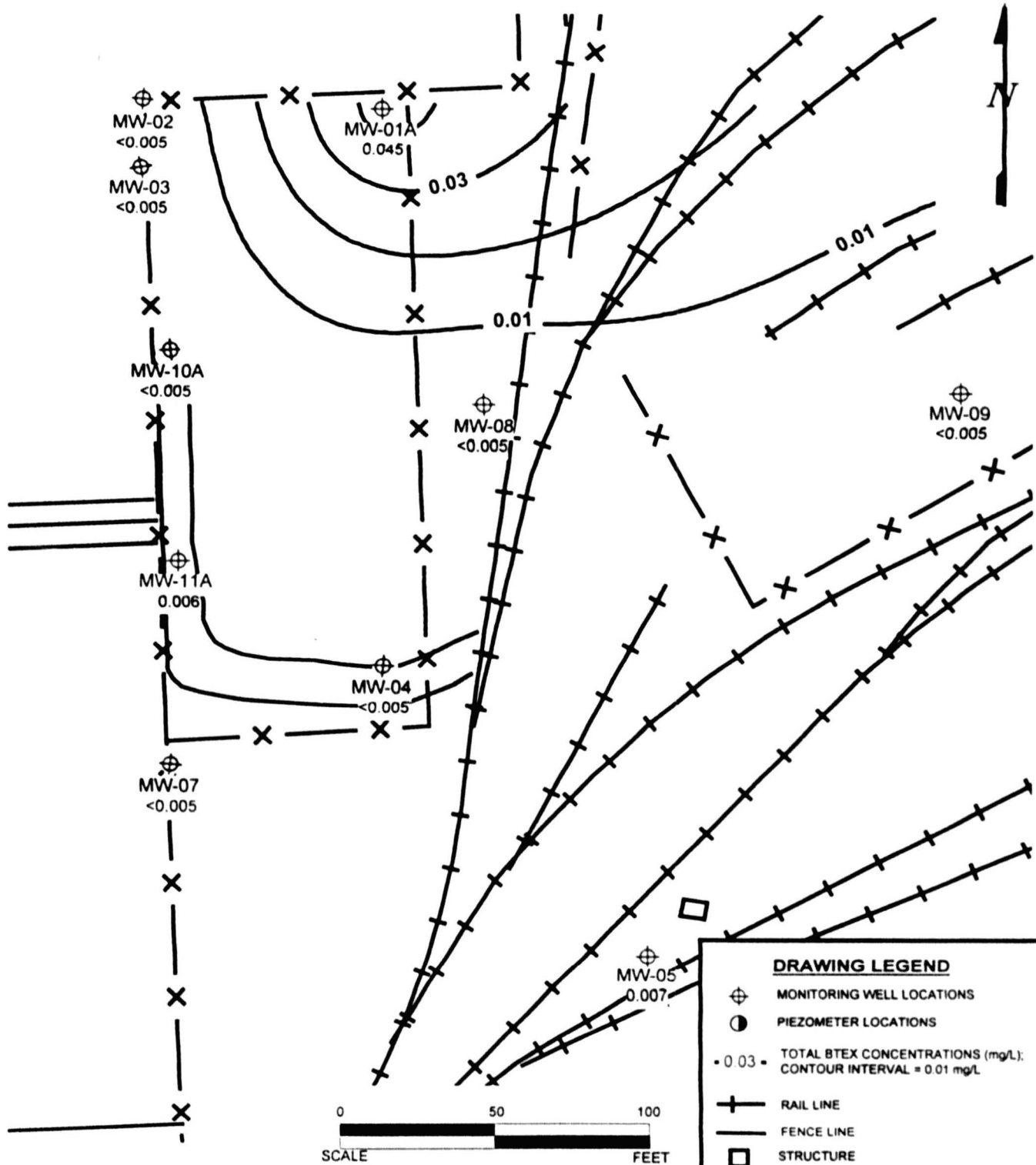


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**ERM.**

DATE: 6/24/98

DRAWING NO.: 42209A52F98

**FIGURE 2-2**  
**B-TZ - POTENTIOMETRIC SURFACE**  
 MARCH 4, 1998  
 TNRCC PERMIT UNIT No. II.B.1.  
 HOUSTON WOOD PRESERVING WORKS  
 HOUSTON, TEXAS



**DRAWING LEGEND**

- ⊕ MONITORING WELL LOCATIONS
- PIEZOMETER LOCATIONS
- 0.03 - TOTAL BTEX CONCENTRATIONS (mg/L); CONTOUR INTERVAL = 0.01 mg/L
- + RAIL LINE
- FENCE LINE
- STRUCTURE



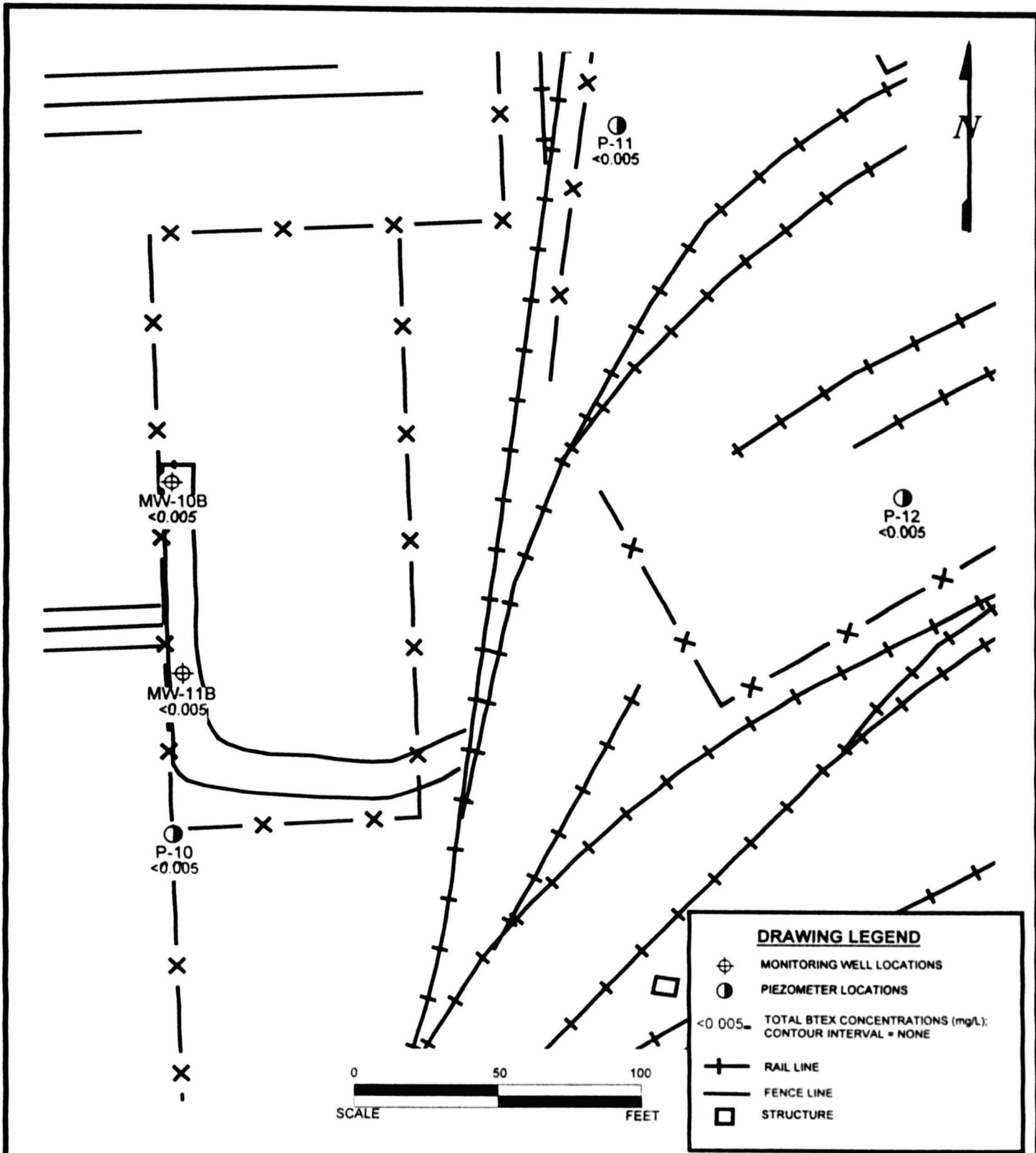
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DATE: 6/24/98

DRAWING NO.: 42209A53F98

**FIGURE 2-3**  
TOTAL BTEX IN A-TZ - GROUND WATER (mg/L)  
MARCH 4, 1998  
TNRCC PERMIT UNIT No. II.B.1.  
HOUSTON WOOD PRESERVING WORKS  
HOUSTON, TEXAS





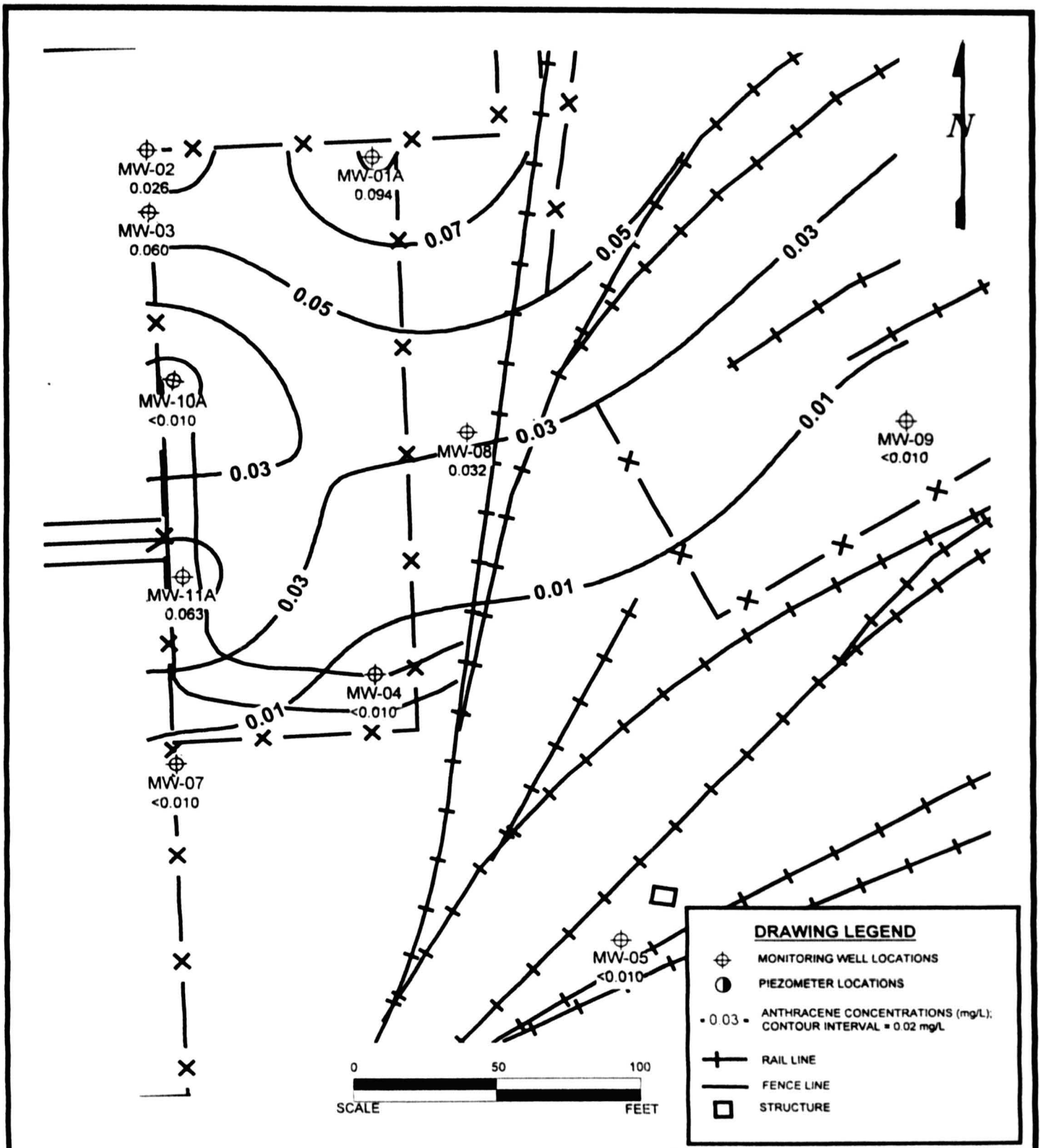
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**ERM.**

DATE: 5/22/98

DRAWING NO.: 42209A54E98

FIGURE 2-4  
 TOTAL BTEX IN B-TZ - GROUND WATER (mg/L)  
 MARCH 4, 1998  
 TNRCC PERMIT UNIT No. II.B.1.  
 HOUSTON WOOD PRESERVING WORKS  
 HOUSTON, TEXAS





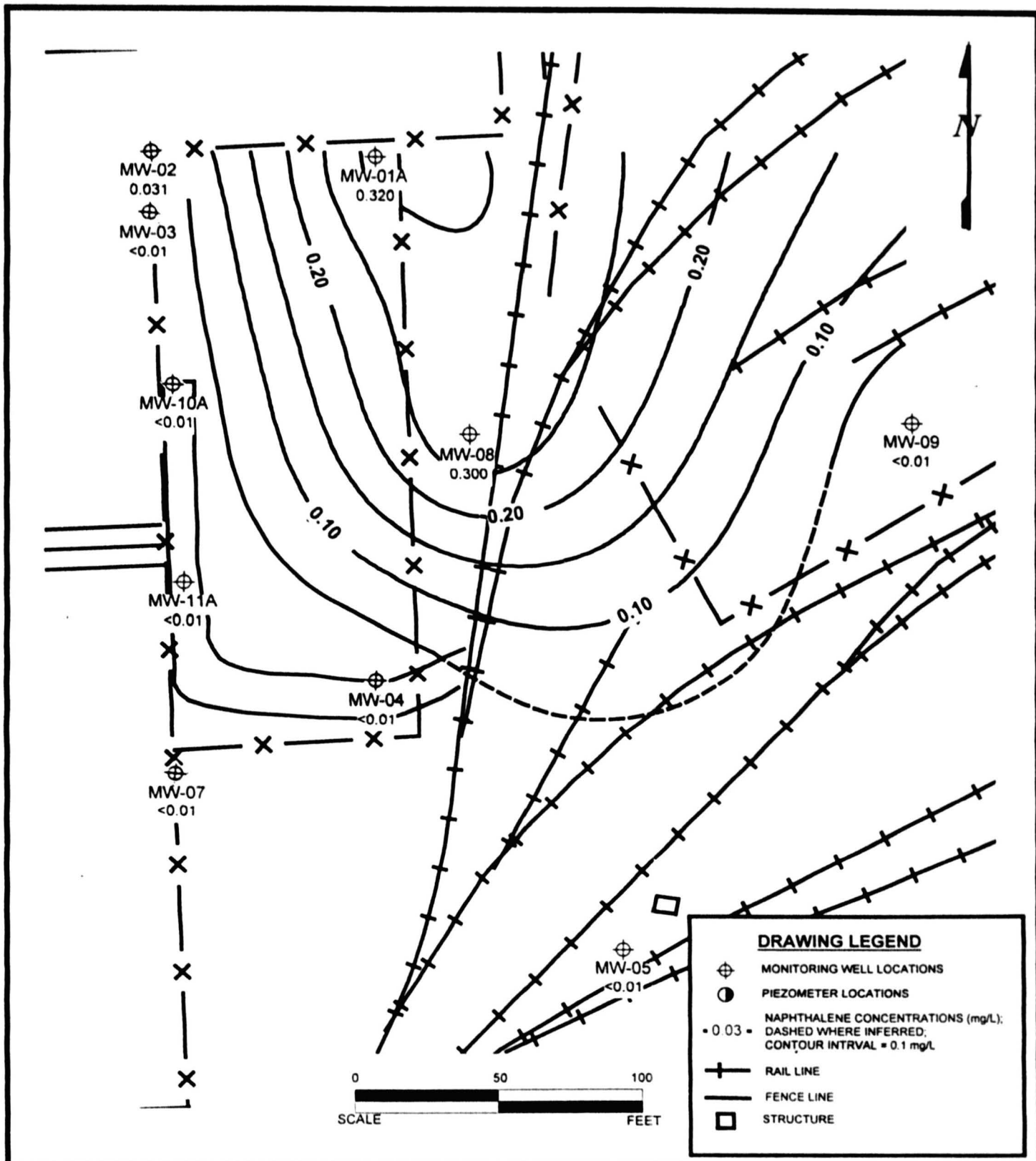
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DATE: 5/22/98

DRAWING NO.: 42209A55E98

**FIGURE 2-5**  
 ACENAPHTHENE IN A-TZ - GROUND WATER (mg/L)  
 MARCH 4, 1998  
 TNRCC PERMIT UNIT No. II.B.1.  
 HOUSTON WOOD PRESERVING WORKS  
 HOUSTON, TEXAS





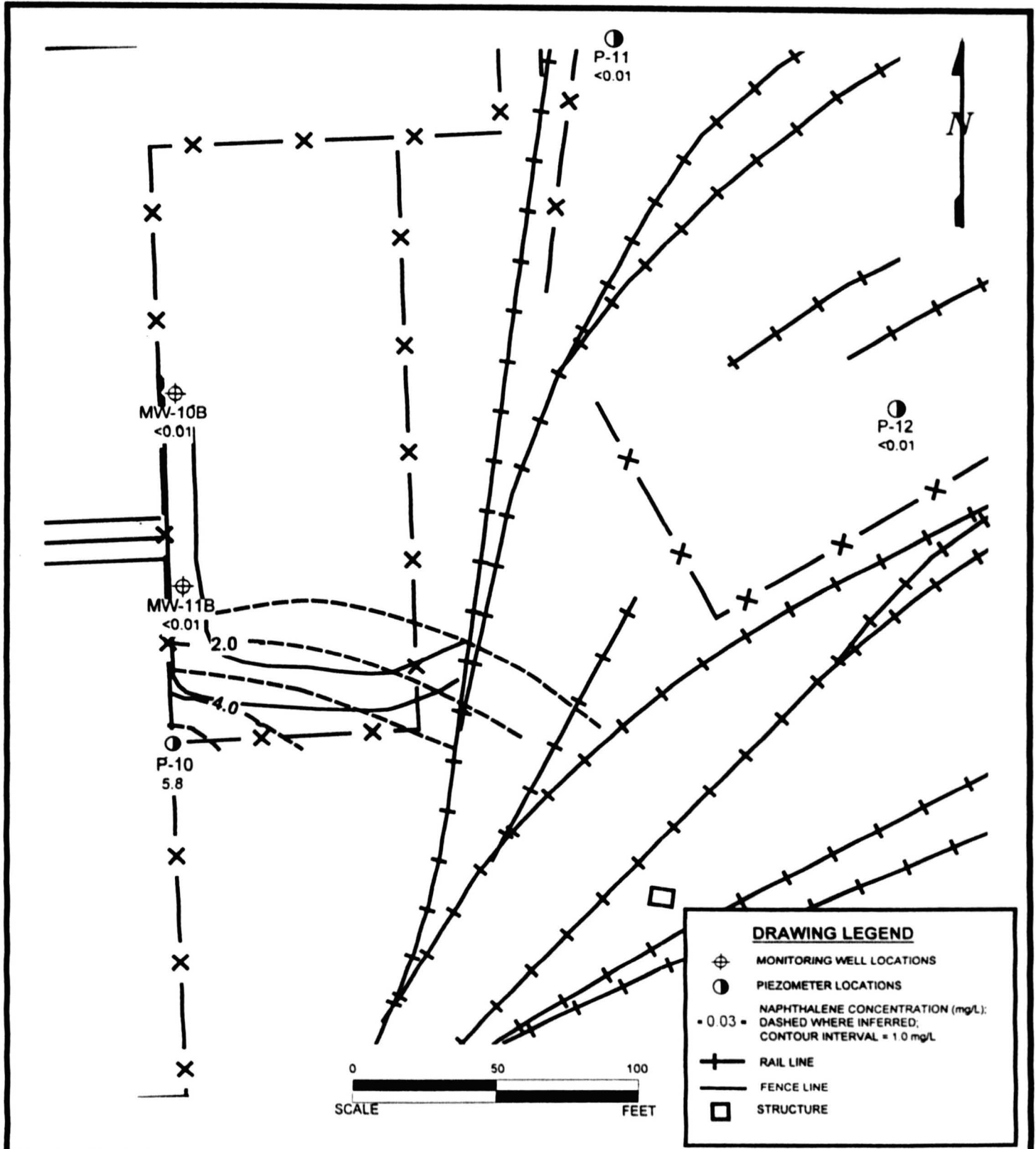
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DATE: 6/24/98

DRAWING NO.: 42209A57F98

**FIGURE 2-7**  
**NAPHTHALENE IN A-TZ - GROUND WATER (mg/L)**  
**MARCH 4, 1998**  
**TNRCC PERMIT UNIT No. II.B.1.**  
**HOUSTON WOOD PRESERVING WORKS**  
**HOUSTON, TEXAS**



**ERM-Southwest, Inc.**  
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DATE: 6/24/98

DRAWING NO.: 42209A58F98

**FIGURE 2-8**  
NAPHTHALENE IN B-TZ - GROUND WATER (mg/L)  
MARCH 4, 1998  
TNRCC PERMIT UNIT No. II.B.1.  
HOUSTON WOOD PRESERVING WORKS  
HOUSTON, TEXAS

TABLE I

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

COLUMN A Hazardous Constituents	COLUMN B Concentration Limits (mg/l)
Acenaphthene	ND (0.010)
Acenaphthylene	ND (0.010)
Anthracene	ND (0.010)
Benzene	ND (0.005)
Benzo(a)anthracene	ND (0.010)
Benzo(a)pyrene	ND (0.010)
Bis(2-ethylhexyl)phthalate	ND (0.010)
Bis(2-chloroethoxy)methane	ND (0.010)
Chlorobenzene	ND (0.005)
2-Chloronaphthalene	ND (0.010)
Chrysene	ND (0.010)
Dibenzofuran	ND (0.010)
1,2-Dichloroethane	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-Nitrophenol	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)

## NOTES:

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.

\* Because Methylene Chloride is listed herein with a PQL of 0.010 mg/L, and is the same compound as Dichloromethane, comparisons for compliance will be made at 0.010 mg/L.

TABLE III

Designation of Wells by Function

<u>1. POINT OF COMPLIANCE WELLS</u>	<u>SAMPLING FREQUENCY</u>
A. A-TZ or Upper Transmissive Zone	
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.

<u>3. CORRECTIVE ACTION OBSERVATION WELLS</u>	<u>SAMPLING FREQUENCY</u>
A. On-site A-TZ or Uppermost Transmissive Zone	
MW-4	Semiannual
MW-5	Semiannual
MW-7	Semiannual
MW-8	Semiannual
MW-9	Semiannual

NOTE:

This table has been modified from CP-50343.

TABLE B-1

## Ground Water Sampling Field Parameters

First Semiannual Sampling Event, 1998  
Houston Wood Preserving Works  
Houston, Texas

<u>Well ID</u> <u>Date Sampled</u>	<u>MW-01A</u> <u>3/3/98</u>	<u>MW-02</u> <u>3/3/98</u>	<u>MW-03</u> <u>3/3/98</u>	<u>MW-04</u> <u>3/3/98</u>	<u>MW-05</u> <u>3/4/98</u>	<u>MW-07</u> <u>3/4/98</u>	<u>MW-08</u> <u>3/4/98</u>	<u>MW-09</u> <u>3/4/98</u>
Time Sampled (hrs)	1504	1550	1615	1125	1218	0807	1327	1021
Temperature (°C)	20.4	19.4	19.6	21.0	21.5	20.0	21.1	21.9
pH (Standard Units)	6.72	6.70	6.71	6.60	6.79	6.90	6.85	6.80
Specific Conductivity (uS)	1620	590	1440	930	784	1028	607	865
Turbidity (ntu)	2.71	6.40	2.01	0.09	0.45	2.78	1.04	1.86

<u>Well ID</u> <u>Date Sampled</u>	<u>MW-10A</u> <u>3/3/98</u>	<u>MW-10B</u> <u>3/3/98</u>	<u>MW-11A</u> <u>3/3/98</u>	<u>MW-11B</u> <u>3/3/98</u>	<u>P-10</u> <u>3/4/98</u>	<u>P-11</u> <u>3/4/98</u>	<u>P-12</u> <u>3/4/98</u>
Time Sampled (hrs)	1338	1410	1208	1254	0857	1423	1113
Temperature (°C)	20.1	21.0	20.8	21.7	21.3	22.5	22.8
pH (Standard Units)	6.80	6.80	6.80	6.90	6.65	6.46	6.53
Specific Conductivity (uS)	1640	1410	1410	1230	1282	1432	1501
Turbidity (ntu)	11	8	31	13	8.62	1.23	0.33

# Pace Analytical

Pace Analytical Services, Inc.  
900 Gemini Avenue  
Houston, TX 77058  
Tel: 281-488-1810  
Fax: 281-488-4661

April 01, 1998

Mr. Tom Pacioni  
ERM-Southwest, Inc.  
16300 Katy Frwy, Suite 300  
Houston, TX 77094

RE: Pace Project Number: 851674  
Client Project ID: HWPW

Dear Mr. Pacioni:

Enclosed are the results of analyses for sample(s) received by the laboratory on March 5, 1998. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Elessa Sommers  
Project Manager

Enclosures

## REPORT OF LABORATORY ANALYSIS

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DATE: 04/01/98  
PAGE: 1

ERM-Southwest, Inc.  
16300 Katy Frwy, Suite 300  
Houston, TX 77094

Pace Project Number: 851674  
Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
Phone: 281-579-8999

Solid results are reported on a wet weight basis

Pace Sample No: 85173763 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-01A-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC/MS -- VOA

GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/17/98	NZAI	75-09-2	
Benzene	11	ug/L	5	03/17/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/17/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/17/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/17/98	NZAI	108-90-7	
Ethylbenzene	9.6	ug/L	5	03/17/98	NZAI	100-41-4	
Xylene (Total)	24	ug/L	5	03/17/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	97	%		03/17/98	NZAI	1868-53-7	
Toluene-d8 (S)	98	%		03/17/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	95	%		03/17/98	NZAI	460-00-4	

GC/MS -- Semi-VOA

Semivolatile Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	320	ug/L	20	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	41	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	94	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	59	ug/L	10	03/16/98	VHEB	132-64-9	

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Fax: 281-488-4661

DATE: 04/01/98  
PAGE: 2

Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173763 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-01A-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	68	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	28	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	43	%		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	58	%		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	21	%		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	8	%		03/16/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	44	%		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	79	%		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Tel: 281-488-1810  
Fax: 281-488-4661

DATE: 04/01/98  
PAGE: 3

Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173771 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-02-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

GC/MS -- VOA

GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/17/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/17/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/17/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/17/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/17/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/17/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/17/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	98	μ		03/17/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	μ		03/17/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	99	μ		03/17/98	NZAI	460-00-4	

GC/MS -- Semi-VOA

Semivolatile Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	31	ug/L	10	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	ND	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	26	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	20	ug/L	10	03/16/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	20	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	

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DATE: 04/01/98  
PAGE: 4

Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173771 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-02-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	48	μ		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	60	μ		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	34	μ		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	25	μ		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	58	μ		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	66	μ		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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DATE: 04/01/98  
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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173789 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-03-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	96 %	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	96 %	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	102 %	03/16/98 NZAI 460-00-4

## GC/MS -- Semi-VOA

Semivolatiles Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/17/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/17/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/17/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/17/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/17/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/17/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/17/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/17/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/17/98 VHEB 606-20-2
Acenaphthene	60 ug/L 10	03/17/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/17/98 VHEB 100-02-7
Dibenzofuran	44 ug/L 10	03/17/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/17/98 VHEB 121-14-2
Fluorene	52 ug/L 10	03/17/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/17/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/17/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/17/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/17/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/17/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/17/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/17/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/17/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173789 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-03-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/17/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/17/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/17/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/17/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/17/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	35	µ		03/17/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	44	µ		03/17/98	VHEB	321-60-8	
Phenol-d6 (S)	16	µ		03/17/98	VHEB	13127-88-3	
2-Fluorophenol (S)	6	µ		03/17/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	52	µ		03/17/98	VHEB	118-79-6	
Terphenyl-d14 (S)	76	µ		03/17/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173797 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-04-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	104 %	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	100 %	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	98 %	03/16/98 NZAI 460-00-4

## GC/MS -- Semi-VOA

Semivolatiles Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/23/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/23/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/23/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/23/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/23/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/23/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/23/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/23/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/23/98 VHEB 606-20-2
Acenaphthene	ND ug/L 10	03/23/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/23/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/23/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/23/98 VHEB 121-14-2
Fluorene	ND ug/L 10	03/23/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/23/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/23/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/23/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/23/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/23/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/23/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/23/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/23/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173797 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-04-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	26	μ		03/23/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	32	μ		03/23/98	VHEB	321-60-8	
Phenol-d6 (S)	4	μ		03/23/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	5	μ		03/23/98	VHEB	367-12-4	2
2,4,6-Tribromophenol (S)	13	μ		03/23/98	VHEB	118-79-6	
Terphenyl-d14 (S)	31	μ		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173805 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-05-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/15/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/15/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/15/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/15/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/15/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/15/98 NZAI 100-41-4
Xylene (Total)	6.6 ug/L 5	03/15/98 NZAI 1330-26-7
Dibromofluoromethane (S)	110 %	03/15/98 NZAI 1868-53-7
Toluene-d8 (S)	96 %	03/15/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	104 %	03/15/98 NZAI 460-00-4

## GC/MS -- Semi-VOA

Semivolatiles Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/17/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/17/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/17/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/17/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/17/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/17/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/17/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/17/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/17/98 VHEB 606-20-2
Acenaphthene	ND ug/L 10	03/17/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/17/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/17/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/17/98 VHEB 121-14-2
Fluorene	ND ug/L 10	03/17/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/17/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/17/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/17/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/17/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/17/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/17/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/17/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/17/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173805 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-05-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/17/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/17/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/17/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/17/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/17/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	70	%		03/17/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	75	%		03/17/98	VHEB	321-60-8	
Phenol-d6 (S)	40	%		03/17/98	VHEB	13127-88-3	
2-Fluorophenol (S)	26	%		03/17/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	60	%		03/17/98	VHEB	118-79-6	
Terphenyl-d14 (S)	70	%		03/17/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173813 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-07-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	102 %	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	94 %	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	98 %	03/16/98 NZAI 460-00-4

## GC/MS -- Semi-VOA

Semivolatiles Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/23/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/23/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/23/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/23/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/23/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/23/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/23/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/23/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/23/98 VHEB 606-20-2
Acenaphthene	ND ug/L 10	03/23/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/23/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/23/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/23/98 VHEB 121-14-2
Fluorene	ND ug/L 10	03/23/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/23/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/23/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/23/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/23/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/23/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/23/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/23/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/23/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173813 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-07-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	37	%		03/23/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	57	%		03/23/98	VHEB	321-60-8	
Phenol-d6 (S)	5	%		03/23/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	6	%		03/23/98	VHEB	367-12-4	2
2,4,6-Tribromophenol (S)	0	%		03/23/98	VHEB	118-79-6	3
Terphenyl-d14 (S)	55	%		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173839 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-08-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

### GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/15/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/15/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/15/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/15/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/15/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/15/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/15/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	112	%		03/15/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	%		03/15/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	104	%		03/15/98	NZAI	460-00-4	

## GC/MS -- Semi-VOA

### Semivolatiles Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	300	ug/L	20	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	16	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	32	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	22	ug/L	10	03/16/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	23	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173839      Date Collected: 03/04/98      Matrix: Water  
Client Sample ID: HWPW-MW-08-1SA98      Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	67	µ		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	64	µ		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	34	µ		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	18	µ		03/16/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	65	µ		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	110	µ		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173847 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-09-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

### GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/15/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/15/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/15/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/15/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/15/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/15/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/15/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	112	%		03/15/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	%		03/15/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	104	%		03/15/98	NZAI	460-00-4	

## GC/MS -- Semi-VOA

### Semivolatile Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/23/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/23/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/23/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98	VHEB	111-91-1	
Naphthalene	ND	ug/L	10	03/23/98	VHEB	91-20-3	
2-Methylnaphthalene	ND	ug/L	10	03/23/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/23/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/23/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	606-20-2	
Acenaphthene	ND	ug/L	10	03/23/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/23/98	VHEB	100-02-7	
Dibenzofuran	ND	ug/L	10	03/23/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	121-14-2	
Fluorene	ND	ug/L	10	03/23/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/23/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/23/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/23/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/23/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/23/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/23/98	VHEB	129-00-0	

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173847 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-09-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	62	%		03/23/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	63	%		03/23/98	VHEB	321-60-8	
Phenol-d6 (S)	16	%		03/23/98	VHEB	13127-88-3	
2-Fluorophenol (S)	14	%		03/23/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	29	%		03/23/98	VHEB	118-79-6	
Terphenyl-d14 (S)	70	%		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
 Client Project ID: HWPW

Pace Sample No: 85173854 Date Collected: 03/03/98 Matrix: Water  
 Client Sample ID: HWPW-MW-10A-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	100 x	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	96 x	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	100 x	03/16/98 NZAI 460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/16/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/16/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/16/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/16/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/16/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/16/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/16/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/16/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 606-20-2
Acenaphthene	ND ug/L 10	03/16/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/16/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/16/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 121-14-2
Fluorene	ND ug/L 10	03/16/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/16/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/16/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/16/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/16/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/16/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/16/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/16/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/16/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173854 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-10A-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	57	μ		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	64	μ		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	35	μ		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	24	μ		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	56	μ		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	76	μ		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173862 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-10B-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	100	%		03/16/98	NZAI	1868-53-7	
Toluene-d8 (S)	94	%		03/16/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	98	%		03/16/98	NZAI	460-00-4	

GC/MS -- Semi-VOA

Semivolatiles Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	ND	ug/L	10	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	ND	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	18	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	ND	ug/L	10	03/16/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	12	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173862 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-10B-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	47	×		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	59	×		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	34	×		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	22	×		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	51	×		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	74	×		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173870 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-11A-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4	
Xylene (Total)	6.0	ug/L	5	03/16/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	102	%		03/16/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	%		03/16/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	96	%		03/16/98	NZAI	460-00-4	

GC/MS -- Semi-VOA

Semivolatile Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	ND	ug/L	10	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	ND	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	63	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	17	ug/L	10	03/16/98	VHEB	132-64-9	
2,4-Dinitrotoluene	23	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	23	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173870 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-11A-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	54	%		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	68	%		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	38	%		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	28	%		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	61	%		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	65	%		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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DATE: 04/01/98  
PAGE: 23

Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No. 85173896 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-11B-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

### GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	96	%		03/16/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	%		03/16/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	102	%		03/16/98	NZAI	460-00-4	

## GC/MS -- Semi-VOA

### Semivolatile Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/23/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/23/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/23/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98	VHEB	111-91-1	
Naphthalene	ND	ug/L	10	03/23/98	VHEB	91-20-3	
2-Methylnaphthalene	ND	ug/L	10	03/23/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/23/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/23/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	606-20-2	
Acenaphthene	ND	ug/L	10	03/23/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/23/98	VHEB	100-02-7	
Dibenzofuran	ND	ug/L	10	03/23/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	121-14-2	
Fluorene	ND	ug/L	10	03/23/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/23/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/23/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/23/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/23/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/23/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/23/98	VHEB	129-00-0	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173896 Date Collected: 03/03/98 Matrix: Water  
Client Sample ID: HWPW-MW-11B-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	26	µ		03/23/98	VHEB	4165-60-0	2
2-Fluorobiphenyl (S)	38	µ		03/23/98	VHEB	321-60-8	2
Phenol-d6 (S)	4	µ		03/23/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	4	µ		03/23/98	VHEB	367-12-4	2
2,4,6-Tribromophenol (S)	22	µ		03/23/98	VHEB	118-79-6	
Terphenyl-d14 (S)	52	µ		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173904 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-999-15A98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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### GC/MS -- VOA

#### GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	104	µ		03/16/98	NZAI	1868-53-7	
Toluene-d8 (S)	98	µ		03/16/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	100	µ		03/16/98	NZAI	460-00-4	

### GC/MS -- Semi-VOA

#### Semivolatile Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	7800	ug/L	100	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	25	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	120	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	50	ug/L	10	03/16/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	74	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	34	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173904 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-MW-999-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	61	μ		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	62	μ		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	30	μ		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	18	μ		03/16/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	70	μ		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	120	μ		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173920 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-P-10-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

### GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	106	μ		03/16/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	μ		03/16/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	98	μ		03/16/98	NZAI	460-00-4	

## GC/MS -- Semi-VOA

### Semivolatiles Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/16/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/16/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/16/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/16/98	VHEB	111-91-1	
Naphthalene	5800	ug/L	100	03/16/98	VHEB	91-20-3	
2-Methylnaphthalene	18	ug/L	10	03/16/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/16/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/16/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	606-20-2	
Acenaphthene	89	ug/L	10	03/16/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/16/98	VHEB	100-02-7	
Dibenzofuran	38	ug/L	10	03/16/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/16/98	VHEB	121-14-2	
Fluorene	60	ug/L	10	03/16/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/16/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/16/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/16/98	VHEB	87-86-5	
Phenanthrene	28	ug/L	10	03/16/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/16/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/16/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/16/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/16/98	VHEB	129-00-0	

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173920 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-P-10-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	46	%		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	47	%		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	22	%		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	14	%		03/16/98	VHEB	367-12-4	1
2,4,6-Tribromophenol (S)	55	%		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	95	%		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674  
 Client Project ID: HWPW

Pace Sample No: 85173938 Date Collected: 03/04/98 Matrix: Water  
 Client Sample ID: HWPW-P-11-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/16/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/16/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/16/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/16/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/16/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/16/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/16/98 NZAI 1330-20-7
Dibromofluoromethane (S)	108 %	03/16/98 NZAI 1868-53-7
Toluene-d8 (S)	98 %	03/16/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	100 %	03/16/98 NZAI 460-00-4

GC/MS -- Semi-VOA

Semivolatile Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/16/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/16/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/16/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/16/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/16/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/16/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/16/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/16/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 606-20-2
Acenaphthene	23 ug/L 10	03/16/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/16/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/16/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/16/98 VHEB 121-14-2
Fluorene	14 ug/L 10	03/16/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/16/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/16/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/16/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/16/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/16/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/16/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/16/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/16/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173938 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-P-11-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/16/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/16/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/16/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/16/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/16/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	44	µ		03/16/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	51	µ		03/16/98	VHEB	321-60-8	
Phenol-d6 (S)	24	µ		03/16/98	VHEB	13127-88-3	
2-Fluorophenol (S)	18	µ		03/16/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	55	µ		03/16/98	VHEB	118-79-6	
Terphenyl-d14 (S)	74	µ		03/16/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Fax: 281-488-4661

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173946 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-P-12-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
------------	---------	-------	-----	----------	---------	------	-----------

## GC/MS -- VOA

GC/MS VOCs, RCRA	Method: EPA 8260	Prep Method: EPA 8260
Methylene Chloride	ND ug/L 5	03/17/98 NZAI 75-09-2
Benzene	ND ug/L 5	03/17/98 NZAI 71-43-2
1,2-Dichloroethane	ND ug/L 5	03/17/98 NZAI 107-06-2
Toluene	ND ug/L 5	03/17/98 NZAI 108-88-3
Chlorobenzene	ND ug/L 5	03/17/98 NZAI 108-90-7
Ethylbenzene	ND ug/L 5	03/17/98 NZAI 100-41-4
Xylene (Total)	ND ug/L 5	03/17/98 NZAI 1330-20-7
Dibromofluoromethane (S)	101 ‡	03/17/98 NZAI 1868-53-7
Toluene-d8 (S)	97 ‡	03/17/98 NZAI 2037-26-5
4-Bromofluorobenzene (S)	101 ‡	03/17/98 NZAI 460-00-4

## GC/MS -- Semi-VOA

Semivolatiles Organics, Water	Method: EPA 8270	Prep Method: EPA 3520
Phenol	ND ug/L 10	03/20/98 VHEB 108-95-2
Nitrobenzene	ND ug/L 10	03/20/98 VHEB 98-95-3
2,4-Dimethylphenol	ND ug/L 10	03/20/98 VHEB 105-67-9
bis(2-Chloroethoxy)methane	ND ug/L 10	03/20/98 VHEB 111-91-1
Naphthalene	ND ug/L 10	03/20/98 VHEB 91-20-3
2-Methylnaphthalene	ND ug/L 10	03/20/98 VHEB 91-57-6
2-Chloronaphthalene	ND ug/L 10	03/20/98 VHEB 91-58-7
Acenaphthylene	ND ug/L 10	03/20/98 VHEB 208-96-8
2,6-Dinitrotoluene	ND ug/L 10	03/20/98 VHEB 606-20-2
Acenaphthene	ND ug/L 10	03/20/98 VHEB 83-32-9
4-Nitrophenol	ND ug/L 50	03/20/98 VHEB 100-02-7
Dibenzofuran	ND ug/L 10	03/20/98 VHEB 132-64-9
2,4-Dinitrotoluene	ND ug/L 10	03/20/98 VHEB 121-14-2
Fluorene	ND ug/L 10	03/20/98 VHEB 86-73-7
4,6-Dinitro-2-methylphenol	ND ug/L 50	03/20/98 VHEB 534-52-1
N-Nitrosodiphenylamine	ND ug/L 10	03/20/98 VHEB 86-30-6
Pentachlorophenol	ND ug/L 50	03/20/98 VHEB 87-86-5
Phenanthrene	ND ug/L 10	03/20/98 VHEB 85-01-8
Anthracene	ND ug/L 10	03/20/98 VHEB 120-12-7
Di-n-butylphthalate	ND ug/L 10	03/20/98 VHEB 84-74-2
Fluoranthene	ND ug/L 10	03/20/98 VHEB 206-44-0
Pyrene	ND ug/L 10	03/20/98 VHEB 129-00-0

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Pace Project Number: 851674  
Client Project ID: HWPW

Pace Sample No: 85173946 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-P-12-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/20/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/20/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/20/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/20/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/20/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	55	%		03/20/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	72	%		03/20/98	VHEB	321-60-8	
Phenol-d6 (S)	6	%		03/20/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	8	%		03/20/98	VHEB	367-12-4	2
2,4,6-Tribromophenol (S)	34	%		03/20/98	VHEB	118-79-6	
Terphenyl-d14 (S)	68	%		03/20/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173953 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-EB-01-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
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## GC/MS -- VOA

### GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2	
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2	
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2	
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3	
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7	
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4	
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7	
Dibromofluoromethane (S)	106	%		03/16/98	NZAI	1868-53-7	
Toluene-d8 (S)	96	%		03/16/98	NZAI	2037-26-5	
4-Bromofluorobenzene (S)	98	%		03/16/98	NZAI	460-00-4	

## GC/MS -- Semi-VOA

### Semivolatiles Organics, Water

Method: EPA 8270

Prep Method: EPA 3520

Phenol	ND	ug/L	10	03/23/98	VHEB	108-95-2	
Nitrobenzene	ND	ug/L	10	03/23/98	VHEB	98-95-3	
2,4-Dimethylphenol	ND	ug/L	10	03/23/98	VHEB	105-67-9	
bis(2-Chloroethoxy)methane	ND	ug/L	10	03/23/98	VHEB	111-91-1	
Naphthalene	ND	ug/L	10	03/23/98	VHEB	91-20-3	
2-Methylnaphthalene	ND	ug/L	10	03/23/98	VHEB	91-57-6	
2-Chloronaphthalene	ND	ug/L	10	03/23/98	VHEB	91-58-7	
Acenaphthylene	ND	ug/L	10	03/23/98	VHEB	208-96-8	
2,6-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	606-20-2	
Acenaphthene	ND	ug/L	10	03/23/98	VHEB	83-32-9	
4-Nitrophenol	ND	ug/L	50	03/23/98	VHEB	100-02-7	
Dibenzofuran	ND	ug/L	10	03/23/98	VHEB	132-64-9	
2,4-Dinitrotoluene	ND	ug/L	10	03/23/98	VHEB	121-14-2	
Fluorene	ND	ug/L	10	03/23/98	VHEB	86-73-7	
4,6-Dinitro-2-methylphenol	ND	ug/L	50	03/23/98	VHEB	534-52-1	
N-Nitrosodiphenylamine	ND	ug/L	10	03/23/98	VHEB	86-30-6	
Pentachlorophenol	ND	ug/L	50	03/23/98	VHEB	87-86-5	
Phenanthrene	ND	ug/L	10	03/23/98	VHEB	85-01-8	
Anthracene	ND	ug/L	10	03/23/98	VHEB	120-12-7	
Di-n-butylphthalate	ND	ug/L	10	03/23/98	VHEB	84-74-2	
Fluoranthene	ND	ug/L	10	03/23/98	VHEB	206-44-0	
Pyrene	ND	ug/L	10	03/23/98	VHEB	129-00-0	

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173953 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-EB-01-1SA98 Date Received: 03/05/98

Parameters	Results	Units	PRL	Analyzed	Analyst	CAS#	Footnotes
Benzo(a)anthracene	ND	ug/L	10	03/23/98	VHEB	56-55-3	
Chrysene	ND	ug/L	10	03/23/98	VHEB	218-01-9	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10	03/23/98	VHEB	117-81-7	
Benzo(a)pyrene	ND	ug/L	10	03/23/98	VHEB	50-32-8	
1,2-Diphenylhydrazine	ND	ug/L	10	03/23/98	VHEB	122-66-7	
Nitrobenzene-d5 (S)	41	μ		03/23/98	VHEB	4165-60-0	
2-Fluorobiphenyl (S)	49	μ		03/23/98	VHEB	321-60-8	
Phenol-d6 (S)	9	μ		03/23/98	VHEB	13127-88-3	2
2-Fluorophenol (S)	12	μ		03/23/98	VHEB	367-12-4	
2,4,6-Tribromophenol (S)	18	μ		03/23/98	VHEB	118-79-6	
Terphenyl-d14 (S)	68	μ		03/23/98	VHEB	1718-51-0	
Date Extracted				03/10/98			

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Pace Project Number: 851674

Client Project ID: HWPW

Pace Sample No: 85173961 Date Collected: 03/04/98 Matrix: Water  
Client Sample ID: HWPW-TB-01-1SA98 Date Received: 03/05/98

Parameters Results Units PRL Analyzed Analyst CAS# Footnotes

GC/MS -- VOA

GC/MS VOCs, RCRA

Method: EPA 8260

Prep Method: EPA 8260

Methylene Chloride	ND	ug/L	5	03/16/98	NZAI	75-09-2
Benzene	ND	ug/L	5	03/16/98	NZAI	71-43-2
1,2-Dichloroethane	ND	ug/L	5	03/16/98	NZAI	107-06-2
Toluene	ND	ug/L	5	03/16/98	NZAI	108-88-3
Chlorobenzene	ND	ug/L	5	03/16/98	NZAI	108-90-7
Ethylbenzene	ND	ug/L	5	03/16/98	NZAI	100-41-4
Xylene (Total)	ND	ug/L	5	03/16/98	NZAI	1330-20-7
Dibromofluoromethane (S)	100	%		03/16/98	NZAI	1868-53-7
Toluene-d8 (S)	98	%		03/16/98	NZAI	2037-26-5
4-Bromofluorobenzene (S)	100	%		03/16/98	NZAI	460-00-4

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Pace Project Number: 851674  
Client Project ID: HWPW

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PARAMETER FOOTNOTES

- D Not Detected
- NC Not Calculable
- PRL Pace Reporting Limit
- S) Surrogate
- [1] Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid's surrogate.
- [2] The surrogate recovery was outside QC acceptance limits due to matrix interference.
- [3] Surrogate recovery could not be quantified due to matrix interference.

QUALITY CONTROL DATA

DATE: 04/01/98  
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IRM-Southwest, Inc.  
 16300 Katy Frwy, Suite 300  
 Houston, TX 77094

Pace Project Number: 851674  
 Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
 Phone: 281-579-8999

QC Batch ID: 3663                      QC Batch Method: EPA 3520  
 Analysis Method: EPA 8270            Analysis Description: Semivolatile Organics, Water  
 Associated Pace Samples:            85173763    85173771    85173789    85173797    85173805  
    85173813    85173839    85173847    85173854    85173862  
    85173870    85173896    85173904    85173920    85173938  
    85173946    85173953

METHOD BLANK: 85180149

Associated Pace Samples:

85173763	85173771	85173789	85173797	85173805	85173813	85173839
85173847	85173854	85173862	85173870	85173896	85173904	85173920
85173938	85173946	85173953				

Parameter	Units	Method Blank Result	PRL	Footnotes
Phenol	ug/L	ND	10	
Nitrobenzene	ug/L	ND	10	
2,4-Dimethylphenol	ug/L	ND	10	
Bis(2-Chloroethoxy)methane	ug/L	ND	10	
Naphthalene	ug/L	ND	10	
2-Methylnaphthalene	ug/L	ND	10	
2-Chloronaphthalene	ug/L	ND	10	
Acenaphthylene	ug/L	ND	10	
2,6-Dinitrotoluene	ug/L	ND	10	
Acenaphthene	ug/L	ND	10	
1-Nitrophenol	ug/L	ND	50	
Indenzofuran	ug/L	ND	10	
2,4-Dinitrotoluene	ug/L	ND	10	
Fluorene	ug/L	ND	10	
2,6-Dinitro-2-methylphenol	ug/L	ND	50	
N-Nitrosodiphenylamine	ug/L	ND	10	
Pentachlorophenol	ug/L	ND	50	
Benanthrene	ug/L	ND	10	
Anthracene	ug/L	ND	10	
Di-n-butylphthalate	ug/L	ND	10	

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QUALITY CONTROL DATA

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Pace Project Number: 851674  
Client Project ID: HWPW

METHOD BLANK: 85180149  
Associated Pace Samples:

85173763	85173771	85173789	85173797	85173805	85173813	85173839
85173847	85173854	85173862	85173870	85173896	85173904	85173920
85173938	85173946	85173953				

Parameter	Units	Method Blank Result	PRL	Footnotes
Fluoranthene	ug/L	ND	10	
Pyrene	ug/L	ND	10	
Benzo(a)anthracene	ug/L	ND	10	
Benzyrene	ug/L	ND	10	
bis(2-Ethylhexyl)phthalate	ug/L	ND	10	
Benzo(a)pyrene	ug/L	ND	10	
2,2-Diphenylhydrazine	ug/L	ND	10	
Nitrobenzene-d5 (S)	%	53		
1-Fluorobiphenyl (S)	%	54		
Phenol-d6 (S)	%	30		
2-Fluorophenol (S)	%	24		
2,4,6-Tribromophenol (S)	%	36		
Terphenyl-d14 (S)	%	96		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85186260 85186278		Matrix Spike	Matrix Spike	Matrix Spike	Matrix Sp. Dup.	Spike Dup			
Parameter	Units	85173763 Conc.	Conc.	Result	% Rec	Result	% Rec	RPD	Footnotes
Phenol	ug/L	0	200	81.00	40.5	60.00	30.0	30	
Acenaphthene	ug/L	94.00	100	162.0	68.0	155.0	61.0	11	
4-Nitrophenol	ug/L	0	200	165.0	82.5	135.0	67.5	20	
2,4-Dinitrotoluene	ug/L	0	100	119.0	119	114.0	114	4	
2,3,5-Trichlorophenol	ug/L	0	200	206.0	103	207.0	104	0	
Pyrene	ug/L	0	100	86.00	86.0	87.00	87.0	1	
Nitrobenzene-d5 (S)					53		38		
1-Fluorobiphenyl (S)					58		50		
Phenol-d6 (S)					32		22		
2-Fluorophenol (S)					26		14		1
2,4,6-Tribromophenol (S)					56		54		
Terphenyl-d14 (S)					73		80		

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Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85180156

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Phenol	ug/L	200	140.0	70.0	
Acenaphthene	ug/L	100	74.00	74.0	
4-Nitrophenol	ug/L	200	29.00	14.5	
2,4-Dinitrotoluene	ug/L	100	93.00	93.0	
Pentachlorophenol	ug/L	200	280.0	140	
Pyrene	ug/L	100	92.00	92.0	

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DATE: 04/01/98  
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ERM-Southwest, Inc.  
 16300 Katy Frwy, Suite 300  
 Houston, TX 77094

Pace Project Number: 851674  
 Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
 Phone: 281-579-8999

QC Batch ID: 3824  
 Analysis Method: EPA 8260  
 Associated Pace Samples: 85173920 85173961

QC Batch Method: EPA 8260  
 Analysis Description: GC/MS VOCs, RCRA

METHOD BLANK: 85191757  
 Associated Pace Samples:

Parameter	Units	85173920	85173961	PRL	Footnotes
			Method Blank Result		
Methylene Chloride	ug/L		ND	5	
Benzene	ug/L		ND	5	
1,2-Dichloroethane	ug/L		ND	5	
Toluene	ug/L		ND	5	
Chlorobenzene	ug/L		ND	5	
Ethylbenzene	ug/L		ND	5	
Xylene (Total)	ug/L		ND	5	
Dibromofluoromethane (S)	%		92		
Toluene-d8 (S)	%		100		
4-Bromofluorobenzene (S)	%		102		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85200079 85200087

Parameter	Units	85174977	Spike Conc.	Matrix	Matrix	Spike	RPD	Footnotes
				Spike Result	Sp. Dup. Result	Dup		
Benzene	ug/L	0	50	49.29	46.32	92.6	6	
Toluene	ug/L	0	50	46.31	44.42	88.8	4	
Chlorobenzene	ug/L	0	50	44.30	44.28	88.6	0	
Dibromofluoromethane (S)						103		
Toluene-d8 (S)						94		
4-Bromofluorobenzene (S)						94		

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### QUALITY CONTROL DATA

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Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85190130

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	20	19.84	99.2	
Toluene	ug/L	20	18.75	93.8	
Chlorobenzene	ug/L	20	18.97	94.9	

LABORATORY CONTROL SAMPLE: 85191062

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.57	91.1	
Toluene	ug/L	50	45.37	90.7	
Chlorobenzene	ug/L	50	46.80	93.6	

LABORATORY CONTROL SAMPLE: 85191575

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	60	63.21	105	
Toluene	ug/L	60	63.51	106	
Chlorobenzene	ug/L	60	62.41	104	

LABORATORY CONTROL SAMPLE: 85191765

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	60	60.00	100	
Toluene	ug/L	60	54.00	90.0	
Chlorobenzene	ug/L	60	57.00	95.0	

LABORATORY CONTROL SAMPLE: 85200061

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.86	91.7	
Toluene	ug/L	50	42.06	84.1	
Chlorobenzene	ug/L	50	42.45	84.9	

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## QUALITY CONTROL DATA

DATE: 04/01/98  
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ERM-Southwest, Inc.  
 16300 Katy Frwy, Suite 300  
 Houston, TX 77094

Pace Project Number: 851674  
 Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
 Phone: 281-579-8999

QC Batch ID: 3942  
 Analysis Method: EPA 8260  
 Associated Pace Samples: 85173805 85173839 85173847

QC Batch Method: EPA 8260  
 Analysis Description: GC/MS VOCs, RCRA

METHOD BLANK: 85191666  
 Associated Pace Samples:

Parameter	Units	85173805	85173839	85173847	Footnotes
			Method Blank Result	PRL	
Methylene Chloride	ug/L		ND	5	
Benzene	ug/L		ND	5	
1,2-Dichloroethane	ug/L		ND	5	
Toluene	ug/L		ND	5	
Chlorobenzene	ug/L		ND	5	
Ethylbenzene	ug/L		ND	5	
Xylylene (Total)	ug/L		ND	5	
Dibromofluoromethane (S)	%		108		
Toluene-d8 (S)	%		96		
4-Bromofluorobenzene (S)	%		106		

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85200509 85200517		Matrix		Matrix		Spike		RPD	Footnotes
		85141935	Conc.	Spike Result	Spike % Rec	Sp. Dup. Result	Spike % Rec	Dup			
Benzene	ug/L	0	40	39.52	98.8	42.46	106	7			
Toluene	ug/L	0	40	36.83	92.1	39.14	97.9	6			
Chlorobenzene	ug/L	0	40	35.14	87.9	37.29	93.2	6			
Dibromofluoromethane (S)							96	100			
Toluene-d8 (S)							97	98			
4-Bromofluorobenzene (S)							93	94			

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, Inc.

### QUALITY CONTROL DATA

DATE: 04/01/98

PAGE: 43

Pace Project Number: 851674

Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85191591

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	56.00	112	
Toluene	ug/L	50	56.00	112	
Chlorobenzene	ug/L	50	57.00	114	

LABORATORY CONTROL SAMPLE: 85191674

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	53.00	106	
Toluene	ug/L	50	50.00	100	
Chlorobenzene	ug/L	50	55.00	110	

LABORATORY CONTROL SAMPLE: 85191716

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	48.11	96.2	
Toluene	ug/L	50	51.30	103	
Chlorobenzene	ug/L	50	49.50	99.0	

LABORATORY CONTROL SAMPLE: 85200491

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.86	91.7	
Toluene	ug/L	50	42.06	84.1	
Chlorobenzene	ug/L	50	42.45	84.9	

## REPORT OF LABORATORY ANALYSIS

# Pace Analytical

Pace Analytical Services, Inc.  
 900 Gemini Avenue  
 Houston, TX 77058  
 Tel: 281-488-1810  
 Fax: 281-488-4661

QUALITY CONTROL DATA

DATE: 04/01/98  
 PAGE: 44

RM-Southwest, Inc.  
 16300 Katy Frwy, Suite 300  
 Houston, TX 77094

Pace Project Number: 851674  
 Client Project ID: HWPW

Attn: Mr. Tom Pacioni  
 Phone: 281-579-8999

QC Batch ID: 4107  
 Analysis Method: EPA 8260  
 Associated Pace Samples: 85173789 85173797 85173813 85173854 85173862  
 85173870 85173896 85173904 85173938 85173953

QC Batch Method: EPA 8260  
 Analysis Description: GC/MS VOCs, RCRA

METHOD BLANK: 85199792

Associated Pace Samples: 85173789 85173797 85173813 85173854 85173862 85173870 85173896  
 85173904 85173938 85173953

Parameter	Units	Method Blank		Footnotes
		Result	PRL	
Ethylene Chloride	ug/L	ND	5	
Benzene	ug/L	ND	5	
1,2-Dichloroethane	ug/L	ND	5	
Toluene	ug/L	ND	5	
Chlorobenzene	ug/L	ND	5	
Ethylbenzene	ug/L	ND	5	
Xylene (Total)	ug/L	ND	5	
Dibromofluoromethane (S)	%	90		
Toluene-d8 (S)	%	100		
4-Bromofluorobenzene (S)	%	98		

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 85205615 85205623

Parameter	Units	Matrix Spike		Matrix Sp. Dup.		Spike Dup		RPD	Footnotes
		85158897	Conc.	Spike Result	% Rec	Result	% Rec		
Benzene	ug/L	0	30	30.73	102	27.17	90.6	12	
Toluene	ug/L	0	30	29.23	97.4	26.25	87.5	11	
Chlorobenzene	ug/L	0	30	28.26	94.2	25.61	85.4	10	
Dibromofluoromethane (S)					109		108		
Toluene-d8 (S)					98		99		
Bromofluorobenzene (S)					93		96		

## REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

DATE: 04/01/98  
PAGE: 45

Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85199800

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	39.00	97.5	
Toluene	ug/L	40	33.00	82.5	
Chlorobenzene	ug/L	40	34.00	85.0	

LABORATORY CONTROL SAMPLE: 85199842

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	50.27	126	
Toluene	ug/L	40	46.14	115	
Chlorobenzene	ug/L	40	45.49	114	

LABORATORY CONTROL SAMPLE: 85205607

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	36.36	90.9	
Toluene	ug/L	40	34.63	86.6	
Chlorobenzene	ug/L	40	34.82	87.1	

## REPORT OF LABORATORY ANALYSIS

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## QUALITY CONTROL DATA

DATE: 04/01/98

PAGE: 47

Pace Project Number: 851674  
Client Project ID: HWPW

LABORATORY CONTROL SAMPLE: 85199826

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	40	50.27	126	
Toluene	ug/L	40	46.14	115	
Chlorobenzene	ug/L	40	45.49	114	

LABORATORY CONTROL SAMPLE: 85199867

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	42.18	84.4	
Toluene	ug/L	50	38.20	76.4	
Chlorobenzene	ug/L	50	38.62	77.2	

LABORATORY CONTROL SAMPLE: 85200004

Parameter	Units	Spike Conc.	LCS Result	Spike % Rec	Footnotes
Benzene	ug/L	50	45.86	91.7	
Toluene	ug/L	50	42.06	84.1	
Chlorobenzene	ug/L	50	42.45	84.9	

## REPORT OF LABORATORY ANALYSIS

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Pace Project Number: 851674

Client Project ID: HWPW

## QUALITY CONTROL DATA PARAMETER FOOTNOTES

Consistent with EPA guidelines unrounded concentrations are displayed and have been used to calculate % Rec and RPD values.

ND Not Detected

NC Not Calculable

PRL Pace Reporting Limit

RPD Relative Percent Difference

(S) Surrogate

[1] Acid surrogate recovery outside of control limits. The data was accepted based on valid recovery of remaining two acid's surrogate.



# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, INC.  
 Address 16300 KATY FRWY, SUITE 300  
HOUSTON, TEXAS 77094  
 Phone (281) 579-8999

Report To: TOM PACIONI  
 Bill To: TOM PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No. \_\_\_\_\_

Pace Client No. \_\_\_\_\_  
 Pace Project Manager \_\_\_\_\_  
 Pace Project No. \_\_\_\_\_  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E WENAS  
 Sampler Signature \_\_\_\_\_ Date Sampled 3/3/98 - 3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST							REMARKS		
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (HCL)	8260B	8270C	8260B Matrix Spk	8270C Matrix Spk	8260B MS Dup	8270C MS Dup			
1	HWPW-MW-01A-1SA98	1510	water	3/3/98	4	2			2			✓	✓					
2	HWPW-MW-01A-MS-1SA98	1610	water	3/3/98	4	2			2				✓	✓				
3	HWPW-MW-01A-MSD-1SA98	1510	w	3/3/98	4	2			2					✓	✓			
4	HWPW-MW-02-1SA98	1530	w	3/3/98	4	2			2			✓	✓					
5	HWPW-MW-03-1SA98	1615	w	3/3/98	4	2			2			✓	✓					
6	HWPW-MW-04-1SA98	1125	w	3/3/98	4	2			2			✓	✓					
7	HWPW-MW-05-1SA98	1218	w	3/4/98	4	2			2			✓	✓					
8	HWPW-MW-07-1SA98	1357	w	3/4/98	4	2			2			✓	✓					

COOLER NOS	BAILERS	SHIPMENT METHOD	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		OUT/DATE RETURNED/DATE	1 C. Wenner / ERM	Ernest H. Barber	3/5	1350

Additional Comments  
 1 of 3 COC's  
 (4 coolers)

ORIGINAL

SEE REVERSE SIDE FOR INSTRUCTIONS

# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, Inc.  
 Address 16300 KATY FREEWAY, STE 300  
HOUSTON, TX 77094  
 Phone (281) 579-8999

Report To: TOM PACIONI  
 Bill To: TOM PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No. \_\_\_\_\_

Pace Client No. \_\_\_\_\_  
 Pace Project Manager \_\_\_\_\_  
 Pace Project No. \_\_\_\_\_  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT): CHRISTOPHER E. WENIAMS  
 Sampler Signature Christopher E. Weniams Date Sampled 3/3/98 - 3/4/98

NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST	REMARKS
	UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>		
					8260B 8270C

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOL (ML)	ANALYSES REQUEST	REMARKS
1	HWPW-MW-08-1SA98	1327	W	3/4/98	4	2			2	✓ ✓	
2	HWPW-MW-09-1SA98	1021	W	3/4/98	4	2			2	✓ ✓	
3	HWPW-MW-10A-1SA98	1330	W	3/3/98	4	2			2	✓ ✓	
4	HWPW-MW-10B-1SA98	1357	W	3/3/98	4	2			2	✓ ✓	
5	HWPW-MW-11A-1SA98	1142	W	3/3/98	4	2			2	✓ ✓	
6	HWPW-MW-11B-1SA98	1245	W	3/3/98	4	2			2	✓ ✓	
7	HWPW-MW-999-1SA98	0857	W	3/4/98	4	2			2	✓ ✓	
8	HWPW-P-10-1SA98	0857	W	3/4/98	4	2			2	✓ ✓	

COOLER NOS	BAILERS	SHIPMENT METHOD	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
			1	Cochran / ERM	Christopher Weniams	3/5	1300
			2	Cochran / ERM	Christopher Weniams		

Additional Comments  
 51  
 2 of 3 COS's  
 (A Cochran)

SEE REVERSE SIDE FOR INSTRUCTIONS

# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, INC  
 Address 16300 KATY FREEWAY, STE 300  
HOUSTON, TEXAS 77094  
 Phone (281) 579-8999

Report To: TOM PACIONI  
 Bill To: TOM PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No. \_\_\_\_\_

Pace Client No. \_\_\_\_\_  
 Pace Project Manager \_\_\_\_\_  
 Pace Project No. \_\_\_\_\_  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E. WELMARS  
 Sampler Signature \_\_\_\_\_ Date Sampled 3/3/98-3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST		REMARKS
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (A-E)	8260B	
1	HWPW-P-11-1SA98	1423	W	3/4/98	4	2		2	✓	✓	
2	HWPW-P-12-1SA98	1113	W	3/4/98	4	2		2	✓	✓	
3	HWPW-EB-01-1SA98	1351	W	3/4/98	4	2		2	✓	✓	
4	HWPW-TB-01-1SA98	1007	W	3/4/98	2			2	✓		
5											
6											
7											
8											

COOLER NOS	BAILERS	SHIPMENT METHOD	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		OUT/DATE RETURNED/DATE	1	Christopher Welmars / ERM	Ernie H. Bury	3/5	1300
			2	Ernie H. Bury			

Additional Comments  
 3 of 3 COS's  
 (4 coolers)

SEE REVERSE SIDE FOR INSTRUCTIONS

ORIGINAL

# Pace Analytical

**CHAIN-OF-CUSTODY RECORD**  
Analytical Request

Client ERM Southwest, Inc.  
 Address 16300 KATY FRWY, SUITE 300  
HOUSTON, TEXAS 77094  
 Phone (281) 579-8999

Report To: TOM PACIONI  
 Bill To: TOM PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No. \_\_\_\_\_

Pace Client No. \_\_\_\_\_  
 Pace Project Manager \_\_\_\_\_  
 Pace Project No. \_\_\_\_\_  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E WENIAS  
 Sampler Signature Christopher E Wenias Date Sampled 3/3/98 - 3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES				ANALYSES REQUEST							REMARKS	
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (HCL)	8260B	8270C	8260B Matrix Spike	8270C Matrix Spike	8260B MS Dup	8270C MS Dup			
1	HWPW-MW-01A-1SA98	1510	water	3/3/98	4	2			2									85 17376 3
2	HWPW-MW-01A-MS-1SA98	1510	water	3/3/98	4	2			2									↓
3	HWPW-MW-01A-MSD-1SA98	1510	w	3/3/98	4	2			2									↓
4	HWPW-MW-02-1SA98	1550	w	3/3/98	4	2			2									85 17377 1
5	HWPW-MW-03-1SA98	1615	w	3/3/98	4	2			2									789
6	HWPW-MW-04-1SA98	1125	w	3/3/98	4	2			2									797
7	HWPW-MW-05-1SA98	1218	w	3/4/98	4	2			2									805
8	HWPW-MW-07-1SA98	1357	w	3/4/98	4	2			2									85173 813 Time 0807 on bottles

COOLER NOS.	BAILERS	SHIPMENT METHOD	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		OUT/DATE RETURNED/DATE	<u>[Signature]</u>	<u>[Signature]</u>		

Additional Comments  
 53  
 2  
 1 of 3 COC's  
 (4 coolers)  
 0.1°

[Signature]  
[Signature]  
 3/4/98 1430

SEE REVERSE SIDE FOR INSTRUCTIONS



# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, Inc.  
 Address 16200 KATY FREEWAY, STE 3000  
HOUSTON, TX 77094  
 Phone (281)579-8999

Report To: TOM PACIONI  
 Bill To: TOM PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No. \_\_\_\_\_

Pace Client No. \_\_\_\_\_  
 Pace Project Manager \_\_\_\_\_  
 Pace Project No. \_\_\_\_\_  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT): CHRISTOPHER E. WENNAS  
 Sampler Signature Christopher E. Wennas Date Sampled 3/3/98 - 3/4/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES			ANALYSES REQUEST		REMARKS	
						UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (HPLC)			
1	HWPW-MW-08-1SA98	1327	W	3/4/98	4	2		2		✓	✓	85 17383 9
2	HWPW-MW-09-1SA98	1021	W	3/4/98	4	2		2		✓	✓	84 7
3	HWPW-MW-10A-1SA98	1330	W	3/3/98	4	2		2		✓	✓	85 4
4	HWPW-MW-10B-1SA98	1357	W	3/3/98	4	2		2		✓	✓	86 2
5	HWPW-MW-11A-1SA98	1142	W	3/3/98	4	2		2		✓	✓	87 0
6	HWPW-MW-11B-1SA98	1215	W	3/3/98	4	2		2		✓	✓	89 6
7	HWPW-MW-999-1SA98	0857	W	3/4/98	4	2		2		✓	✓	90 4
8	HWPW-P-10-1SA98	0857	W	3/4/98	4	2		2		✓	✓	90 0

COOLER NOS	BAILERS	SHIPMENT METHOD		ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
OUT/DATE	RETURNED/DATE							
				1	Christopher E. Wennas / ERM	Ernest H. Buring	3/5	1300
				2	Ernest H. Buring	Frank Bentley	3/4/98	1430

Additional Comments

2 of 3 COS's  
 (1 cooler)

SEE REVERSE SIDE FOR INSTRUCTIONS

# Pace Analytical

## CHAIN-OF-CUSTODY RECORD Analytical Request

Client ERM-SOUTHWEST, INC  
 Address 16300 KATY FREEDWAY, SITE 300  
HOUSTON, TEXAS 77094  
 Phone (281) 579-8999

Report To: TOM PACIONI  
 Bill To: TOM PACIONI  
 P.O. # / Billing Reference 422-09  
 Project Name / No. \_\_\_\_\_

Pace Client No. \_\_\_\_\_  
 Pace Project Manager \_\_\_\_\_  
 Pace Project No. \_\_\_\_\_  
 \*Requested Due Date: 3/25/98

Sampled By (PRINT):  
CHRISTOPHER E. WENNAS  
 Sampler Signature \_\_\_\_\_ Date Sampled 3/3/98-3/4/98





NO. OF CONTAINERS	PRESERVATIVES				ANALYSES REQUEST
	UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (AEE)	
					5260B 8270C

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	VOA (AEE)	ANALYSES REQUEST	REMARKS
1	HWPW-P-11-1SA98	1123	W	3/4/98	4	2			2	✓ ✓	173938
2	HWPW-P-12-1SA98	1113	W	3/4/98	4	2			2	✓ ✓	946
3	HWPW-EB-01-1SA98	1351	W	3/4/98	4	2			2	✓ ✓	953
4	HWPW-TB-01-1SA98	1007	W	3/4/98	2				2	✓	961
5	/										
6											
7											
8											

COOLER NOS	BAILERS	SHIPMENT METHOD	ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
		OUT/DATE RETURNED/DATE	1	Christopher Wennis - ERM	Erin D. Bury	3/5	1300
			2	Erin D. Bury	Paul Bentley	3/4/98	1430

Additional Comments  
 55  
 3 of 3 coc's  
 (4 coc's)





ID	Task Name/Permit or CP Section No.	Duration	Start	Finish
1	<b>RFI/EOC Phase 2-A Investigation Report (Permit §VIII.I. and CP §VIII.E.)</b>	0d	2/27/98	2/27/98
2	Submit Phase 2-A Assessment Report to TNRCC	0d	2/27/98	2/27/98
3	<b>RFI/EOC Phase 2-B Preparation (Permit §VIII.I.)</b>	112d	2/27/98	7/3/98
4	Review Risk-based Assessment Approach	35d	2/27/98	4/1/98
5	Prepare RFI/EOC Phase 2-B Scope of Work	27d	4/9/98	5/1/98
6	Arrange for Off-site Access for Investigation	35d	6/15/98	7/3/98
7	<b>RFI/EOC Phase 2-B Implementation (Permit §VIII.D. and CP §VIII.)</b>	236d	8/3/98	6/2/99
8	Complete Phase 2-B RFI/EOC	120ed	8/3/98	12/1/98
9	Submit Phase 2-B Assessment Report to TNRCC	90ed	12/1/98	3/1/99
10	TNRCC Review Process	120ed	3/1/99	6/2/99
11	<b>Risk Assessment (Permit §VIII.I.)</b>	130d	6/29/99	12/2/99
12	Submit RFI Risk Assessment	60ed	6/29/99	8/2/99
13	TNRCC Review Process	120ed	8/30/99	12/2/99
14	<b>Corrective Measures Study (Permit §VIII.I. and CP §IX.)</b>	131d	12/28/99	6/2/00
15	Submit Corrective Measures Study	60ed	12/28/99	2/2/00
16	TNRCC Review Process	120ed	2/28/00	6/2/00
17	<b>Corrective Measures Implementation (Permit §VIII.J. and CP §X.)</b>	473d	6/27/00	4/1/01
18	Submit Proposed Permit Modification	90ed	6/27/00	9/2/00
19	Submit Corrective Measures Implementation Work Plan	90ed	6/27/00	9/2/00
20	TNRCC Review Process	120ed	9/25/00	1/2/01
21	Perform Corrective Action	360ed	1/23/01	1/1/02
22	Submit Corrective Measures Report	90ed	1/18/02	4/1/02
23				

Project: Date: 7/15/98	Task		Milestone	
	Progress		Summary	

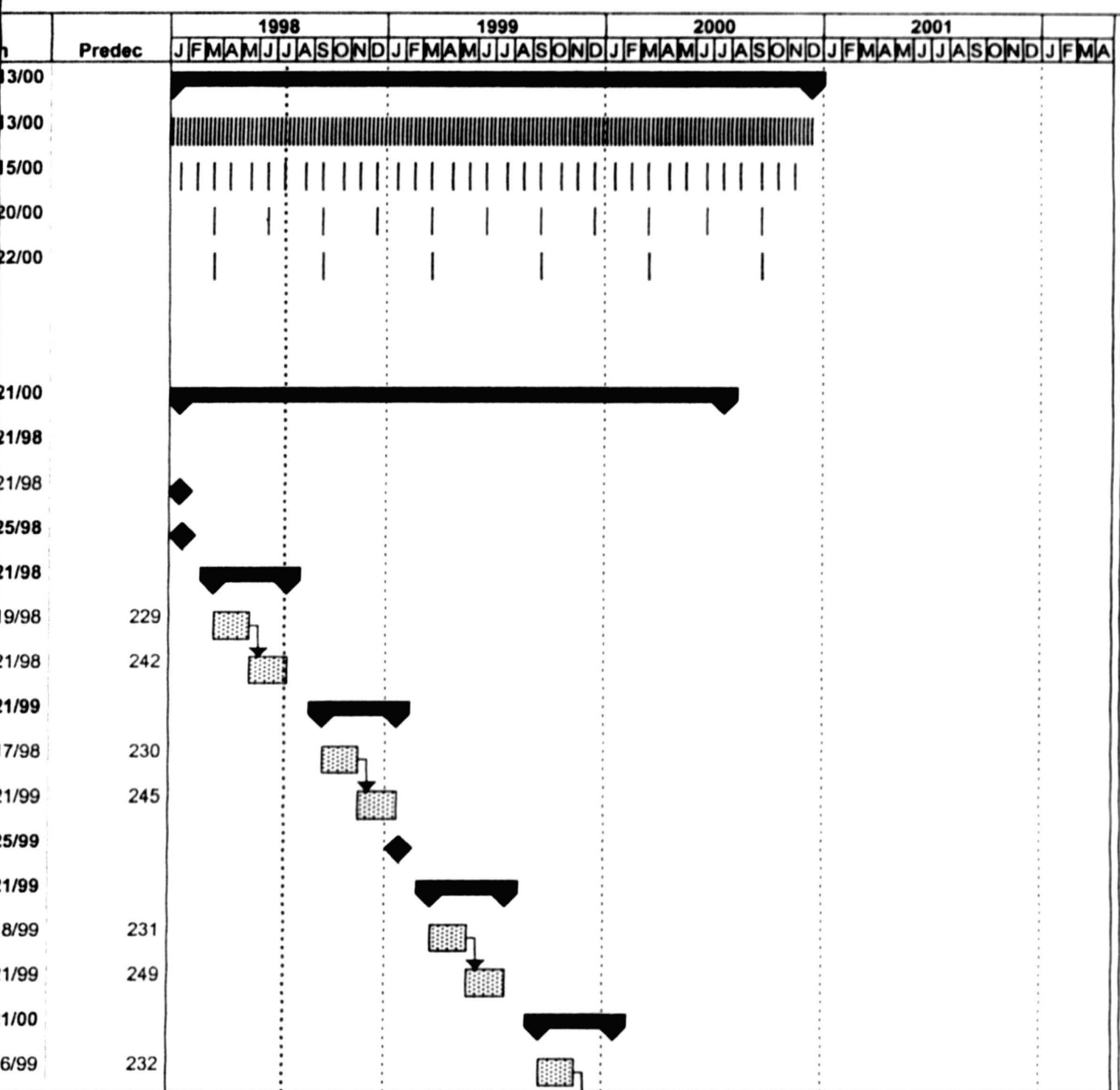




ID	Task Name/Permit or CP Section No.	Duration	Start	Finish
24	Compliance Activities (Permit §IV.C. and CP §VI.)	770d	1/7/98	12/
25	Impoundment Inspections (Weekly)	770d	1/7/98	12/
180	Water Level Measurements (Monthly)	740d	1/21/98	11/
216	Monitor Well Inspections (Quarterly)	658d	3/18/98	9/
228	Ground Water Sampling (Semiannual)	659d	3/18/98	9/
235				
236				
237	Post-Closure Care Reporting 1997 through 2000	656d	1/21/98	7/
238	Semiannual Report - January 21, 1998 {CP §VII.B.2.}	0d	1/21/98	1/
239	Submit Report to TNRCC	0d	1/21/98	1/
240	1997 Annual Report - January 25, 1998 {Permit §V.F. and §III.B.1}	1d	1/25/98	1/
241	Semiannual Report - July 21, 1998 {CP §VII.B.2.}	87d	3/20/98	7/
242	Perform Data Evaluation	60ed	3/20/98	5/
243	Submit Report to TNRCC	63ed	5/19/98	7/
244	Semiannual Report - January 21, 1999 {CP §VII.B.2.}	89d	9/18/98	1/
245	Perform Data Evaluation	60ed	9/18/98	11/
246	Submit Report to TNRCC	65ed	11/17/98	1/
247	1998 Annual Report - January 25, 1999 {Permit §V.F. and §III.B.1}	1d	1/25/99	1/
248	Semiannual Report - July 21, 1999 {CP §VII.B.2.}	88d	3/19/99	7/
249	Perform Data Evaluation	60ed	3/19/99	5/
250	Submit Report to TNRCC	64ed	5/18/99	7/
251	Semiannual Report - January 21, 2000 {CP §VII.B.2.}	91d	9/17/99	1/
252	Perform Data Evaluation	60ed	9/17/99	11/





Project: Date: 7/15/98	Task		Milestone	
	Progress		Summary	

ANNUAL SCHEDULE REVISION



Rolled Up Task 
 Rolled Up Progress 
 Rolled Up Milestone

ID	Task Name/Permit or CP Section No.	Duration	Start	Finis
253	Submit Report to TNRCC	66ed	11/16/99	1/
254	1999 Annual Report - January 25, 1999 {Permit §V.F. and §III.B.1}	1d	1/25/00	1/
255	Semiannual Report - July 21, 2000 {CP §VII.B.2.}	91d	3/17/00	7/
256	Perform Data Evaluation	60ed	3/17/00	5/
257	Submit Report to TNRCC	66ed	5/16/00	7/

Project: Date: 7/15/98	Task Progress	 	Milestone Summary	 
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ANNUAL SCHEDULE REVISION																																							
Task ID	Predec	1998					1999					2000					2001																						
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F
21/00	252																																						
25/00																																							
21/00																																							
16/00	233																																						
21/00	256																																						

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