GW - 80

MONITORING REPORTS

DATE: 1997

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

July 9, 1997

CERTIFIED MAIL
RETURN RECEIPT NO. P-410-431-190

Mr. Fenley Ryther, Jr.
Environmental Affairs
ENRON Gas Pipeline Group
P.O. Box 1188
Houston, Texas 77251-1188

RE: GROUND WATER REMEDIATION AND MONITORING
THOREAU COMPRESSOR STATION

Dear Mr. Ryther:

The New Mexico Oil Conservation Division has reviewed ENRON Gas Pipeline Group's (ENRON) April 29, 1997 "SEMI-ANNUAL REPORT OF GROUND WATER REMEDIATION ACTIVITIES, TRANSWESTERN PIPELINE COMPANY THOREAU COMPRESSOR STATION, MCKINLEY COUNTY, NEW MEXICO". This document contains the results of ENRON's recent ground water remediation and monitoring activities. The document also contains proposals to replace 3 monitor wells, abandon 3 downgradient monitoring wells, modify the long term ground water monitoring plan and modify the ground water remediation system.

ENRON's proposals as contained in the above referenced document are approved with the following conditions:

1. All wastes generated will be disposed of at an OCD approved facility or in an OCD approved manner.

2. In addition to the normal ground water monitoring data, the next semi-annual report will contain:

   a. A description of all monitor well construction, monitor well abandonment and remediation system construction activities.

   b. Geologic logs and well completion diagrams for all newly installed wells.

3. ENRON will notify the OCD at least one week in advance of all scheduled activities such that the OCD has the opportunity to witness the events and/or split samples.

4. All documents will be submitted to the OCD Santa Fe Office with copies provided to the OCD Aztec District Office.

Please be advised that OCD approval does not relieve ENRON of liability should their remediation and monitoring program fail to adequately monitor or remediate contamination related to ENRON's operations. In addition, this approval does not relieve ENRON of responsibility for compliance with any other federal, state, tribal or local laws and/or regulations.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc: Denny Foust, OCD Aztec Office
Julie Curtis, Navajo EPA Superfund Program

P 410 431 190

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PS Form 3800, April 1995

Enron Gas
Pipeline Group
P. O. Box 1188
Houston, TX 77251-1188

April 29, 1997

Mr. William C. Olson
Environmental Bureau
New Mexico Oil Conservation Division
2040 S. Pacheco St.
Santa Fe, New Mexico 87505

RE: Semi-annual Report of Ground Water Remediation Activities
Transwestern Pipeline Company Thoreau Compressor Station
McKinley County, New Mexico

Dear Bill,

The attached report is submitted pursuant to the NMOCD's requirement for semi-annual reporting of ground water remediation activities at the subject facility. The reporting period is July 1, 1996, through March 31, 1997. This is the third semi-annual report to be submitted since the initiation of remediation activities. This report also includes proposed changes to the ground water monitoring program and a proposed plan to expand the remediation system.

If you have any questions or comments regarding this report, please contact me at (713) 646-7318 or George Robinson at (713) 646-7327.

Yours Very Truly,

Fenley "Ted" Ryther, Jr., PE
Environmental Affairs

TR/gcr

xc w/attachments:

Julie Curtiss	NNEPA
Denny Foust	NMOCD Aztec District Office
Larry Campbell	TW Technical Operations
George Robinson	Cypress Engineering Services

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station
McKinley County, New Mexico

Submitted to:
New Mexico Oil Conservation Division
and
Navajo Nation Environmental Protection Administration

April 29, 1997

Prepared For:
Transwestern Pipeline Company
P.O. Box 1188
Houston, Texas 77251-1188

Prepared by:
Cypress Engineering Services, Inc.
16300 Katy Freeway, Suite 210
Houston, Texas 77094-1610

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

I. Groundwater Monitoring

3rd Quarter 1996 Groundwater Sampling Event

The 3rd quarter sampling event was completed during the week of August 12, 1996. Groundwater samples were collected from twenty-three monitor wells. No measurable thickness of phase separated hydrocarbon was indicated in any of the monitor wells. Groundwater samples from each monitor well were delivered to a lab for analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX, Method 8020). In addition, groundwater samples from three of the monitor wells were delivered to a lab for analysis for polychlorinated biphenyl compounds (PCBs, Method 8080).

On August 15, 1996, Mr. Bill Olson of the State of New Mexico Oil Conservation Division was present to witness the sampling event. Mr. Olson collected a split groundwater sample from monitor well 5-6B which was submitted for analysis for PCBs.

4th Quarter 1996 Groundwater Sampling Event

The 4th quarter sampling event was completed during the week of November 19, 1996. Groundwater samples were collected from twenty-three monitor wells. No measurable thickness of phase separated hydrocarbon was indicated in any of the monitor wells. Groundwater samples from each monitor well were delivered to a lab for analysis for BTEX (Method 8020). In addition, ground water samples from three of the monitor wells were delivered to the lab for analysis for PCBs (Method 8080).

1st Quarter 1997 Groundwater Sampling Event

The 1st quarter sampling event was completed during the week of February 24, 1997. Groundwater samples were collected from twenty-two monitor wells. No measurable thickness of phase separated hydrocarbon was indicated in any of the monitor wells. Groundwater samples from each monitor well were delivered to a lab for analysis for BTEX (Method 8020). In addition, ground water samples from three of the monitor wells were delivered to the lab for analysis for PCBs (Method 8080).

Results/Conclusions from Groundwater Sampling Events

The measured depth to water and the corresponding water table elevation for each monitor well is presented in Table 1. The depth to water measurements obtained in the course of the 1st quarter 1997 sampling event indicate that the water table elevation is the lowest that it has been since this information has been recorded at this site (since 1990). The relative change in water table elevation over the past six year period is illustrated graphically in Figure 1 for elevations measured at monitor well 5-05B. This condition should have a significant positive influence on the effectiveness of the ongoing remediation activities.

A water table elevation map based on measurements obtained during the 4th quarter sampling event is included as Figure 2. The apparent direction of groundwater flow is consistent with water table elevation maps previously developed for this site. The hydraulic gradient has remained relatively unchanged from previous sampling events at approximately 0.046 ft/ft.

Field measured groundwater quality parameters (pH, temperature, electrical conductivity, and dissolved oxygen) obtained during the sampling events are presented in Table 2. These results indicate a reasonably good correlation between the measured concentration of dissolved oxygen and the analytical results for BTEX compounds. In

general, the concentration of dissolved oxygen is suppressed below the background concentration (background ≈ 8.0 mg/L) in monitor wells which produce groundwater samples which also indicate the presence of petroleum hydrocarbons. An additional note, the DO concentrations obtained in the course of the 1st quarter 1997 event are in general lower than previously measured concentrations. This occurrence is most likely a result of calibration error rather than an actual change in DO concentrations. This conclusion is drawn from the observation that the measured DO concentrations are lower in the upgradient monitor well 5-03B as well as several other unaffected monitor wells.

An updated summary of analytical results for BTEX compounds is presented in Table 3. The more recent results are consistent with previous sample events which indicate that the area encompassing elevated benzene concentrations is continuing to get smaller. A map indicating the relative distribution of benzene and dissolved oxygen concentrations in shallow groundwater, based on measurements obtained during the 4th quarter 1996 and the 1st quarter 1997 sampling events, is included as Figure 3 and Figure 4, respectively.

An updated summary of analytical results for PCB compounds is presented in Table 4. The detection of low concentrations of PCBs has continued for samples collected from monitor wells 5-01B and 5-06B. Transwestern continues to maintain the opinion that the detection of PCBs in groundwater samples from these two wells is a result of minor amounts of PCBs contained in near surface soil which were inadvertently carried down the soil borings in the course of monitor well installation.

Copies of the laboratory reports for all groundwater sampling events are attached.

Planned Changes to the Groundwater Monitoring Program

Replacement of Monitor Well 5-02B

The integrity of ground water samples collected from monitor well 5-02B is now compromised due to an insufficient length of screen penetrating the saturated interval of the aquifer. This is primarily a result of the substantial decline in water table elevation since the monitor well was installed.

In May, 1989, Monitor well 5-02B was drilled to a total depth of 55.5 feet below ground surface (bgs). The monitor well screen was placed across the interval from 37.5 - 52.5 feet bgs. The water level in monitor well 5-02B was measured at 51.66 feet below top of casing (approximately the same measuring point as bgs) in the course of the 4th quarter 1996 sampling event. As a result, there is now less than one foot of screen below the water table.

In order to resolve this problem, Transwestern proposes to replace monitor well 5-02B with a new well installed in the location indicated as 5-02C in Figure 5. This location is approximately 10 feet south of the existing monitor well 5-02B. The replacement well location was chosen south of the existing well in an effort to maximize the length of saturated interval without moving more than 10 feet laterally from the existing well location. The soil boring for well 5-02B encountered the top of the Chinle shale formation at 55.5 feet bgs. Information obtained from soil borings previously advanced in this area indicates that the top of the Chinle shale dips downward toward the south at a greater angle than the water surface elevation. As a result, the saturated interval in the alluvium increases toward the south and decreases toward the north.

The soil boring for the replacement well will be drilled using hollow-stem auger methods to a depth of 1-2 feet into the top of the Chinle formation (anticipated total depth at 57 feet bgs). The monitor well will be constructed using 15 feet of 2" diameter PVC slotted screen and approximately 42 feet of 2" diameter PVC blank casing. A sand filter pack will be placed in the annulus between the screen and the borehole to a depth approximately 2 feet above the top of screen. A 2 foot bentonite seal will be placed in the annulus above the sand pack followed by 3-5% bentonite grout to surface. The well will be developed by surge and bail methods prior to installation of a dedicated sampling pump.

Overdrill and Recompletion of Monitor Wells 5-01B and 5-06B

Ground water samples collected from monitor wells 5-01B and 5-06B have intermittently indicated the presence of PCB compounds. From the time the monitor wells were originally installed, Transwestern has suspected that the

presence of PCB compounds in ground water samples collected from these two monitor wells was due to monitor well installation practices which allowed PCB compounds in surface soil to be carried down the soil boring during installation.

The former surface impoundment indicated in Figure 4 as the former waste pit area, and a second impoundment apparently located in the immediate vicinity of air sparge point AS-2, were the primary source of hydrocarbon compounds found in the shallow ground water. However, these release sites are not likely the source of PCB compounds detected in ground water samples. PCB compounds have been detected in ground water samples from only two monitor wells, 5-01B and 5-06B. PCB compounds present in ground water samples collected from these two wells are most likely a result of poor monitor well installation practices. The rational for this argument is based on the following points:

1. PCBs have not been detected in soil or ground-water samples collected from any other monitor wells or temporary sampling borings drilled upgradient or downgradient of monitor wells 5-01B and 5-06B.
2. PCB compounds are relatively immobile in the subsurface and are not likely to have migrated the distance from the former surface impoundment to monitor wells 5-01B and 5-06B.
3. In order for PCB compounds to have migrated to monitor wells 5-01B and 5-06B they would have required a carrier (e.g., condensate liquid), yet BTEX compounds are not found at elevated concentrations in either ground water samples or in soil samples collected from the 5-01B and 5-06B soil borings.
4. Other than the former surface impoundment, there was no other significant source of PCB compounds near monitor wells 5-01B and 5-06B, although, low concentrations were present in the near surface soils along a natural storm water runoff area just north of monitor wells 5-01B and 5-06B. Near surface soil was excavated from this area, and from the area around monitor wells 5-01B and 5-06B, in the course of the Consent Decree removal action implemented in August, 1990. The removal action was completed subsequent to the installation of monitor wells 5-01B and 5-06B which were installed in May, 1989, and September, 1989, respectively.

As a result of extensive investigation into this issue, Transwestern has concluded that PCB compounds are not present in shallow ground water at the site and therefore remediation of shallow ground water in the vicinity of monitor wells 5-01B and 5-06B is not necessary. In an effort to demonstrate this position, Transwestern proposes to overdrill and recomplete monitor wells 5-01B and 5-06B. This will be accomplished using hollow-stem auger methods. Both borings were originally drilled using 10 3/4 inch diameter augers. In an attempt to remove any contaminants carried down hole during the initial installation, the monitor wells will be overdrilled using larger diameter augers (most likely 14 1/4 inch diameter). The PVC casing of each monitor well will be filled with sand prior to overdrilling the wells in order to prevent soil cuttings from the surface from falling through the casing. Subsequently, each soil boring will be overdrilled to a depth of 5 feet below the total depth of the original soil borings.

The replacement monitor wells will be constructed using 15 feet of 2" diameter PVC slotted screen and approximately 45 feet of 2" diameter PVC blank casing. A sand filter pack will be placed in the annulus between the screen and the borehole to a depth of approximately 2 feet above the top of screen. A 2 foot bentonite seal will be placed in the annulus above the sand pack followed by 3-5% bentonite grout to surface. The wells will be developed by surge and bail methods prior to installation of dedicated sampling pumps.

Abandonment of Monitor Wells 5-47B, 5-57B, and 5-58B

Samples collected from the nine southernmost monitor wells have indicated BTEX constituent concentrations below federal MCLs for at least the past six sample events, see Figure 6. Furthermore, samples collected in the course of the 1st quarter 1997 sampling event indicate non-detect concentrations for seven of these nine monitor wells. In light of this, Transwestern proposes to abandon the three southernmost monitor wells, monitor wells 5-47B, 5-57B, and 5-58B, which are located south of the Landfill Road as indicated in Figure 6. These monitor wells are no longer necessary to monitor the dissolved phase plume which has continued to shrink in lateral extent and retreat back toward the original release site.

Abandonment will be accomplished by placing a 3-5% bentonite grout in the monitor well casing from total depth to the surface. The grout will be pumped from the bottom up via a tremmie pipe to ensure a complete seal inside the monitor well casing. The concrete surface pad will be removed, the PVC monitor well casing will be cut off at least two feet below the ground surface, and the ground surface will be restored to natural grade.

Modifications to the Routine Ground Water Sampling Plan

Ground water samples will continue to be collected from all monitor wells with the exception of those monitor wells in use as soil vapor extraction (SVE) wells and monitor well 5-41B.

Samples will not be collected from monitor wells in use as SVE wells because samples from these wells would be affected by condensed hydrocarbon vapors and hence not representative of ground water conditions outside the immediate vicinity of the wellbore. Currently, this includes monitor wells 5-04B, 5-05B, and 5-34B and will also include monitor well 5-02B once the replacement well is installed and 5-02B is converted to an SVE well. Ground water samples will be collected from monitor well 5-35B since this well is not currently used as an SVE well.

Samples will not be collected from monitor well 5-41B since this well location is no longer necessary to monitor migration of the contaminant plume. Currently there are five monitor wells located between well 5-41B and the contaminant plume which have indicated benzene concentrations below federal MCLs for at least the past seven sampling events, see Figure 6. A second reason for eliminating monitor well 5-41B from the routine monitoring list is because the well is not easily accessible. This monitor well is separated from the other off-site monitor wells by a barbed wire fence which runs in an east-west direction just south of monitor well 5-24B. Another barbed wire fence runs in an east-west direction between 5-41B and the Landfill Road. The only vehicle access is through a gate located west of the monitor wells and off of the Transwestern lease area. This gate is normally closed. As a result, access to the monitor well has been gained by jumping the fence along the Landfill Road. In light of these circumstances, Transwestern will not collect ground water samples from 5-41B in the course of routine sampling events, however, the well will not be abandoned and therefore will be available in the event information obtained from samples collected from the upgradient wells warrant collection of samples from 5-41B.

As a result of the proposed modifications, eighteen monitor wells will continue to be sampled on a routine quarterly basis. This includes the six on-site monitor wells: 5-01B, 5-02C, 5-03B, 5-06B, 5-22B, and 5-35B. This also includes the twelve off-site monitor wells: 5-12B, 5-13B, 5-14B, 5-15B, 5-16B, 5-17B, 5-18B, 5-19B, 5-20B, 5-23B, 5-24B, and 5-48B. Ground water samples will be collected from each of these monitor wells on a quarterly basis and submitted to a laboratory for analysis for BTEX constituents by EPA Method 8020. In addition, ground water samples will continue to be collected from monitor wells 5-01B, 5-06B, and 5-17B and submitted to a laboratory for analysis for PCB compounds by EPA Method 8080.

II. Summary of Remediation Activities

Remediation Activities Completed During the 3rd & 4th Quarters, 1996, and the 1st Quarter, 1997

The Phase II remediation surface equipment consists of two parts, an air sparge system and an SVE system. The air sparge system includes a 15 Hp air compressor, a heat exchanger to lower the temperature of the compressed air, and the associated piping, valves, and flowmeters to convey the compressed air to eleven air sparge wells. The SVE system includes a 5 Hp regenerative blower, a liquid knockout tank, and the associated piping and valves to convey soil vapor from the SVE wells to the blower.

The Phase II remediation system was placed into service on April 29, 1996. The initial extraction rate was measured at approximately 90 acfm at a vacuum of 35 inches of H_2O. This rate was obtained from four wells; SVE-1, 5-04B, 5-34B, and 5-35B. The initial air sparge rate was measured at approximately 52 acfm and was equally distributed among the 11 sparge points (i.e., $\approx$ 4.7 acfm at each sparge point). The injection pressure for the air sparge system was measured just downstream of the heat exchanger at 11.0 psig. In general, these conditions have been maintained through the 1st quarter 1997 with just one exception. On February 24, 1997, soil vapor extraction was discontinued from well 5-35B and soil vapor extraction was initiated from well 5-05B.

Subsequent to startup of the Phase II system, routine inspection of the equipment and sampling of SVE emissions and groundwater were completed as directed by the groundwater remediation plan. As of December 30, 1996, the hour meter on the air sparge system indicated a total runtime of 4865 hours (≈ 203 days or 85% runtime). The only notable event to have occurred during routine inspection has been the accumulation of liquid (mostly condensed water and some petroleum hydrocarbon) in the liquid knockout tank located immediately upstream of the SVE blower. This liquid began accumulating in late October as the weather progressively turned colder. In December, 1996, Transwestern installed heat tape around the liquid knockout tank in order to ensure that water accumulated in the tank would not freeze. During extreme cold periods, liquid will accumulate in the knockout tank at a rate of about 30 gallons per week. Water and hydrocarbon liquid which is drained from the tank is stored in a 55 gallon drum. When the drum is full, the water is transferred into the unfiltered purge water tank for eventual filtering, laboratory analysis, and discharge. Accumulated hydrocarbon liquid is transferred to the station's condensate AST.

Transwestern continues to monitor air emissions pursuant to the remediation plan. A summary of analytical results for volatile organic compounds in soil vapor samples is presented in Table 5.

Remediation Activities Planned for the Remainder of 1997

Transwestern anticipates the continuation of routine operation and maintenance of the remediation system for the remainder of 1997. In addition, a Phase III expansion will be implemented to improve the effectiveness of the remediation system. The Phase III expansion is modified somewhat from that originally described in the remediation plan previously submitted and approved by the NMOCD and the NNEPA. The modified Phase III plan reflects proposed changes to the system based on current information regarding the original release areas, hydrogeologic conditions, and the location of the contaminant plume. The following sections describe the proposed Phase III plan.

Conversion of Monitor Well 5-02B to a Soil Vapor Extraction Well

As previously described, monitor well 5-02B will be replaced with a new monitor well, 5-02C, in order to obtain more representative ground water samples at this location. Monitor well 5-02B will then be converted into a SVE well in an effort to remove any residual phase hydrocarbons present near the water table in the vicinity of this location.

It is suspected that elevated concentrations of benzene detected in monitor well 5-02B ground water samples are a result of hydrocarbon liquids released from the former surface impoundment indicated in Figure 4 as the former waste pit area. The Chinle shale formation rises above the water table beneath the former impoundment. Hydrocarbon liquids released from the impoundment would have migrated down through the alluvium to the Chinle shale and then migrated laterally along preferential pathways (e.g., paleochanels) to the perched ground water contained in the alluvium. The Chinle shale contacts the water table just north of monitor well 5-02B. It is likely that a preferential pathway along the top of the Chinle shale intersected the perched ground water near the monitor well 5-02B location. Implementing SVE at this location will enhance the removal of any residual hydrocarbon liquids from this area.

Installation of Two Additional Soil Vapor Extraction Wells

In addition to converting monitor well 5-02B to an SVE well, Transwestern proposes to install two new SVE wells near the center of the dissolved phase contaminant plume. The proposed locations of these wells are indicated as SVE-3 and SVE-4 in Figure 5.

The substantial decline in water table elevation over the last four years has created a condition which is very favorable to SVE. The decline in elevation has exposed previously saturated alluvium which potentially contains residual hydrocarbon liquid. Transwestern's plan to expand the area covered by SVE wells is designed to take advantage of this situation.

The new SVE wells will be constructed similarly to those previously installed with a 20 foot screened interval; 10 feet below the water table and 10 feet above the water table. The wells will be constructed using 20 feet of 2" diameter PVC slotted screen and approximately 40 feet of 2" diameter PVC blank casing. A sand filter pack will be

placed in the annulus between the screen and the borehole to a depth of approximately 2 feet above the top of screen. A 2 foot bentonite seal will be placed in the annulus above the sand pack followed by 3-5% bentonite grout to surface. The wells will be developed by surge and bail methods and a ground water sample will be collected for analysis for BTEX constituents by EPA Method 8020 prior to connecting the wells to the SVE system.

As a result of these additions, normal operation of the system will include a total of seven SVE wells: SVE-1, SVE-3, SVE-4, 5-02B, 5-04B, 5-05B, and 5-34B.

Installation of Five Additional Air Sparge Points

The original Phase III remediation plan included an expansion of the air sparge system from 11 air sparge points to 22 air sparge points. The additional air sparge points were to be located in line with the initial sparge points in order to extend the system across a greater cross-section of the saturated alluvium, perpendicular to the direction of ground water flow. However, this configuration has been modified based on more current information.

Transwestern proposes to install five new air sparge wells downgradient of the existing sparge points. This is also downgradient of the apparent location of a former impoundment found in the course of drilling the soil boring for air sparge point AS-2. The existence of a former impoundment in the vicinity of AS-2 was not known at the time the original remediation plan was developed. Apparently, this impoundment was the primary release point which contributed to the dissolved phase plume emanating from the facility. The proposed location of the additional sparge points are indicated as AS-12 through AS-16 in Figure 5.

The new air sparge points will be constructed similarly to those previously installed with a 2 foot screened interval. The top of the screen will be located below the water table but above any clay lenses. The wells will be constructed using 2 feet of 2" diameter PVC slotted screen and approximately 60 feet of 2" diameter PVC blank casing. A sand filter pack will be placed in the annulus between the screen and the borehole to a depth of approximately 2 feet above the top of screen. A 2 foot bentonite seal will be placed in the annulus above the sand pack followed by 3-5% bentonite grout to surface. The wells will be developed by surge and bail methods prior to connecting the wells to the air sparge system.

As a result of these additions, normal operation of the system will include a total of sixteen air sparge points. Due to the limited volume of compressed air which will be available from the existing compressor, Transwestern anticipates that only 9-12 of the sparge points will be utilized at any one time.

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Figures

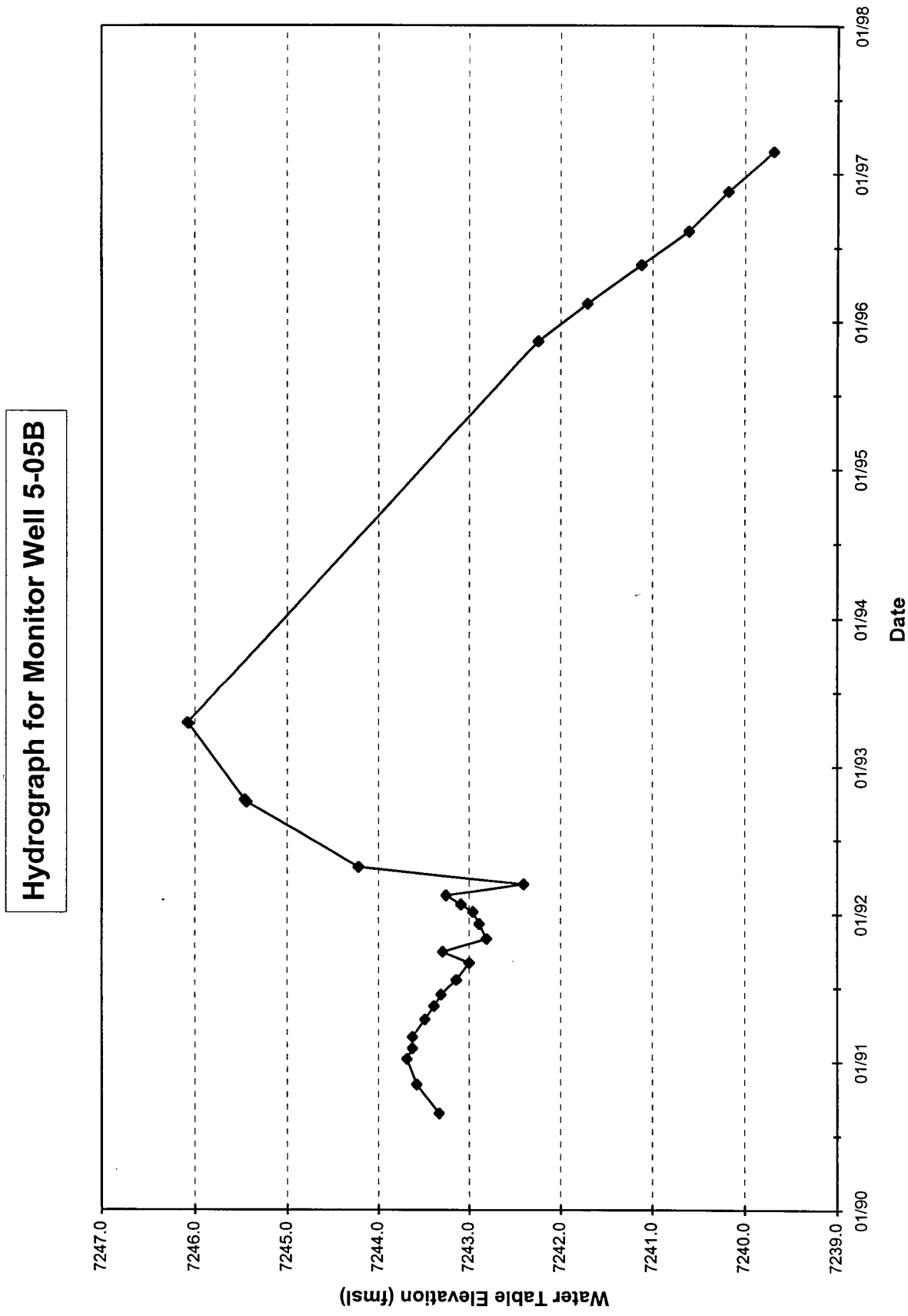
Hydrograph for Monitor Well 5-05B
Water Table Elevation (fmsl)
7247.0
7246.0
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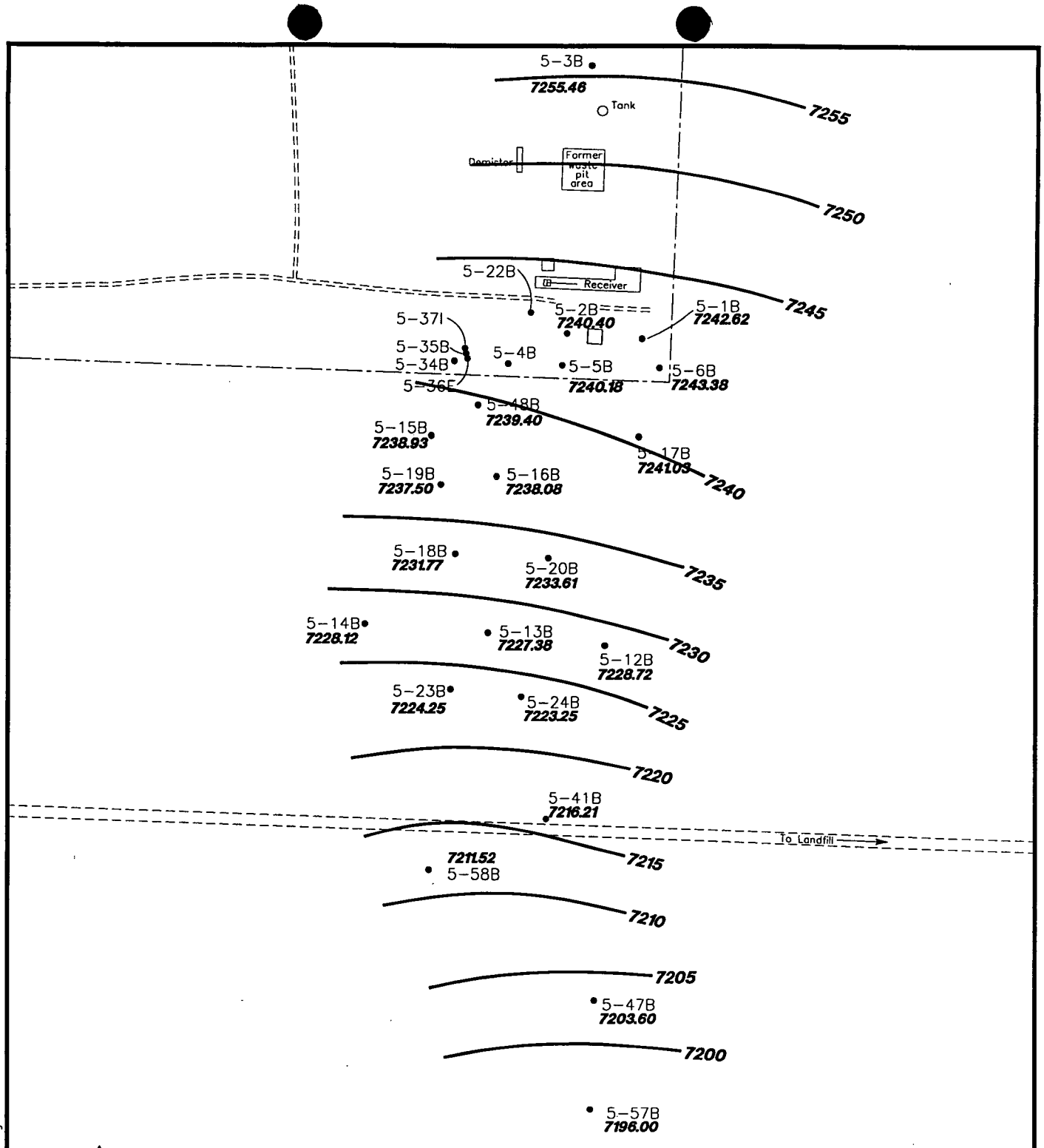
Figure 1



THOREAU COMPRESSOR STATION

Water Table Elevations for the Perched Alluvial Aquifer November 18, 1996

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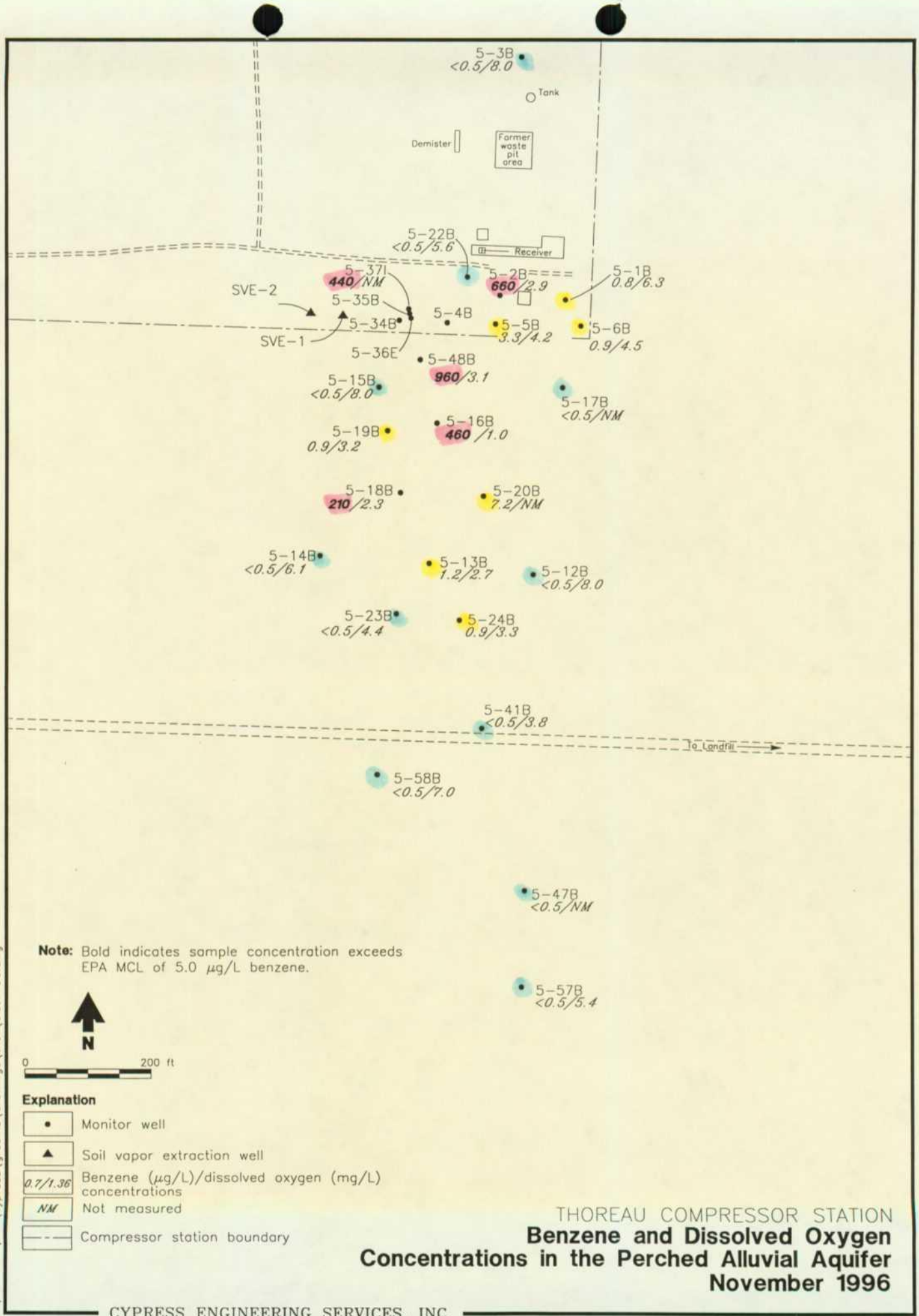
CYPRESS ENGINEERING SERVICES, INC.

4-18-97

Figure 2



Note: Bold indicates sample concentration exceeds EPA MCL of 5.0 µg/L benzene.

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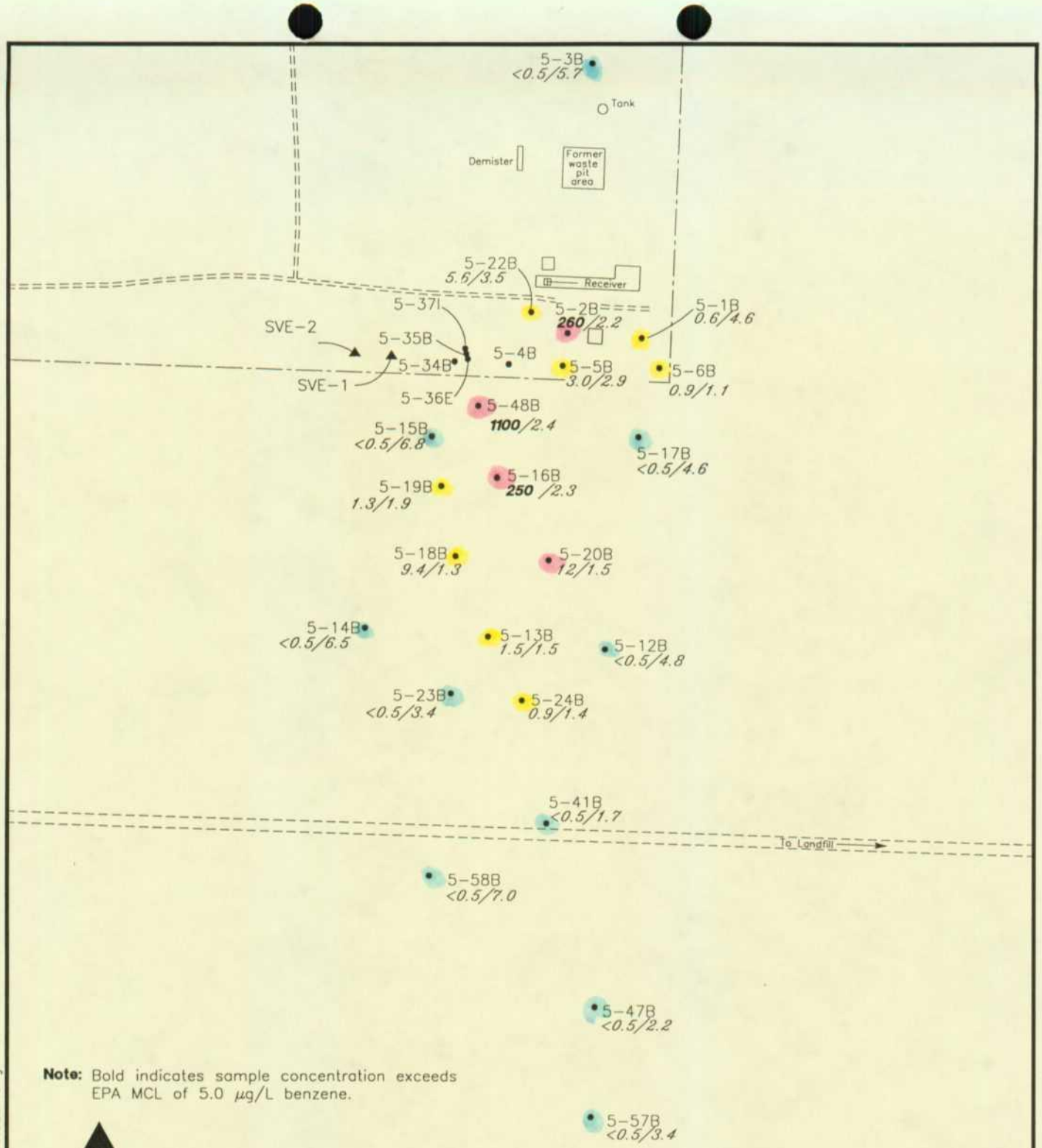
THOREAU COMPRESSOR STATION

Benzene and Dissolved Oxygen Concentrations in the Perched Alluvial Aquifer November 1996

CYPRESS ENGINEERING SERVICES, INC.
4-18-97

Figure 3



Note: Bold indicates sample concentration exceeds EPA MCL of 5.0 µg/L benzene.

N

0 200 ft

Explanation

- Monitor well
- Soil vapor extraction well
- 0.7/1.36 Benzene (µg/L)/dissolved oxygen (mg/L) concentrations
- NM Not measured
- Compressor station boundary

THOREAU COMPRESSOR STATION

Benzene and Dissolved Oxygen Concentrations in the Perched Alluvial Aquifer February 1997

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CYPRESS ENGINEERING SERVICES, INC.

4-22-97

Figure 4

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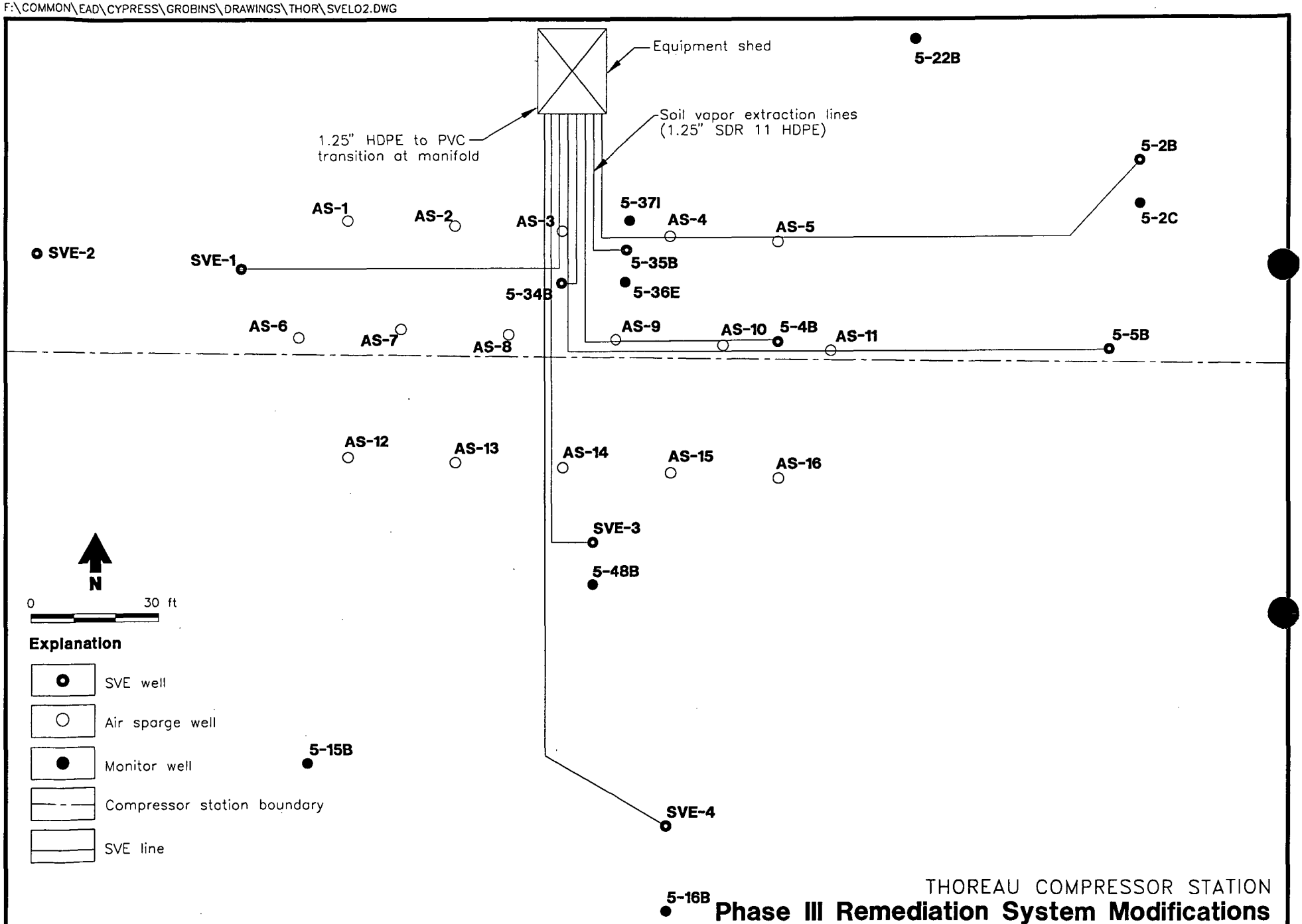


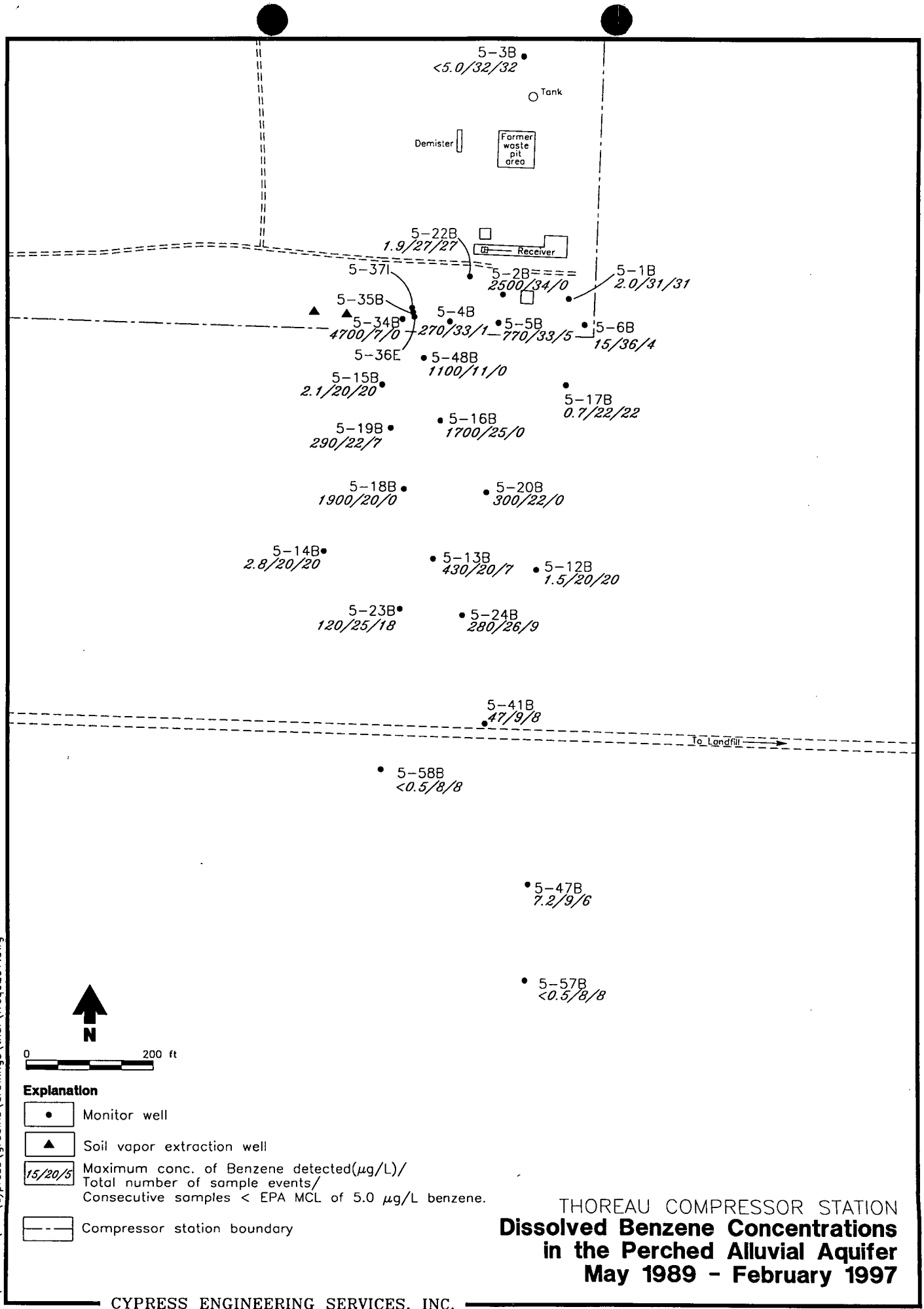
THOREAU COMPRESSOR STATION

Phase III Remediation System Modifications

Figure 5

CYPRESS ENGINEERING SERVICES, INC.

4-18-97



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THOREAU COMPRESSOR STATION

Dissolved Benzene Concentrations in the Perched Alluvial Aquifer May 1989 - February 1997

CYPRESS ENGINEERING SERVICES, INC.

4-22-97

Figure 6

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Tables

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
5 01B	7,290.53	08/29/90	44.69	7245.84
		11/08/90	44.70	7245.83
		01/08/91	44.82	7245.71
		02/05/91	44.86	7245.67
		03/05/91	44.91	7245.62
		04/10/91	44.94	7245.59
		05/21/91	45.08	7245.45
		06/18/91	45.15	7245.38
		07/23/91	45.28	7245.25
		09/04/91	45.38	7245.15
		10/02/91	45.52	7245.01
		11/06/91	45.63	7244.90
		12/10/91	45.64	7244.89
		01/09/92	45.61	7244.92
		01/27/92	45.53	7245.00
		02/20/92	45.39	7245.14
		03/18/92	45.18	7245.35
		04/29/92	44.78	7245.75
		10/06/92	43.71	7246.82
		10/14/92	43.67	7246.86
		04/19/93	42.96	7247.57
		11/14/95	46.16	7244.37
		02/15/96	46.64	7243.89
		05/21/96	47.32	7243.21
		08/12/96	NM	--
		11/18/96	47.91	7242.62
		02/24/97	48.31	7242.22
5 02B	7,292.06	08/29/90	47.60	7244.46
		11/08/90	47.72	7244.34
		01/11/91	47.88	7244.18
		02/12/91	47.90	7244.16
		03/05/91	47.93	7244.13
		04/11/91	47.92	7244.14
		05/20/91	48.14	7243.92
		06/18/91	48.23	7243.83
		07/24/91	48.36	7243.70
		09/05/91	48.55	7243.51
		10/03/91	48.62	7243.44
		11/05/91	48.73	7243.33
		12/12/91	48.68	7243.38
		01/09/92	48.58	7243.48

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		01/28/92	48.48	7243.58
		02/20/92	48.27	7243.79
		03/19/92	47.98	7244.08
		04/29/92	47.38	7244.68
		10/06/92	46.09	7245.97
		10/14/92	46.07	7245.99
		04/19/93	45.38	7246.68
		04/22/93	45.36	7246.70
		11/14/95	49.32	7242.74
		02/15/96	49.84	7242.22
		05/21/96	50.47	7241.59
		08/12/96	NM	--
		11/21/96	51.66	7240.40
		02/24/97	TP	--
5 03B	7,303.76	08/29/90	43.77	7259.99
		01/07/91	44.10	7259.66
		02/12/91	44.12	7259.64
		03/05/91	44.24	7259.52
		04/10/91	44.31	7259.45
		05/21/91	44.53	7259.23
		06/18/91	44.68	7259.08
		07/23/91	44.95	7258.81
		09/04/91	45.14	7258.62
		10/02/91	45.19	7258.57
		11/05/91	45.15	7258.61
		12/10/91	44.90	7258.86
		01/09/92	44.67	7259.09
		01/27/92	44.43	7259.33
		02/19/92	44.19	7259.57
		03/17/92	43.82	7259.94
		04/28/92	43.26	7260.50
		10/06/92	42.06	7261.70
		10/07/92	42.09	7261.67
		04/19/93	41.92	7261.84
		04/20/93	41.98	7261.78
		11/14/95	46.49	7257.27
		02/15/96	47.02	7256.74
		05/21/96	47.54	7256.22
		08/12/96	47.95	7255.81
		11/18/96	48.30	7255.46
		02/24/97	48.68	7255.08
5 04B	7,292.39	08/29/90	48.35	7244.04

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		11/08/90	48.42	7243.97
		01/11/91	48.42	7243.97
		01/31/91	48.94	7243.45
		03/04/91	48.68	7243.71
		04/12/91	48.79	7243.60
		05/21/91	49.90	7242.49
		06/17/91	49.00	7243.39
		07/24/91	49.15	7243.24
		09/04/91	49.34	7243.05
		10/03/91	49.44	7242.95
		11/05/91	49.50	7242.89
		12/12/91	48.40	7243.99
		01/09/92	49.23	7243.16
		01/28/92	49.11	7243.28
		02/19/92	48.91	7243.48
		03/18/92	47.22	7245.17
		04/28/92	47.65	7244.74
		10/06/92	46.36	7246.03
		10/13/92	46.35	7246.04
		04/19/93	45.77	7246.62
		04/21/93	45.79	7246.60
		11/14/95	50.21	7242.18
		02/15/96	50.82	7241.57
		05/21/96	NM	--
		08/12/96	NM	--
		11/18/96	NM	--
		02/24/97	NM	--
5 05B	7,290.83	08/29/90	47.50	7243.33
		11/08/90	47.25	7243.58
		01/10/91	47.14	7243.69
		02/05/91	47.20	7243.63
		03/05/91	47.20	7243.63
		04/18/91	47.34	7243.49
		05/21/91	47.44	7243.39
		06/18/91	47.52	7243.31
		07/24/91	47.69	7243.14
		09/05/91	47.83	7243.00
		10/02/91	47.54	7243.29
		11/04/91	48.02	7242.81
		12/10/91	47.94	7242.89
		01/09/92	47.87	7242.96
		01/27/92	47.74	7243.09

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		02/19/92	47.58	7243.25
		03/17/92	48.43	7242.40
		04/28/92	46.61	7244.22
		10/06/92	45.39	7245.44
		10/12/92	45.37	7245.46
		04/19/93	44.76	7246.07
		04/21/93	44.75	7246.08
		11/14/95	48.59	7242.24
		02/15/96	49.12	7241.71
		05/21/96	49.71	7241.12
		08/12/96	50.22	7240.61
		11/18/96	50.65	7240.18
		02/24/97	51.14	7239.69
5 06B	7,289.30	08/29/90	43.47	7245.83
		11/08/90	43.24	7246.06
		01/08/91	43.42	7245.88
		02/12/91	43.50	7245.80
		03/05/91	43.50	7245.80
		04/18/91	43.61	7245.69
		05/21/91	43.66	7245.64
		06/18/91	43.74	7245.56
		07/23/91	43.83	7245.47
		09/05/91	44.00	7245.30
		10/03/91	44.06	7245.24
		11/05/91	44.16	7245.14
		12/10/91	44.17	7245.13
		01/09/92	44.16	7245.14
		01/27/92	44.08	7245.22
		02/20/92	43.94	7245.36
		03/18/92	43.76	7245.54
		04/29/92	43.43	7245.87
		10/06/92	42.52	7246.78
		10/14/92	42.49	7246.81
		04/19/93	41.94	7247.36
		11/14/95	44.64	7244.66
		02/15/96	44.99	7244.31
		05/21/96	45.41	7243.89
		08/12/96	45.65	7243.65
		11/18/96	45.92	7243.38
		02/24/97	46.30	7243.00
5 12B	7,279.61	08/14/90	48.85	7230.76
		11/15/90	48.92	7230.69

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		01/09/91	48.96	7230.65
		02/13/91	49.00	7230.61
		03/07/91	49.00	7230.61
		04/12/91	49.05	7230.56
		05/22/91	49.12	7230.49
		06/19/91	49.20	7230.41
		07/25/91	49.27	7230.34
		09/16/91	49.37	7230.24
		10/09/91	49.43	7230.18
		01/07/92	49.49	7230.12
		04/30/92	49.07	7230.54
		10/06/92	48.27	7231.34
		10/08/92	48.28	7231.33
		04/19/93	47.45	7232.16
		11/14/95	49.71	7229.90
		02/15/96	50.02	7229.59
		05/21/96	50.31	7229.30
		08/12/96	50.61	7229.00
		11/18/96	50.89	7228.72
		02/24/97	51.24	7228.37
5 13B	7,282.43	08/14/90	52.43	7230.00
		11/15/90	52.76	7229.67
		01/09/91	52.82	7229.61
		02/07/91	52.89	7229.54
		03/07/91	52.92	7229.51
		04/12/91	53.00	7229.43
		05/22/91	53.06	7229.37
		06/19/91	53.15	7229.28
		07/26/91	53.26	7229.17
		09/16/91	53.36	7229.07
		10/10/91	53.42	7229.01
		01/08/92	53.58	7228.85
		05/01/92	52.88	7229.55
		10/06/92	51.80	7230.63
		10/13/92	51.78	7230.65
		04/19/93	51.08	7231.35
		11/14/95	53.85	7228.58
		02/15/96	54.18	7228.25
		05/21/96	54.52	7227.91
		08/12/96	54.81	7227.62
		11/18/96	55.05	7227.38
		02/24/97	55.37	7227.06

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
5 14B	7,285.76	08/14/90	55.14	7230.62
		11/14/90	55.02	7230.74
		01/09/91	55.12	7230.64
		02/07/91	55.19	7230.57
		03/07/91	55.21	7230.55
		04/12/91	55.64	7230.12
		05/22/91	55.36	7230.40
		06/19/91	55.38	7230.38
		07/25/91	55.54	7230.22
		09/16/91	55.63	7230.13
		10/09/91	55.72	7230.04
		01/06/92	55.74	7230.02
		04/30/92	55.02	7230.74
		10/06/92	53.94	7231.82
		10/08/92	53.93	7231.83
		04/19/93	53.25	7232.51
		11/14/95	56.25	7229.51
		02/15/96	56.62	7229.14
		05/21/96	57.02	7228.74
		08/12/96	57.33	7228.43
		11/18/96	57.64	7228.12
		02/24/97	58.01	7227.75
5 15B	7,292.92	08/14/90	49.86	7243.06
		11/14/90	49.98	7242.94
		01/10/91	51.10	7241.82
		02/07/91	50.16	7242.76
		03/06/91	50.17	7242.75
		04/10/91	50.25	7242.67
		05/23/91	50.45	7242.47
		06/19/91	50.54	7242.38
		07/25/91	50.70	7242.22
		09/16/91	50.92	7242.00
		10/09/91	50.95	7241.97
		01/07/92	50.57	7242.35
		04/30/92	48.74	7244.18
		10/06/92	47.75	7245.17
		10/08/92	47.74	7245.18
		04/19/93	47.41	7245.51
		11/14/95	51.84	7241.08
		02/15/96	52.42	7240.50
		05/21/96	53.04	7239.88
		08/12/96	53.52	7239.40

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		11/18/96	53.99	7238.93
		02/24/97	54.48	7238.44
5 16B	7,288.82	08/14/90	47.21	7241.61
		11/14/90	47.46	7241.36
		01/10/91	47.60	7241.22
		02/06/91	47.62	7241.20
		03/06/91	47.63	7241.19
		04/09/91	47.73	7241.09
		05/23/91	47.87	7240.95
		06/18/91	47.91	7240.91
		07/26/91	48.04	7240.78
		09/03/91	48.17	7240.65
		10/11/91	48.30	7240.52
		11/12/91	48.34	7240.48
		12/12/91	48.22	7240.60
		01/08/92	48.11	7240.71
		02/20/92	47.76	7241.06
		03/18/92	47.43	7241.39
		04/29/92	46.89	7241.93
		10/06/92	45.97	7242.85
		10/13/92	45.95	7242.87
		04/19/93	45.61	7243.21
		04/20/93	45.62	7243.20
		11/14/95	48.88	7239.94
		02/15/96	49.33	7239.49
		05/21/96	50.11	7238.71
		08/12/96	50.41	7238.41
		11/18/96	50.74	7238.08
		02/24/97	51.08	7237.74
5 17B	7,284.75	08/14/90	40.79	7243.96
		11/15/90	40.83	7243.92
		01/10/91	40.96	7243.79
		02/08/91	40.99	7243.76
		03/06/91	41.01	7243.74
		04/11/91	41.06	7243.69
		05/22/91	41.14	7243.61
		06/18/91	41.23	7243.52
		07/25/91	41.34	7243.41
		09/16/91	41.50	7243.25
		10/09/91	41.60	7243.15
		01/07/92	41.60	7243.15
		02/19/92	41.46	7243.29

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		03/17/92	41.21	7243.54
		04/28/92	40.84	7243.91
		10/06/92	39.97	7244.78
		10/07/92	39.97	7244.78
		04/19/93	39.40	7245.35
		11/14/95	42.06	7242.69
		02/15/96	42.46	7242.29
		05/21/96	42.94	7241.81
		08/12/96	43.33	7241.42
		11/18/96	43.72	7241.03
		02/24/97	44.14	7240.61
5 18B	7,286.41	08/14/90	51.67	7234.74
		08/24/90	51.68	7234.73
		11/15/90	51.60	7234.81
		01/04/91	51.66	7234.75
		02/13/91	51.76	7234.65
		03/06/91	51.79	7234.62
		04/16/91	51.90	7234.51
		06/19/91	52.05	7234.36
		07/26/91	52.21	7234.20
		09/16/91	52.35	7234.06
		10/11/91	52.41	7234.00
		01/08/92	52.40	7234.01
		05/01/92	51.38	7235.03
		10/06/92	50.24	7236.17
		10/13/92	50.22	7236.19
		04/19/93	49.68	7236.73
		04/22/93	49.70	7236.71
		11/14/95	53.04	7233.37
		02/15/96	53.49	7232.92
		05/21/96	53.94	7232.47
		08/12/96	54.31	7232.10
		11/18/96	54.64	7231.77
		02/24/97	55.03	7231.38
5 19B	7,290.52	08/14/90	49.44	7241.08
		11/14/90	49.76	7240.76
		01/10/91	49.86	7240.66
		02/07/91	49.90	7240.62
		03/06/91	49.92	7240.60
		04/09/91	50.02	7240.50
		05/23/91	50.92	7239.60
		06/19/91	50.23	7240.29

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		07/26/91	50.37	7240.15
		09/16/91	50.55	7239.97
		10/10/91	50.60	7239.92
		01/08/92	50.36	7240.16
		02/20/92	50.04	7240.48
		03/19/92	49.60	7240.92
		04/29/92	48.97	7241.55
		10/06/92	48.05	7242.47
		10/13/92	48.04	7242.48
		04/19/93	47.73	7242.79
		11/14/95	51.30	7239.22
		02/15/96	51.75	7238.77
		05/21/96	52.26	7238.26
		08/12/96	52.66	7237.86
		11/18/96	53.02	7237.50
		02/24/97	53.44	7237.08
5 20B	7,284.60	08/14/90	48.50	7236.10
		01/09/91	48.70	7235.90
		02/07/91	48.79	7235.81
		03/07/91	48.80	7235.80
		04/16/91	48.88	7235.72
		05/20/91	48.92	7235.68
		06/19/91	49.02	7235.58
		07/26/91	49.13	7235.47
		09/16/91	49.25	7235.35
		10/10/91	49.32	7235.28
		01/08/92	49.36	7235.24
		05/01/92	48.48	7236.12
		10/06/92	47.61	7236.99
		10/12/92	47.58	7237.02
		04/19/93	47.26	7237.34
		04/21/93	47.31	7237.29
		11/14/95	49.63	7234.97
		02/15/96	50.03	7234.57
		05/21/96	50.39	7234.21
		08/12/96	50.66	7233.94
		11/18/96	50.99	7233.61
		02/24/97	51.28	7233.32
5 22B	7,292.74	10/25/90	48.08	7244.66
		11/15/90	48.08	7244.66
		01/10/91	48.33	7244.41
		02/04/91	48.38	7244.36

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		03/06/91	48.42	7244.32
		04/11/91	48.49	7244.25
		05/21/91	48.65	7244.09
		06/17/91	48.76	7243.98
		07/24/91	49.24	7243.50
		09/04/91	49.06	7243.68
		10/03/91	49.19	7243.55
		11/04/91	49.26	7243.48
		12/12/91	49.15	7243.59
		01/10/92	49.00	7243.74
		01/28/92	48.84	7243.90
		02/19/92	48.67	7244.07
		03/18/92	48.24	7244.50
		04/28/92	47.46	7245.28
		10/06/92	45.97	7246.77
		10/08/92	45.98	7246.76
		04/19/93	45.34	7247.40
		11/14/95	NM	--
		02/15/96	NM	--
		05/21/96	51.25	7241.49
		08/12/96	51.91	7240.83
		11/18/96	NM	--
		02/27/97	52.95	7239.79
5 23B	7,282.63	10/25/90	55.78	7226.85
		11/15/90	55.75	7226.88
		01/03/91	55.90	7226.73
		02/07/91	56.20	7226.43
		03/07/91	56.02	7226.61
		04/16/91	56.08	7226.55
		05/22/91	56.14	7226.49
		06/19/91	56.17	7226.46
		07/25/91	56.28	7226.35
		09/03/91	56.38	7226.25
		10/09/91	56.47	7226.16
		11/11/91	56.56	7226.07
		12/13/91	56.63	7226.00
		01/07/92	56.58	7226.05
		02/18/92	56.58	7226.05
		03/17/92	56.42	7226.21
		04/30/92	56.12	7226.51
		10/06/92	55.19	7227.44
		10/09/92	55.19	7227.44

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		04/19/93	54.56	7228.07
		11/14/95	57.02	7225.61
		02/15/96	57.39	7225.24
		05/21/96	57.79	7224.84
		08/12/96	58.11	7224.52
		11/18/96	58.38	7224.25
		02/24/97	58.75	7223.88
5 24B	7,279.18	10/25/90	53.64	7225.54
		11/15/90	53.72	7225.46
		01/03/91	53.76	7225.42
		01/09/91	53.78	7225.40
		02/07/91	53.86	7225.32
		03/07/91	53.86	7225.32
		04/16/91	53.94	7225.24
		05/22/91	54.00	7225.18
		07/26/91	54.15	7225.03
		09/03/91	54.21	7224.97
		10/10/91	54.30	7224.88
		11/11/91	54.38	7224.80
		12/13/91	54.43	7224.75
		01/07/92	54.40	7224.78
		02/18/92	54.40	7224.78
		03/17/92	54.25	7224.93
		04/30/92	53.98	7225.20
		10/06/92	53.06	7226.12
		10/13/92	53.02	7226.16
		04/19/93	52.33	7226.85
		04/21/93	52.33	7226.85
		11/14/95	54.62	7224.56
		02/15/96	54.96	7224.22
		05/21/96	55.38	7223.80
		08/12/96	55.66	7223.52
		11/18/96	55.93	7223.25
		02/24/97	56.26	7222.92
5 34B	7,294.71	05/12/92	48.62	7246.09
		05/13/92	48.60	7246.11
		05/14/92	48.58	7246.13
		06/19/92	48.18	7246.53
		07/28/92	47.88	7246.83
		04/19/93	46.98	7247.73
		11/14/95	52.33	7242.38
		02/16/96	NM	--

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		08/12/96	NM	--
		11/18/96	NM	--
		02/24/97	NM	--
5 35B	7,296.11	05/05/92	50.55	7245.56
		05/14/92	50.32	7245.79
		05/30/92	50.14	7245.97
		06/19/92	49.94	7246.17
		06/29/92	49.81	7246.30
		07/24/92	49.61	7246.50
		08/07/92	49.51	7246.60
		08/31/92	49.35	7246.76
		09/15/92	49.29	7246.82
		09/29/92	49.26	7246.85
		10/14/92	49.20	7246.91
		04/19/93	48.79	7247.32
		04/22/93	48.73	7247.38
		11/14/95	NM	--
		02/15/96	NM	--
		08/12/96	NM	--
		11/18/96	NM	--
		02/24/97	NM	--
5 41B	7,279.73	10/06/92	61.03	7218.70
		10/09/92	60.99	7218.74
		04/19/93	60.38	7219.35
		04/20/93	60.40	7219.33
		11/14/95	61.90	7217.83
		02/15/96	62.26	7217.47
		05/21/96	62.72	7217.01
		08/12/96	63.12	7216.61
		11/18/96	63.52	7216.21
		02/24/97	63.97	7215.76
5 47B	7,268.35	10/06/92	62.71	7205.64
		10/07/92	62.71	7205.64
		04/19/93	62.18	7206.17
		04/20/93	62.20	7206.15
		11/14/95	62.77	7205.58
		02/15/96	63.27	7205.08
		05/21/96	63.83	7204.52
		08/12/96	64.31	7204.04
		11/18/96	64.75	7203.60
		02/24/97	TP	--
5 48B	7,292.64	10/06/92	46.80	7245.84

Table 1. Summary of Groundwater Level Data
Thoreau Compressor Station No. 5

Well ID	Measuring Point Elevation (fmsl)	Date	Depth to Ground Water (ft below MP)	Ground Water Elevation (fmsl)
		10/12/92	46.96	7245.68
		04/19/93	46.52	7246.12
		04/21/93	46.51	7246.13
		11/14/95	51.00	7241.64
		02/15/96	51.60	7241.04
		05/21/96	52.22	7240.42
		08/12/96	52.75	7239.89
		11/18/96	53.24	7239.40
		02/24/97	53.76	7238.88
5 57B	7,257.80	04/19/93	59.97	7197.83
		11/14/95	60.21	7197.59
		02/15/96	60.58	7197.22
		05/21/96	61.03	7196.77
		08/12/96	61.44	7196.36
		11/18/96	61.80	7196.00
		02/24/97	62.20	7195.60
5 58B	7,279.38	04/19/93	64.09	7215.29
		11/14/95	65.55	7213.83
		02/15/96	66.16	7213.22
		05/21/96	66.83	7212.55
		08/12/96	67.37	7212.01
		11/18/96	67.86	7211.52
		02/24/97	68.42	7210.96
MP = Measuring point				
fmsl = Feet above mean sea level				
NM = Not measured				
TP = Tagged top of pump				

Table 2. Summary of Field Measured Parameters
Thoreau Compressor Station No. 5

Monitor Well	Date	pH	Temperature °C	Electrical Conductivity (µmhos)	Dissolved Oxygen (mg/L)	Remarks
5-01B	11/21/95	7.37	12.8	1,314	3.8	Muddy, no odor
	02/21/96	7.40	11.9	960	7.5	Turbid, no odor
	05/23/96	7.28	13.2	1,327	10.6a	Turbid
	08/14/96	7.51	15.8	1,324	NM	Turbid, no odor
	11/21/96	7.13	13.0	1,080	6.3	Turbid
	02/27/97	7.49	7.7	820	4.6	Turbid
5-02B	11/21/95	6.89	14.5	920	2.1	Slightly cloudy, HC odor
	02/22/96	7.14	11.9	1,010	4.0	Colorless, suspended black silt, HC odor
	05/23/96	7.21	14.0	1,430	1.4	HC odor, suspended black fine sand and silt
	08/14/96	7.36	15.0	1,000	NM	HC odor, suspended black fine sand and silt
	11/21/96	7.02	13.0	990	2.9	Black, HC odor
	02/28/97	7.20	9.6	990	2.2	Clear
5-03B	11/15/95	7.59	14.0	860	8.0	Clear, no odor
	05/20/96	8.26	13.4	1,282	7.0b	Turbid
	08/12/96	7.91	14.2	1,000	8.6b	Turbid
	11/18/96	7.77	12.0	1,110	7.0b / 8.0	Turbid
	02/24/97	7.77	10.2	980	7.0b/5.74	Turbid
5-04B	11/17/95	7.15	14.6	1,097	NM	Clear, moderate HC odor
	11/22/95	7.87	14.0	720	5.6	Slightly cloudy, no HC odor
5-05B	11/17/95	7.04	13.0	1,350	2.9	Clear, moderate HC odor
	05/22/96	7.36	13.8	1,419	1.4	Clear, no odor
	08/14/96	7.61	14.3	1,395	1.1	Cloudy, HC odor
	11/20/96	7.26	12.2	1,110	4.2	Clear
	02/25/97	7.46	8.2	890	2.9	Cloudy, HC odor
5-06B	11/21/95	7.51	14.0	880	3.2	Slightly cloudy, no HC odor
	02/22/96	7.71	12.6	880	7.2	Clear, slight HC ordor
	05/23/96	7.90	13.2	1,248	1.7	Clear
	08/15/96	7.57	15.0	980	NM	Clear, possible slight HC odor
	11/22/96	7.34	11.9	900	4.5	Clear
	02/28/97	7.78	11.7	895	1.1	Clear
5-12B	11/16/95	7.38	13.9	900	6.5	Clear, no odor
	05/24/96	7.44	15.0	870	8.0	Clear
	08/13/96	8.27	13.9	1242	8.6	Clear

Table 2. Summary of Field Measured Parameters
Thoreau Compressor Station No. 5

Monitor Well	Date	pH	Temperature °C	Electrical Conductivity (µmhos)	Dissolved Oxygen (mg/L)	Remarks
	11/19/96	7.25	12.5	890	8.0b	Clear, no odor
	02/26/97	7.58	11.8	895	6-7b/4.78	Clear
5-13B	11/20/95	7.59	13.9	800	4.3	Clear, HC odor
	02/21/96	7.67	13.8	840	4.2	Clear, HC odor
	05/22/96	7.68	13.8	860	1.4	Clear
	08/13/96	8.71	14.5	850	3.0	Clear, HC odor
	11/20/96	7.49	13.0	850	2.7	Clear, HC odor
	02/26/97	7.53	11.9	850	1.5	Clear
5-14B	11/16/95	8.03	14.6	1,056	8.0	Very slightly cloudy
	05/21/96	8.01	13.9	1,011	9.8a	Clear
	08/13/96	8.64	15.6	992	6.9	Clear
	11/19/96	7.42	12.5	720	6.1	Silty amber, no odor
	02/26/97	7.87	10.5	931	6.5b	Clear, no odor
5-15B	11/16/95	7.98	12.5	982	6.9	Clear, no odor
	05/22/96	7.67	13.0	710	4.9	Clear
	08/14/96	8.26	14.4	1006	9.9	Clear
	11/20/96	7.54	14.0	720	8.0b	Clear
	02/26/97	7.82	11.4	977	6.8b	Clear, no odor
5-16B	11/20/95	7.50	13.0	800	2.4	Clear, strong HC odor
	02/21/96	7.58	13.8	840	3.5	Clear, HC odor
	05/23/96	7.47	13.2	1,181	1.3	Clear, very strong HC odor
	08/15/96	7.46	14.3	1,214	1.0b/1.9	Clear, very strong HC odor
	11/21/96	7.45	13.0	1,000	1.0b	Clear, HC odor
	02/27/97	7.52	12.0	1,131	2.3	Clear, strong HC odor
5-17B	11/20/95	7.65	13.4	1,525	7.4	Clear, no odor
	05/22/96	7.44	12.5	1,005	6.4	Clear
	08/14/96	7.66	17.0	1,090	NM	Clear
	11/20/96	7.69	13.6	1,160	NM	Clear
	02/27/97	7.64	11.6	930	4.6	Clear
5-18B	11/17/95	7.68	14.0	720	1.4	Clear, HC odor
	02/21/96	7.76	12.2	760	5.6	Clear, HC odor
	05/22/96	7.62	13.3	790	1.5	Clear
	08/14/96	8.27	14.2	1071	2.4	Clear, HC odor

Table 2. Summary of Field Measured Parameters
Thoreau Compressor Station No. 5

Monitor Well	Date	pH	Temperature °C	Electrical Conductivity (μmhos)	Dissolved Oxygen (mg/L)	Remarks
	11/20/96	7.70	13.0	890	2.3	Clear, HC odor
	02/27/97	7.78	11.7	988	1.3	Clear, HC odor
5-19B	11/20/95	7.68	13.0	700	2.0	Clear, slight HC odor
	02/21/96	7.81	12.7	730	4.4	Clear, HC odor
	05/22/96	7.78	14.1	1,023	2.0	Clear, slight HC odor
	08/14/96	7.99	14.7	1,022	3.0	Clear
	11/21/96	7.79	12.8	840	3.2	Clear, HC odor
	02/27/97	7.83	10.2	951	1.8b/1.9	Clear, HC odor
5-20B	11/17/95	7.16	13.7	1,200	2.9	Clear, slight HC odor
	05/22/96	7.18	14.4	1,120	1.8	Clear
	08/14/96	7.82	16.2	1,629	4.8	Clear, HC odor
	11/20/96	7.04	12.5	1,180	NM	Clear
	02/27/97	7.21	11.1	1,120	1.5	Slightly Cloudy
5-22B	11/15/95	7.70	12.9	990	6.4	Clear, no odor
	02/22/96	7.47	12.3	1,030	6.6	Turbid, very light brown, no odor
	05/20/96	8.32	13.8	1,549	NM	Slightly turbid
	08/12/96	7.63	15.0	1,100	8.01	Turbid, no odor
	11/18/96	7.48	12.2	1,300	5.6	Slightly cloudy
	02/27/97	7.39	10.0	1,180	3.53	Turbid, HC odor
5-23B	11/16/95	7.31	13.3	800	3.8	Clear, no odor
	05/22/96	7.66	13.0	1,077	2.6	Clear
	08/13/96	8.80	15.0	780	5.1	Clear
	11/19/96	7.69	13.0	880	4.4	Clear
	02/26/97	7.73	11.8	1,018	4.0b/3.4b	Clear, no odor (3.4 DO is low range of Hach)
5-24B	11/17/95	7.33	13.2	1,050	1.7	Slight cloudy, HC odor
	05/21/96	7.41	13.9	1,050	3.5	Clear
	08/13/96	8.07	16.0	1,050	2.3	Clear
	11/19/96	7.36	12.6	1,210	3.3	Slightly turbid, faint odor
	02/26/97	7.42	11.6	1,468	1.4b	Clear, slight odor
5-41B	11/16/95	7.28	14.5	940	2.0	Clear, no odor
	05/21/96	7.41	15.8	920	1.8	Clear
	08/13/96	7.99	15.0	910	2.7	Clear
	11/19/96	7.41	13.8	1080	3.8	Clear

Table 2. Summary of Field Measured Parameters
Thoreau Compressor Station No. 5

Monitor Well	Date	pH	Temperature °C	Electrical Conductivity (µmhos)	Dissolved Oxygen (mg/L)	Remarks
	02/25/97	7.43	12.5	930	1.7	Clear
5-47B	11/15/95	7.83	13.0	900	2.5	Slightly cloudy, no odor
	05/21/96	7.54	14.6	1,080	4.7	Clear
	08/13/96	7.98	15.2	1,060	3.2	Clear
	11/19/96	7.56	19.1	1,110	NM	Clear
	02/26/97	7.71	11.0	1,000	2.2	Clear
5-48B	11/20/95	7.60	13.7	1,035	1.4	Clear, strong HC odor
	02/21/96	7.54	14.0	750	3.6	Very slightly cloudy, HC odor
	05/22/96	7.62	14.6	1,032	2.2	Clear, HC odor
	08/14/96	7.62	15.5	800	2.8	Clear, strong HC odor
	11/21/96	7.45	15.2	780	3.1	Clear, strong HC odor
	02/27/97	7.61	11.8	950	2.4	Clear, strong HC odor
5-57B	11/15/95	7.59	13.1	880	4.6	Brown muddy
	05/20/96	8.75	13.2	1,212	3.1	Slightly turbid
	08/12/96	7.76	14.0	875	5.2	Slightly turbid, no odor
	11/18/96	7.53	12.9	980	2.2b / 5.4	Slightly cloudy
	02/25/97	7.71	10.6	1,191	3.4b	Light amber, no odor
5-58B	11/16/95	7.47	14.8	740	8.1	Cloudy brown, no odor
	05/20/96	8.71	13.2	1073	6.7	Slightly turbid
	08/12/96	7.71	14.5	750	6.4	Slightly turbid, no odor
	11/18/96	7.58	12.6	880	7.0	Slightly cloudy
	02/25/97	7.69	11.4	1073	7.0b	Light amber, no odor
5-37i	08/15/96	8.48	17.2	1382	1.7	Turbid, green cloudy color, strong HC odor
	11/22/96	7.70	14.9	1,080	NM	Greenish black, strong HC odor

HC = Hydrocarbon

NM = Not measured

Dissolved oxygen concentrations measured with YSI meter.

a Value above theoretical dissolved oxygen concentration for this altitude; therefore, measurement is suspect.

b Concentration measured with a HACH kit.

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
5-01B	12/89	ER	< 5.0	6.3	< 5.0	NA
	03/90	ER	< 5.0	< 5.0	< 5.0	25
	06/90	ER	< 5.0	< 5.0	< 5.0	< 5.0
	08/90	AS	< 1	< 1	< 1	3.5
	11/90	EH	< 0.50	< 0.50	< 0.50	3.0
	01/91	EH	< 1.0	< 1.0	< 1.0	4.8
	02/91	EH	1.6	< 0.50	< 0.50	4.6
	03/91	EH	2.0	< 0.50	< 0.50	5.2
	04/91	EH	1.2	< 0.50	< 0.50	3.6
	05/91	EH	< 0.50	< 0.50	< 0.50	5.4
	06/91	EH	< 0.50	0.63	< 0.50	1.9
	07/91	EH	< 0.50	< 0.50	< 0.50	6.0
	09/91	EH	< 0.50	< 0.50	< 0.50	7.8
	10/91	ER	< 0.50	< 0.50	< 0.50	6.4
	11/91	ER	< 0.50	< 0.50	< 0.50	9.8
	12/91	ER	< 0.50	< 0.50	< 0.50	2.4
	01/09/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/27/92	ER	< 0.50	< 0.50	< 0.50	0.79
	02/20/92	ER	< 0.50	< 0.50	< 0.50	5.2
	03/18/92	ATI-P	< 2.5	< 0.5	< 0.5	3.3
	04/29/92	ATI-P	< 0.5	< 0.5	< 0.5	2.3
	10/14/92	ATI-P	< 0.5	< 0.5	< 0.5	4.7
	12/13/94	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	06/27/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	10/06/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/21/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/22/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/15/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/22/96	HEAL	0.8	< 0.5	< 0.5	< 0.5
	02/28/97	HEAL	0.6	< 0.5	< 0.5	< 0.5
5-02B	05/89	ER	1800	2000	< 200	NA
	08/89	ER	2500	4700	< 500	NA
	11/89	ER	1800	3100	250	NA
	03/90	ER	2300	3800	< 250	2400
	06/90	ER	1900	3100	< 250	2300
	08/90	AS	1400	2300	180	1700
	11/90	EH	1500	2400	230	1900
	01/91	EH	600	730	110	940
	02/91	EH	460	580	75	600
	03/91	EH	2400	3300	290	2600
	04/91	EH	830	1200	110	920

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	05/91	EH	830	1200	150	1300
	06/91	EH	5.1	7.0	0.57	4.7
	07/91	EH	400	600	49	420
	09/91	EH	510	750	57	530
	10/91	ER	290	450	37	310
	11/91	ER	740	1200	97	950
	12/91	ER	330	580	31	320
	01/09/92	ER	360	710	52	480
	01/28/92	ER	420	810	64	560
	02/20/92	ER	890	1600	140	1200
	03/19/92	ATI-P	910	2100	170	1700
	04/29/92	ATI-P	1700	3800	240	2200
	10/14/92	ATI-P	800	700	74	640
	04/22/93	ATI-A	120	< 0.5	11	38
	12/09/94	HEAL	2100	2600	220	1800
	06/26/95	HEAL	1200	2700	130	1200
	10/06/95	HEAL	490	1600	66	640
	11/21/95	HEAL	740	2900	160	1100
	02/22/96	HEAL	260	1000	62	600
	05/21/96	HEAL	380	120	1300	1100
	08/14/96	HEAL	420	1200	100	880
	11/21/96	HEAL	660	1300	150	1600
	02/28/97	HEAL	260	500	90	680
5-03B	05/89	ER	< 5.0	< 5.0	< 5.0	NA
	11/89	ER	< 5.0	< 5.0	< 5.0	NA
	04/90	ER	< 5.0	< 5.0	< 5.0	< 5.0
	05/90	ER	< 5.0	< 5.0	< 5.0	< 5.0
	08/90	AS	< 1	< 1	< 1	< 1
	11/90	EH	< 0.50	< 0.50	< 0.50	< 1
	01/91	EH	< 0.30	< 0.30	< 0.30	< 0.60
	02/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	03/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	04/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	05/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	06/91	EH	< 0.50	1.4	< 0.50	2.2
	07/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	09/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	10/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	11/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	12/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/09/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/27/92	ER	< 0.50	< 0.50	< 0.50	< 0.50

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	02/19/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	03/17/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	04/28/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	12/09/94	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	06/26/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	10/03/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/15/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/12/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/18/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/24/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-04B	10/89	ER	< 25	< 25	< 25	NA
	12/89	ER	18	< 5.0	< 5.0	NA
	01/90	ER	21	< 5.0	< 5.0	NA
	04/90	ER	54	< 5.0	7.1	110
	06/90	ER	60	< 50	< 50	64
	08/90	AS	63	9.5	< 1	15
	11/90	EH	25	< 5.0	< 5.0	< 10
	01/91	EH	22	1.6	0.75	5.6
	03/91	EH	76	11	< 0.50	5.7
	04/91	EH	39	0.66	< 0.50	2.9
	05/91	EH	90	1.1	0.96	13
	06/91	EH	81	21	14	87
	07/91	EH	71	< 0.5	4.5	43
	09/91	EH	270	< 1.0	6.6	54
	10/91	ER	180	< 5.0	7.8	48
	11/91	ER	< 1.2	< 1.2	11	83
	12/91	ER	100	< 2.5	5.1	45
	01/10/92	ER	53	< 1.2	3.7	44
	01/28/92	ER	48	2.8	6.5	44
	02/19/92	ER	42	< 1.0	3.4	39
	03/18/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	04/28/92	ATI-P	86	80	60	570
	10/13/92	ATI-P	230	40	19	260
	04/21/93	ATI-A	170	130	26	280
	12/12/94	HEAL	12	2.2	3.4	3.3
	12/20/94	HEAL	2.7	0.7	< 0.5	1.3
	01/10/95	HEAL	9.8	2.3	< 0.5	2.0
	03/07/95	HEAL	93	1.5	6.1	1.9
	06/08/95	HEAL	9.4	1.4	0.6	< 0.5

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	06/26/95	HEAL	15	< 0.5	0.7	< 0.5
	10/05/95	HEAL	44	1.7	3.1	< 0.5
	11/17/95	HEAL	9.9	1.1	0.6	< 0.5
	02/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-05B	10/89	ER	< 5.0	< 5.0	8.7	NA
	11/89	ER	< 5.0	< 5.0	< 5.0	NA
	04/90	ER	< 5.0	< 5.0	< 5.0	< 5.0
	06/90	ER	< 5.0	< 5.0	< 5.0	< 5.0
	08/90	AS	2.5	< 1	< 1	4.6
	11/90	EH	1.4	< 0.50	< 0.50	2.9
	01/91	EH	< 0.50	< 0.50	< 0.50	0.56
	02/91	EH	49	35	7.4	56
	03/91	EH	12	1.2	< 0.50	< 1.0
	04/91	EH	1.3	< 0.50	< 0.50	< 1.0
	05/91	EH	4.6	< 0.50	< 0.50	< 1.0
	06/91	EH	3.8	< 0.50	< 0.50	< 1.0
	07/91	EH	0.51	< 0.50	< 0.50	< 1.0
	09/91	EH	3.0	< 0.50	< 0.50	< 1.0
	10/91	ER	0.90	< 0.50	< 0.50	< 0.50
	11/91	ER	1.2	< 0.50	< 0.50	< 0.50
	12/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/09/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/27/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	02/19/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	03/17/92	ATI-P	53	< 0.5	11	84
	04/28/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/12/92	ATI-P	770	110	25	160
	04/21/93	ATI-A	38	< 0.5	2.4	3
	12/12/94	HEAL	150	33	16	47
	06/26/95	HEAL	17	0.7	1.6	0.9
	10/05/95	HEAL	8.2	< 0.5	0.9	< 0.5
	11/17/95	HEAL	5.0	< 0.5	< 0.5	< 0.5
	02/20/96	HEAL	0.9	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	1.0	< 0.5	< 0.5	< 0.5
	08/14/96	HEAL	0.9	< 0.5	< 0.5	< 0.5
	11/20/96	HEAL	3.3	1.5	<0.5	<0.5
	02/25/97	HEAL	3.0	1.4	< 0.5	0.6
5-06B	10/89	ER	15	< 5.0	< 5.0	NA
	12/89	ER	7.4	35	21	NA
	01/90	ER	< 5.0	< 5.0	8.3	NA
	04/90	ER	5.3	< 5.0	< 5.0	120
	06/90	ER	< 5.0	< 5.0	< 5.0	19

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	08/90	AS	< 1	< 1	1.5	36
	11/90	EH	1.8	< 0.50	0.5	21
	01/91	EH	< 1.0	< 1.0	< 1.0	31
	02/91	EH	12	2.5	< 0.50	21
	03/91	EH	2.0	< 0.50	< 0.50	5.1
	04/91	EH	5.2	< 0.50	< 0.50	12
	05/91	EH	7.7	< 0.50	< 0.50	18
	06/91	EH	11	2.3	< 0.50	25
	07/91	EH	1.5	< 0.50	< 0.50	15
	09/91	EH	3.5	< 0.50	< 0.50	13
	10/91	ER	3.1	0.62	0.77	9.3
	11/91	ER	1.4	< 0.50	< 0.50	6.0
	11/91	ATI	2.3	< 0.50	< 0.50	18
	12/91	ER	< 0.50	< 0.50	< 0.50	5.0
	01/09/92	ER	2.3	< 0.50	< 0.50	< 0.50
	01/27/92	ER	1.3	< 0.50	< 0.50	2.6
	02/20/92	ER	1.0	< 0.50	< 0.50	1.2
	03/18/92	ATI-P	0.9	< 0.50	< 0.50	2.3
	04/29/92	ATI-P	1.4	< 0.50	< 0.50	3.6
	10/14/92	ATI-P	1.0	< 0.50	< 0.50	2.8
	12/14/94	HEAL	4.3	< 0.50	< 0.50	0.7
	06/27/95	HEAL	2.2	< 0.5	< 0.5	< 0.5
	10/06/95	HEAL	4.6	< 0.5	< 0.5	< 0.5
	11/21/95	HEAL	6.2	< 0.5	< 0.5	< 0.5
	02/22/96	HEAL	4.3	< 0.5	< 0.5	< 0.5
	04/17/96	HEAL	8.9	< 0.5	< 0.5	0.5
	04/17/96	AEN	9.4	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	1.2	< 0.5	< 0.5	< 0.5
	08/15/96	HEAL	2.4	< 0.5	< 0.5	< 0.5
	11/22/96	HEAL	0.9	<0.5	<0.5	<0.5
	02/28/97	HEAL	0.9	<0.5	<0.5	<0.5
5-12B	08/90	AS	< 1	< 1	< 1	< 1
	11/90	EH	< 0.50	< 0.50	< 0.50	< 1.0
	01/91	EH	1.5	4.7	0.79	3.8
	02/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	03/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	04/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	05/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	06/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	07/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	10/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/07/92	ER	< 0.50	< 0.50	< 0.50	< 0.50

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	04/30/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/03/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/16/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/13/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/26/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-13B	08/90	AS	54	13	< 1	330
	11/90	EH	61	< 10	< 10	480
	01/91	EH	180	17	< 5.0	310
	02/91	EH	270	25	< 10	460
	03/91	EH	240	< 50	< 50	480
	04/91	EH	430	< 0.50	< 0.50	620
	05/91	EH	290	< 10	< 10	450
	06/91	EH	330	0.53	< 0.50	600
	07/91	EH	97	0.72	< 0.50	760
	10/91	ER	71	< 5.0	< 5.0	510
	01/08/92	ER	150	< 25	< 25	570
	05/01/92	ATI-P	76	8.0	< 0.5	67
	10/13/92	ATI-P	88	8.7	< 0.5	1.5
	10/05/95	HEAL	0.6	2.5	0.5	1.9
	11/20/95	HEAL	< 0.5	< 0.5	0.6	2.0
	02/21/96	HEAL	1.0	0.7	< 0.5	< 0.5
	05/21/96	HEAL	0.7	< 0.5	< 0.5	0.8
	08/13/96	HEAL	1	5.4	< 0.5	< 0.5
	11/21/96	HEAL	1.2	6.1	<0.5	<0.5
	02/26/97	HEAL	1.5	5.9	< 0.5	2.5
5-14B	08/90	AS	< 1	< 1	< 1	< 1
	11/90	EH	< 0.50	< 0.50	< 0.50	< 1.0
	01/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	02/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	03/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	04/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	05/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	06/91	EH	2.8	3.2	0.53	2.0
	07/91	EH	0.60	< 0.50	< 0.50	< 1.0
	10/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/06/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	04/30/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	10/04/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/16/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	2.6	1.5	< 0.5
	08/13/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/26/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-15B	08/90	AS	< 1	< 1	< 1	< 1
	11/90	EH	2.1	< 0.50	< 0.50	< 1.0
	01/91	EH	< 0.30	< 0.30	< 0.30	1.0
	02/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	03/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	04/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	05/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	06/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	07/91	EH	< 0.50	0.59	< 0.50	< 1.0
	10/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/07/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	04/30/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/05/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/16/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/14/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/26/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-16B	08/90	AS	19	25	50	320
	01/91	EH	< 0.30	< 0.30	< 0.30	< 0.60
	02/91	EH	320	46	170	860
	03/91	EH	920	14	1.2	130
	04/91	EH	92	< 0.50	0.68	9.2
	05/91	EH	270	< 12	230	1100
	06/91	EH	450	490	460	2300
	07/91	EH	260	140	400	2400
	09/91	EH	460	320	550	3600
	10/91	ER	170	420	460	3200
	11/91	ER	180	430	330	2400
	12/91	ER	140	490	360	2900
	01/08/92	ER	200	500	410	3000
	02/20/92	ER	170	330	470	3200
	03/18/92	ATI-P	53	89	400	2400

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	04/29/92	ATI-P	23	3.3	210	1000
	10/13/92	ATI-P	5.1	2.3	12	63
	04/20/93	ATI-A	6.5	< 0.5	14	51
	10/05/95	HEAL	610	5900	300	2600
	11/20/95	HEAL	970	7100	430	3100
	02/21/96	HEAL	1700	6900	340	3600
	05/21/96	HEAL	1500	280	6900	3500
	08/15/96	HEAL	670	3600	130	2400
	11/21/96	HEAL	460	2200	130	2500
	02/27/97	HEAL	250	1100	190	2000
5-17B	08/90	AS	< 1	< 1	< 1	< 1
	11/90	EH	< 0.50	< 0.50	< 0.50	< 1.0
	01/91	EH	< 0.50	< 0.50	< 0.50	< 0.50
	02/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	03/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	04/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	05/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	06/91	EH	0.72	2.9	1.8	11
	07/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	10/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/08/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	02/19/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	03/17/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	04/28/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/07/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/06/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/20/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/14/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/27/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-18B	08/90	AS	1100	14	< 1	220
	11/90	EH	1900	< 100	< 100	320
	01/91	EH	1300	< 25	< 25	170
	02/91	EH	970	11	< 5.0	170
	03/91	EH	260	1.8	< 0.50	23
	04/91	EH	1000	< 1.0	< 1.0	78
	06/91	EH	680	1.1	1.0	150
	07/91	EH	1500	3.0	1.5	70
	10/91	ER	1200	< 25	< 25	130
	01/08/92	ER	1100	< 25	< 25	88

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	05/01/92	ATI-P	790	2.7	< 0.5	36
	10/13/92	ATI-P	820	< 0.5	1.0	36
	04/22/93	ATI-A	360	< 0.5	0.5	2.6
	10/05/95	HEAL	87	8.4	9.0	26
	11/17/95	HEAL	240	24	22	53
	02/21/96	HEAL	290	54	37	110
	05/21/96	HEAL	390	56	1.3	50
	08/14/96	HEAL	400	<0.5	53	0.9
	11/21/96	HEAL	210	5	48	<0.5
	02/27/97	HEAL	9.4	5.2	64	1.5
5-19B	08/90	AS	190	3.5	5.8	44
	11/90	EH	180	11	< 10	< 20
	01/91	EH	150	< 0.30	0.60	15
	02/91	EH	200	5.8	< 2.5	14
	03/91	EH	200	30	180	880
	04/91	EH	290	< 25	210	880
	05/91	EH	240	< 0.50	0.71	21
	06/91	EH	290	7.5	2.2	22
	07/91	EH	240	< 0.50	0.58	14
	10/91	ER	140	< 2.5	< 2.5	12
	01/08/92	ER	240	< 5.0	< 5.0	9.0
	02/20/92	ER	150	< 2.5	< 2.5	4.2
	03/19/92	ATI-P	140	< 0.5	< 0.5	5.9
	04/29/92	ATI-P	190	< 0.5	< 0.5	4.3
	10/13/92	ATI-P	130	< 0.5	< 0.5	4.4
	10/05/95	HEAL	1.0	0.7	< 0.5	< 0.5
	11/20/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/21/96	HEAL	0.9	0.8	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/14/96	HEAL	0.7	0.6	< 0.5	< 0.5
	11/21/96	HEAL	0.9	0.6	<0.5	<0.5
	02/27/97	HEAL	1.3	1	< 0.5	0.7
5-20B	08/90	AS	58	8.0	< 1	51
	11/90	EH	180	< 5.0	< 5.0	12
	01/91	EH	93	14	< 1.0	23
	02/91	EH	280	14	< 10	46
	02/91	EH	110	< 5.0	< 5.0	< 5.0
	03/91	EH	200	< 5.0	< 5.0	< 10
	04/91	EH	180	< 1.0	< 1.0	19
	05/91	EH	160	< 5.0	< 5.0	32
	06/91	EH	300	1.1	< 0.50	15
	07/91	EH	73	1.1	1.0	24

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	10/91	ER	57	2.2	< 1.2	11
	01/08/92	ER	31	< 1.2	< 1.2	6.7
	05/01/92	ATI-P	55	3.9	4.9	6.2
	10/12/92	ATI-P	52	2.7	4.4	11
	04/21/93	ATI-A	14	< 0.5	6.1	10
	10/05/95	HEAL	3.2	0.7	3.5	< 0.5
	11/17/95	HEAL	12	2.3	< 0.5	2.6
	02/21/96	HEAL	2.8	1.7	2.7	2.3
	05/21/96	HEAL	1.7	1.3	0.8	< 0.5
	08/14/96	HEAL	8.1	0.7	0.8	1.5
	11/20/96	HEAL	7.2	0.9	1.4	<0.5
	02/27/97	HEAL	12	1.3	1.8	3.3
5-22B	10/90	AS	< 1	< 1	< 1	< 1
	01/91	EH	< 0.50	< 0.50	< 0.50	< 0.50
	02/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	03/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	04/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	05/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	06/91	EH	1.9	5.5	13	58
	07/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	09/91	EH	< 0.50	< 0.50	< 0.50	< 1.0
	10/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	11/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	12/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/10/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/28/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	02/19/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	03/18/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	04/28/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/08/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	12/12/94	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	06/26/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	10/03/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/15/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/12/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/18/96	HEAL	< 0.5	< 0.5	< 0.5	1.9
	05/22/97	HEAL	5.6	9.3	<0.5	65
5-23B	10/90	AS	5.3	< 1	< 1	< 1
	11/90	EH	5.1	< 0.50	< 0.50	< 1.0
	01/91	EH	3.0	< 0.50	< 0.50	< 0.60

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	02/91	EH	6.6	< 0.50	< 0.50	< 1.0
	03/91	EH	8.5	< 0.50	< 0.50	1.2
	04/91	EH	5.0	< 0.50	< 0.50	< 1.0
	05/91	EH	120	< 0.50	< 0.50	7.5
	06/91	EH	3.8	0.55	< 0.50	5.7
	07/91	EH	2.0	< 0.50	< 0.50	1.3
	09/91	EH	2.1	< 0.50	< 0.50	1.1
	10/91	ER	1.6	< 0.50	< 0.50	< 0.50
	11/91	ER	0.59	< 0.50	< 0.50	< 0.50
	12/91	ER	< 0.50	< 0.50	< 0.50	< 0.50
	01/07/92	ER	0.65	< 0.50	< 0.50	< 0.50
	02/18/92	ER	< 0.50	< 0.50	< 0.50	< 0.50
	03/17/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	04/30/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/09/92	ATI-P	< 0.5	< 0.5	< 0.5	< 0.5
	10/04/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/16/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/20/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/22/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/13/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/26/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-24B	10/90	AS	63	< 1	2.0	1.6
	11/90	EH	100	< 5.0	< 5.0	< 10
	01/91	EH	40	0.55	0.74	< 1.0
	02/91	EH	150	16	< 5.0	21
	03/91	EH	89	9.8	< 0.50	3.5
	04/91	EH	230	< 1.0	< 1.0	6.3
	05/91	EH	4.3	< 0.50	< 0.50	1.3
	06/91	EH	280	0.86	0.64	13
	07/91	EH	130	< 0.50	< 0.50	8.7
	09/91	EH	250	0.54	< 0.50	12
	10/91	ER	140	< 2.5	< 2.5	< 2.5
	11/91	ER	180	< 5.0	< 5.0	< 5.0
	12/91	ER	180	< 5.0	< 5.0	< 5.0
	01/07/92	ER	120	< 2.5	< 2.5	< 2.5
	02/18/92	ER	140	< 2.5	< 2.5	< 2.5
	03/17/92	ATI-P	120	< 2.5	0.8	1.4
	04/30/92	ATI-P	100	2.1	1.4	2.2
	10/13/92	ATI-P	1.2	< 0.5	0.8	0.8
	04/21/93	ATI-P	< 0.5	< 0.5	0.7	1.4
	10/03/95	HEAL	< 0.5	< 0.5	1.0	1.0

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	11/17/95	HEAL	1.2	0.8	0.5	1.0
	02/20/96	HEAL	1.3	1.0	0.7	2.0
	05/21/96	HEAL	< 0.5	0.9	< 0.5	0.7
	08/13/96	HEAL	1.2	0.6	0.7	1.3
	11/19/95	HEAL	0.9	<0.5	0.6	0.8
	02/26/97	HEAL	0.9	0.6	1	1.8
5-34B	01/07/92	ER	120	< 2.5	< 2.5	< 2.5
	02/18/92	ER	140	< 2.5	< 2.5	< 2.5
	03/17/92	ATI-P	120	< 0.5	0.8	1.4
	04/30/92	ATI-P	100	2.1	1.4	2.2
	10/13/92	ATI-P	1.2	< 0.5	0.8	0.8
	04/21/93	ATI-A	< 0.5	< 0.5	0.7	1.4
	12/13/94	HEAL	4700	13,000	460	5,900
5-35B	04/22/93	ATI-A	360	1400	130	1700
5-36E	12/14/94	HEAL	620	2700	230	3300
5-37I	02/22/96	HEAL	640	520	24	990
	04/16/96	HEAL	580	300	22	600
	05/21/96	HEAL	590	19	340	600
	07/03/96	HEAL	1100	600	31	880
	08/15/96	HEAL	310	54	14	430
	11/22/96	HEAL	440	140	20	520
05-41B	10/09/92	ATI-P	47	3.9	0.7	1.0
	04/20/93	ATI-A	1.4	< 0.5	2.5	2.1
	10/04/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/16/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/13/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/25/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-47B	10/07/92	ATI-P	1.0	< 0.5	< 0.5	< 0.5
	04/20/93	ATI-A	2.9	< 0.5	< 0.5	< 0.5
	10/04/95	HEAL	7.2	2.0	0.6	4.6
	11/15/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/13/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/26/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-48B	10/12/92	ATI-P	380	1100	84	840
	04/21/93	ATI-A	99	390	34	360
	10/05/95	HEAL	550	940	290	1900

Table 3. Summary of Analytical Results for BTEX Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Benzene	Toluene	Ethyl-benzene	Total Xylenes
			Concentration (µg/L)			
	11/20/95	HEAL	820	1700	390	2600
	02/21/96	HEAL	690	1100	550	3300
	04/16/96	HEAL	600	1700	420	3100
	05/21/96	HEAL	620	480	3600	3600
	07/03/96	HEAL	670	5100	410	3500
	08/14/96	HEAL	770	7600	340	3900
	11/21/96	HEAL	960	8500	330	3900
	02/27/97	HEAL	1100	10000	430	4700
5-57B	04/19/93	ATI-A	< 0.5	< 0.5	< 0.5	< 0.5
	10/04/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/15/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/12/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/08/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/25/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
5-58B	04/19/93	ATI-A	< 0.5	< 0.5	< 0.5	< 0.5
	10/04/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/16/95	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/19/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	05/21/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	08/12/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	11/18/96	HEAL	< 0.5	< 0.5	< 0.5	< 0.5
	02/25/97	HEAL	< 0.5	< 0.5	< 0.5	< 0.5

† Lab Designations
ABB = ASEA Brown Boveri
AEN = American Environmental Network, Inc. (Albuquerque)
AS = Assaigai Laboratories (Albuquerque)
ATI-A = Analytical Technologies, Inc. (Albuquerque)
ATI-P = Analytical Technologies, Inc. (Phoenix)
ER = Enseco (Rocky Mountain Analytical)
EH = Enseco (Houston)
HEAL = Hall Environmental Analysis Laboratory (Albuquerque)
NA = Not Analyzed

Table 4. Summary of Analytical Results for PCB Compounds Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
5-01B	08/89	ER	2.1	1016
	12/89	ER	2.0	1242
	03/90	ER	94	1221
	06/90	ER	11	1242
	08/90	AS	2.0	1242
	11/90	EH	5.5	1242
	01/91	EH	28	1242
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	210	1221
	11/91	ER	76	1221
	12/91	ER	< 1.0	
	01/09/92	ER	< 1.0	
	01/27/92	ER	67	1221
	02/20/92	ER	82	1221
	03/18/92	ATI-P	54	1221
	04/29/92	ATI-P	71	1221
	10/14/92	ATI-P	82	1221
	12/13/94	ATI-P	4.9	1016
	06/27/95	NET	4.18	1242
	10/06/95	NET	< 0.65	
	11/21/95	NET	< 0.065	
	02/22/96	NET	< 0.065	
	04/17/96	NET	< 0.065	
	04/17/96	PA	0.93	1221
	05/24/96	NET	34	1221
	08/15/96	NET	14.2	1221
	11/22/96	EPIC	15.6	1221
	02/28/97	EPIC	15.2	1221
5-02B	05/89	ER	< 1.0	
	08/89	ER	< 1.0	
	11/89	ER	< 1.0	
	03/90	ER	< 1.0	
	06/90	ER	< 5.0	
	08/90	AS	< 0.1	
	11/90	EH	< 1.0	

Table 4. Summary of Analytical Results for PCB Compounds Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	< 1.0	
	11/91	ER	< 1.0	
	12/91	ER	< 1.0	
	01/09/92	ER	< 1.0	
	01/28/92	ER	< 1.0	
	02/20/92	ER	< 1.0	
	03/19/92	ATI-P	< 0.5	
	04/29/92	ATI-P	< 25.0	
5-03B	05/89	ER	< 1.0	
	11/89	ER	< 1.0	
	04/90	ER	< 1.0	
	05/90	ER	< 1.0	
	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	< 1.0	
	11/91	ER	< 0.1	
	12/91	ER	< 0.1	
	01/09/92	ER	< 1.0	
	01/27/92	ER	< 1.0	
	02/19/92	ER	< 1.0	
	03/17/92	ATI-P	< 0.5	
	04/28/92	ATI-P	< 0.5	
5-04B	12/89	ER	< 1.0	
	01/90	ER	< 1.0	
	04/90	ER	< 1.0	
	06/90	ER	< 1.0	

Table 4. Summary of Analytical Results for PCB Compounds Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	< 1.0	
	11/91	ER	< 1.0	
	12/91	ER	< 1.0	
	01/10/92	ER	< 1.0	
	01/28/92	ER	< 1.0	
	02/19/92	ER	< 1.0	
	03/18/92	ATI-P	< 0.5	
	04/28/92	ATI-P	< 0.5	
5-05B	10/89	ER	< 1.0	
	11/89	ER	< 1.0	
	04/90	ER	< 1.0	
	06/90	ER	< 1.0	
	08/90	AS	0.19	1242
	11/90	EH	2.4	1242
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	< 5.0	
	11/91	ER	< 1.0	
	12/91	ER	< 2.0	
	01/09/92	ER	< 1.0	
	01/27/92	ER	< 1.0	
	02/19/92	ER	< 10.0	
	03/17/92	ATI-P	< 0.5	
	04/28/92	ATI-P	< 0.5	
5-06B	10/89	ER	< 1.0	
	12/89	ER	180	1221
	01/90	ER	100	1221

Table 4. Summary of Analytical Results for PCB Compounds
Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	04/90	ER	170	
	06/90	ER	39	1242
	08/90	AS	1.1	1242
	11/90	EH	65	1242
	01/91	EH	39	1242
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	250	1221
	11/91	ER	140	1221
	11/91	ATI	210	1221
	12/91	ER	270	1221
	01/09/92	ER	< 1.0	
	01/27/92	ER	190	1221
	02/20/92	ER	200	1221
	03/18/92	ATI-P	140	1221
	04/29/92	ATI-P	150	1221
	10/14/92	ATI-P	280	1221
	12/14/94	NET	88	1016
	06/27/95	NET	26.3	1242
	10/06/95	NET	30.1	1242
	11/21/95	NET	44.4	1242
	02/22/96	NET	< 0.065	
	04/17/96	NET	< 0.065	
	05/23/96	NET	78	1221
	08/15/96	NET	166.7	1221
(NMOCD split sample)	08/15/96	AEN	260	1221
	11/22/96	EPIC	42.8	1221
	02/28/97	EPIC	48.2	1221
5-12B	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-13B	08/90	AS	< 0.1	

Table 4. Summary of Analytical Results for PCB Compounds Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-14B	08/90	AS	< 0.1	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-15B	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-16B	08/90	AS	< 0.1	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	02/20/92	ER	< 1.0	
	03/18/92	ATI-P	< 5.0	
	04/29/92	ATI-P	< 10.0	
5-17B	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	02/19/92	ER	< 1.0	
	03/17/92	ATI-P	< 0.5	

Table 4. Summary of Analytical Results for PCB Compounds Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	04/28/92	ATI-P	< 0.5	
	10/07/92	ATI-P	< 0.5	
	10/06/95	NET	< 0.65	
	11/20/95	NET	< 0.065	
	02/20/96	NET	< 0.065	
	05/21/96	NET	< 0.065	
	08/14/96	NET	<0.70	
	11/20/96	EPIC	<0.065	
	02/28/97	EPIC	<0.066	
5-18B	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-19B	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
	02/20/92	ER	< 1.0	
	03/19/92	ATI-P	< 0.5	
	04/29/92	ATI-P	< 0.5	
5-20B	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-22B	10/90	AS	2.2	1242
	01/91	EH	13	1248
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	

Table 4. Summary of Analytical Results for PCB Compounds Thoreau Compressor Station No. 5

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	06/91	EH	< 1.0	
	07/91	EH	< 1.0	
	09/91	EH	< 1.0	
	10/91	ER	< 1.0	
	11/91	ER	< 1.0	
	12/91	ER	< 1.0	
	01/10/92	ER	< 1.0	
	01/28/92	ER	< 1.0	
	02/19/92	ER	< 1.0	
	03/18/92	ATI-P	< 0.5	
	04/28/92	ATI-P	< 0.5	
5-23B	10/90	AS	30	1254
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-24B	10/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	
	04/91	EH	< 1.0	
	05/91	EH	< 1.0	
	06/91	EH	< 1.0	
5-37I	05/21/96	NET	< 6.5	

† Lab Designations
ABB = ASEA Brown Boveri
AEN = American Environmental Network, Inc. (Albuquerque)
AS = Assaigai Laboratories (Albuquerque)
ATI-A = Analytical Technologies, Inc. (Albuquerque)
ATI-P = Analytical Technologies, Inc. (Phoenix)
ER = Enseco (Rocky Mountain Analytical)
EH = Enseco (Houston)
HEAL = Hall Environmental Analysis Laboratory (Albuquerque)
PA = Paragon Analytics, Inc. (Fort Collins)
NET = National Environmental Testing, Inc. (Carrollton, Texas)
EPIC = EPIC Laboratories, Inc. (Carrollton, Texas)
ND = Not detected
‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

Table 5. Summary of Phase II SVE Emissions
Thoreau Compressor Station No. 5

Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Hexane + Hydrocarbons	Non-Methane Hydrocarbons	PID Readings
	(ppmv)						
04/29/96	< 10	30	10	70	2,050	na	450
05/24/96	< 10	30	10	80	2,000	na	420
07/03/96	< 10	10	< 10	10	1,310	na	442
08/15/96	< 10	260	< 10	30	1,050	na	1005
11/22/96	10	30	< 10	20	990	1,090	536
04/21/97	< 10	10	< 10	30	790	810	na

All air samples analyzed by Core Laboratories of Houston, Texas
ppmv = parts per million by volume
PID = Photoionization detector
na = information not available

Semi-annual Report of Groundwater Remediation Activities

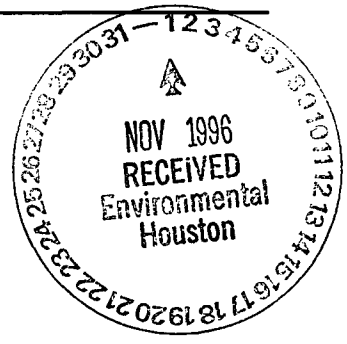
Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #1

Lab Reports for the 3rd Quarter 1996 Groundwater Sampling Event

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131



October 25, 1996

Mr. Fenley Ryther, Jr.
Permits Group Manager
ENRON Operations Corp.
P.O. Box 1188
Houston, TX 77251-1188

RE: GROUND WATER ANALYSES
ENRON THOREAU COMPRESSOR STATION
MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Ryther:

Enclosed are copies of the New Mexico Oil Conservation Division's (OCD) August 15, 1996 split ground water sample results from monitor well MW-6B at ENRON's Thoreau Compressor Station.

Aroclor-1221 was detected at a concentration of 260 parts per billion. It appears that PCB's continue to be detected in monitor well MW-6B at a concentration in excess of New Mexico Water Quality Control Commission (WQCC) ground water standards.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc w/enclosure: Denny Foust, OCD Aztec District Office
Julie Curtis, Navajo EPA Superfund Program
George Robinson, Cypress Engineering Services

American Environmental Network, Inc.

AEN I.D. **608329**

August 29, 1996

NM Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Project Name/Number: ENRON THOREAU (NONE)

Attention: Bill Olson

On **08/15/96**, American Environmental Network (NM), Inc., (ADHS License No. AZ0015) received a request to analyze **aqueous** sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by American Environmental Network (FL) Inc., 11 east East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:ft

Enclosure

2709-D Pan American Freeway, NE • Albuquerque, NM 87107 • (505) 344-3777 • Fax (602) 344-4413

American Environmental Network, Inc.

CLIENT : NM OIL CONSERVATION DIVISION DATE 08/15/96
PROJECT # : (NONE)
PROJECT NAME : ENRON THOREAU REPORT DATE: 08/29/96

AEN ID: 608329

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	608329-01	9608151(MW-6B)	AQUEOUS	08/15/96

---TOTALS---

MATRIX	#SAMPLE(S)
AQUEOUS	1

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	608419
Client:	AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number:	608329
Project Name:	NMOCD
Project Location:	ENRON
Test:	PCB
Analysis Method:	8080 / SW-846, 3rd Edition.
Extraction Method:	3510 / SW-846, 3rd Edition.
Matrix:	WATER
QC Level:	II

Lab Id:	001		Sample Date/Time:	15-AUG-96 1230
Client Sample Id:	608329-01		Received Date:	16-AUG-96
Batch: PCW057			Extraction Date:	21-AUG-96
Blank: A	Dry Weight %:	N/A	Analysis Date:	27-AUG-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
AROCLOR-1016	UG/L	ND	20	
AROCLOR-1221	UG/L	260	20	
AROCLOR-1232	UG/L	ND	20	
AROCLOR-1242	UG/L	ND	20	
AROCLOR-1248	UG/L	ND	20	
AROCLOR-1254	UG/L	ND	20	
AROCLOR-1260	UG/L	ND	20	
DCB	%REC/SURR	91	1-165	
TCMX	%REC/SURR	94	1-134	
ANALYST	INITIALS	KL		

Comments:

American Environmental Network, Inc.

"Method Report Summary"

Accession Number: 608419
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608329
Project Name: NMOCD
Project Location: ENRON
Test: PCB

Client Sample Id:	Parameter:	Unit:	Result:
608329-01	AROCLOR-1221	UG/L	260

American Environmental Network, Inc.

"QC Report"

Title: Water Blank
Batch: PCW057
Analysis Method: 8080 / SW-846, 3rd Edition.
Extraction Method: 3510 / SW-846, 3rd Edition.

Blank Id: A Date Analyzed: 26-AUG-96 Date Extracted: 21-AUG-96

Parameters:	Units:	Results:	Reporting Limits:
AROCLOR-1016	UG/L	ND	1.0
AROCLOR-1221	UG/L	ND	1.0
AROCLOR-1232	UG/L	ND	1.0
AROCLOR-1242	UG/L	ND	1.0
AROCLOR-1248	UG/L	ND	1.0
AROCLOR-1254	UG/L	ND	1.0
AROCLOR-1260	UG/L	ND	1.0
DCB	%REC/SURR	101	1-165
TCMX	%REC/SURR	82	1-134
ANALYST	INITIALS	KL	

Comments:

American Environmental Network, Inc.

"QC Report"

Title: Water Reagent
Batch: PCW057
Analysis Method: 8080 / SW-846, 3rd Edition.
Extraction Method: 3510 / SW-846, 3rd Edition.

RS Date Analyzed: 26-AUG-96
RSD Date Analyzed: 26-AUG-96

RS Date Extracted: 21-AUG-96
RSD Date Extracted: 21-AUG-96

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
AROCLOR 1016	10.0	<1.0	9.7	97	9.4	94	3	11	78-116
AROCLOR 1260	10.0	<1.0	10.1	101	10.5	105	4	18	70-133
Surrogates:									
DCB				98		103			1-165
TCMX				87		82			1-134

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

"QC Report"

Title: Water Matrix
Batch: PCW057
Analysis Method: 8080 / SW-846, 3rd Edition.
Extraction Method: 3510 / SW-846, 3rd Edition.

Dry Weight %: N/A
Sample Spiked: 608419-1

MS Date Analyzed: 26-AUG-96
MSD Date Analyzed: 26-AUG-96

MS Date Extracted: 21-AUG-96
MSD Date Extracted: 21-AUG-96

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
AROCLOR 1016	20.0	<1.0	28.6	143	26.5	133	7	22	16-144
AROCLOR 1260	20.0	<1.0	19.9	100	19.5	98	2	41	1-155
Surrogates:									
DCB				101		99			1-165
TCMX				75		64			1-134

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
J = THE REPORTED VALUE IS EITHER LESS THAN THE REPORTING LIMIT BUT GREATER THAN ZERO, OR QUANTITATED AS A TIC; THEREFORE, IT IS ESTIMATED.
ND = NOT DETECTED ABOVE REPORTING LIMIT.
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.

RP = ROBERT PEREZ
KL = KERRY LEMONT
RW = ROBERT WOLFE
PL = PAUL LESCHENSKY

Analytical**Technologies** of New Mexico, Inc.
Albuquerque, New Mexico

Interlab Chain of Custody 608419

DATE: 8/15 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: **Analytical Technologies of New Mexico, Inc.**
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: K McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
608329	8/15	1230	AQ	1
				2
				3
				4
				5
				6
				7
				8
				9
				10

Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)			TOX	TOC	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides/PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
														X														

PROJECT INFORMATION

PROJECT NUMBER: 608329
PROJECT NAME: Enron
QC LEVEL: (STD) IV
QC REQUIRED: (MS) MSD BLANK
TAT: (STANDARD) RUSH!

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS:
CHAIN OF CUSTODY SEALS:
INTACT?:
RECEIVED GOOD COND./COLD:
LAB NUMBER:

DUE DATE: 8/22
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

SAMPLES SENT TO:	
SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 1700
Printed Name: John Caldwell Date: 8/15/96
Analytical Technologies of New Mexico, Inc. Albuquerque

RECEIVED BY: 1.
Signature: Time: 0952
Printed Name: R. ELSPERMAN Date: 8/16/96
Company: AEN-FL

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 8/15/96 PAGE: 1 OF 1

AEN LAB I.D. 605347

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bill Olson

COMPANY: N.M. Oil Conservation Division
ADDRESS: 2040 S. Pacheco
Santa Fe, NM 87505
PHONE: (505) 827-7154
FAX: (505) 827-8177

BILL TO: same
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.
960815/1230 (MW-6B)	8/15/96	1230	water	-01

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct/Inject
(M8015) Gas/Purge & Trap
Gasoline/BTEX & MTBE (M8015/8020)
BTXE/MTBE (8020)
BTEX & Chlorinated Aromatics (602/8020)
BTEX/MTBE/EDC & EDB (8020/8010/Short)
Chlorinated Hydrocarbons (601/8010)
504 EDB ☐ / DBCP ☐
Polynuclear Aromatics (610/8310)
Volatile Organics (624/8240) GC/MS
Volatile Organics (8260) GC/MS
Pesticides (PCB) (608/8080): 2
Herbicides (615/8150)
Base/Neutral/Acid Compounds GC/MS (625/8270)
General Chemistry:
Priority Pollutant Metals (13)
Target Analyte List Metals (23)
RCRA Metals (8)
RCRA Metals by TCLP (Method 1311)
Metals:
NUMBER OF CONTAINERS: 2

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: ENRON Thoreau
P.O. NO.:
SHIPPED VIA: Hand delivered

SAMPLE RECEIPT

NO. OF CONTAINERS: 2
GOOD CONDITION: Y (N) N/A
PRESERVATIVE: Y
HEAD SPACE: 1/2"

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

field

RELINQUISHED BY: 1.

Signature: Time: 1540
Printed Name: William Olson Date: 8/15/96
Company: NMOCD

RECEIVED BY: 1.

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2.

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.

Signature: Time:
Printed Name: Date:
American Environmental Network (NM) Inc.

NEW MEXICO ENERGY, MINERALS
& NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 South Pacheco Street
Santa Fe, New Mexico 87505
(505) 827-7131

October 25, 1996

Mr. Fenley Ryther, Jr.
Permits Group Manager
ENRON Operations Corp.
P.O. Box 1188
Houston, TX 77251-1188

RE: GROUND WATER ANALYSES
ENRON THOREAU COMPRESSOR STATION
MCKINLEY COUNTY, NEW MEXICO

Dear Mr. Ryther:

Enclosed are copies of the New Mexico Oil Conservation Division's (OCD) August 15, 1996 split ground water sample results from monitor well MW-6B at ENRON's Thoreau Compressor Station.

Aroclor-1221 was detected at a concentration of 260 parts per billion. It appears that PCB's continue to be detected in monitor well MW-6B at a concentration in excess of New Mexico Water Quality Control Commission (WQCC) ground water standards.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrogeologist
Environmental Bureau

xc w/enclosure: Denny Foust, OCD Aztec District Office
Julie Curtis, Navajo EPA Superfund Program
George Robinson, Cypress Engineering Services

American Environmental Network, Inc.

AEN I.D. **608329**

August 29, 1996

NM Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Project Name/Number: ENRON THOREAU (NONE)

Attention: Bill Olson

On **08/15/96**, American Environmental Network (NM), Inc., (ADHS License No. AZ0015) received a request to analyze **aqueous** sample(s). The sample(s) were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

All analyses were performed by American Environmental Network (FL) Inc., 11 east East Olive Road, Pensacola, FL.

If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:ft

Enclosure

American Environmental Network, Inc.

CLIENT	: NM OIL CONSERVATION DIVISION	DATE	08/15/96
PROJECT #	: (NONE)		
PROJECT NAME	: ENRON THOREAU	REPORT DATE:	08/29/96

AEN ID: 608329

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	608329-01	9608151(MW-6B)	AQUEOUS	08/15/96

---TOTALS---

MATRIX	#SAMPLE(S)
AQUEOUS	1

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession:	608419
Client:	AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number:	608329
Project Name:	NMOCD
Project Location:	ENRON
Test:	PCB
Analysis Method:	8080 / SW-846, 3rd Edition.
Extraction Method:	3510 / SW-846, 3rd Edition.
Matrix:	WATER
QC Level:	II

Lab Id:	001		Sample Date/Time:	15-AUG-96 1230
Client Sample Id:	608329-01		Received Date:	16-AUG-96
Batch: PCW057			Extraction Date:	21-AUG-96
Blank: A	Dry Weight %:	N/A	Analysis Date:	27-AUG-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
AROCLOR-1016	UG/L	ND	20	
AROCLOR-1221	UG/L	260	20	
AROCLOR-1232	UG/L	ND	20	
AROCLOR-1242	UG/L	ND	20	
AROCLOR-1248	UG/L	ND	20	
AROCLOR-1254	UG/L	ND	20	
AROCLOR-1260	UG/L	ND	20	
DCB	%REC/SURR	91	1-165	
TCMX	%REC/SURR	94	1-134	
ANALYST	INITIALS	KL		

Comments:

American Environmental Network, Inc.

"Method Report Summary"

Accession Number: 608419
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 608329
Project Name: NMOCD
Project Location: ENRON
Test: PCB

Client Sample Id:	Parameter:	Unit:	Result:
608329-01	AROCLOR-1221	UG/L	260

"QC Report"

Title: Water Blank
Batch: PCW057
Analysis Method: 8080 / SW-846, 3rd Edition.
Extraction Method: 3510 / SW-846, 3rd Edition.

Blank Id: A Date Analyzed: 26-AUG-96 Date Extracted: 21-AUG-96

Parameters:	Units:	Results:	Reporting Limits:
AROCLOR-1016	UG/L	ND	1.0
AROCLOR-1221	UG/L	ND	1.0
AROCLOR-1232	UG/L	ND	1.0
AROCLOR-1242	UG/L	ND	1.0
AROCLOR-1248	UG/L	ND	1.0
AROCLOR-1254	UG/L	ND	1.0
AROCLOR-1260	UG/L	ND	1.0
DCB	%REC/SURR	101	1-165
TCMX	%REC/SURR	82	1-134
ANALYST	INITIALS	KL	

Comments:

American Environmental Network, Inc.

"QC Report"

Title: Water Reagent
Batch: PCW057
Analysis Method: 8080 / SW-846, 3rd Edition.
Extraction Method: 3510 / SW-846, 3rd Edition.

RS Date Analyzed: 26-AUG-96
RSD Date Analyzed: 26-AUG-96

RS Date Extracted: 21-AUG-96
RSD Date Extracted: 21-AUG-96

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	RPD Lmts	Rec Lmts
AROCLOR 1016	10.0	<1.0	9.7	97	9.4	94	3	11	78-116
AROCLOR 1260	10.0	<1.0	10.1	101	10.5	105	4	18	70-133
Surrogates:									
DCB				98		103			1-165
TCMX				87		82			1-134

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

American Environmental Network, Inc.

"QC Report"

Title: Water Matrix
Batch: PCW057
Analysis Method: 8080 / SW-846, 3rd Edition.
Extraction Method: 3510 / SW-846, 3rd Edition.

Dry Weight %: N/A
Sample Spiked: 608419-1

MS Date Analyzed: 26-AUG-96
MSD Date Analyzed: 26-AUG-96

MS Date Extracted: 21-AUG-96
MSD Date Extracted: 21-AUG-96

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	RPD Lmts	Rec Lmts
AROCLOR 1016	20.0	<1.0	28.6	143	26.5	133	7	22	16-144
AROCLOR 1260	20.0	<1.0	19.9	100	19.5	98	2	41	1-155
Surrogates:									
DCB				101		99			1-165
TCMX				75		64			1-134

Comments:

Notes:
N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
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N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
J = THE REPORTED VALUE IS EITHER LESS THAN THE REPORTING LIMIT BUT GREATER THAN ZERO, OR QUANTITATED AS A TIC; THEREFORE, IT IS ESTIMATED.
ND = NOT DETECTED ABOVE REPORTING LIMIT.
RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.
RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.

RP = ROBERT PEREZ
KL = KERRY LEMONT
RW = ROBERT WOLFE
PL = PAUL LESCHENSKY

Analytical**Technologies** of New Mexico, Inc.
Albuquerque, New Mexico

Interlab Chain of Custody 608419

DATE: 8/15 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. McNEILL

COMPANY: **Analytical Technologies of New Mexico, Inc.**
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: K McNeill

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
608329	8/15	1230	AQ	1

	Metals - TAL	Metals - PP List	Metals - RCRA	RCRA Metals by TCLP (1311)			TOX	TOC	Gen Chemistry			Oil and Grease	BOD	COD	Pesticides PCB (608/8080)	Herbicides (615/8150)	Base/Neutral Acid Compounds GC/MS (625/8270)	Volatile Organics GC/MS (624/8240)	Polynuclear Aromatics (610/8310)	8240 (TCLP 1311) ZHE	8270 (TCLP 1311)			TO-14	Gross Alpha/Beta				NUMBER OF CONTAINERS
608329															X														1

PROJECT INFORMATION

PROJECT NUMBER: 608329
PROJECT NAME: Exxon
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

DUE DATE: 8/22
RUSH SURCHARGE: _____
CLIENT DISCOUNT: _____
SPECIAL CERTIFICATION REQUIRED: ☐ YES ☐ NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	
CHAIN OF CUSTODY SEALS	
INTACT?	
RECEIVED GOOD COND./COLD	
LAB NUMBER	

SAMPLES SENT TO:

SAN DIEGO	
FT. COLLINS	
RENTON	
PENSACOLA	X
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: John Caldwell Time: 1700
Printed Name: John Caldwell Date: 8/15/96
Analytical Technologies of New Mexico, Inc. Albuquerque

RECEIVED BY: 1.
Signature: Robert Elsperman Time: 0952
Printed Name: R. ELSPERMAN Date: 8/16/96
Company: AEN-FL

RELINQUISHED BY: 2.
Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: (LAB) 2.
Signature: Time:
Printed Name: Date:
Company:

American Environmental Network (NM), Inc.

Albuquerque • Phoenix • Pensacola • Portland • Pleasant Hills • Columbia

CHAIN OF CUSTODY

DATE: 8/15/96 PAGE: 1 OF 1

AEN LAB I.D.: 60853-7

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bill Olson

COMPANY: N.M. Oil Conservation Division
ADDRESS: 2040 S. Pacheco
Santa Fe, NM 87505
PHONE: (505) 827-7154
FAX: (505) 827-8177

BILL TO: same
COMPANY:
ADDRESS:

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	Petroleum Hydrocarbons (418.1) TRPH	(MOD.8015) Diesel/Direct/Inject	(M8015) Gas/Purge & Trap	Gasoline/BTEX & MTBE (M8015/8020)	BTXE/MTBE (8020)	BTEX & Chlorinated Aromatics (602/8020)	BTEX/MTBE/EDC & EDB (8020/8010/Short)	Chlorinated Hydrocarbons (601/8010)	504 EDB☐ / DBCP☐	Polynuclear Aromatics (610/8310)	Volatile Organics (624/8240) GC/MS	Volatile Organics (8260) GC/MS	Pesticides (PCB) (608/8080)	Herbicides (615/8150)	Base/Neutral/Acid Compounds GC/MS (625/8270)	General Chemistry:	Priority Pollutant Metals (13)	Target Analyte List Metals (23)	RCRA Metals (8)	RCRA Metals by TCLP (Method 1311)	Metals:	NUMBER OF CONTAINERS
960815/1230 (MW-6B)	8/15/96	1230	water	-01													2									3

PROJECT INFORMATION

PROJ. NO.:
PROJ. NAME: ENRON Thoreau
P.O. NO.:
SHIPPED VIA: Hand delivered

SAMPLE RECEIPT

[illegible]	2
[illegible]	Y/N/NA
[illegible]	Y
[illegible]	15°

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

field

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Bill Olson Time: 1540	Signature: Time:
Printed Name: William Olson Date: 8/15/96	Printed Name: Date:
Company: ENRON	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	American Environmental Network (NM), Inc.

DISTRIBUTION: White, Canary - AEN Pink - ORIGINATOR

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
4901 Hawkins, NE Suite C
Albuquerque, NM 87109
(505)345-3975

8/21/96

Daniel B. Stephens and Associates, Inc.
6020 Academy NE, Suite 100
Albuquerque, NM 87109

Dear Mr. Bob Marley,

Enclosed are the results for the analyses that were requested. These were done according to EPA procedures or the equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these levels (denoted by the < sign) has been made.

Please don't hesitate to contact me for any additional information or clarifications.

Sincerely,

COPY #1

Scott Hallenbeck, Lab Manager

Project: 9608045/Enron-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client : Daniel B. Stephens and Assoc., Inc. **Project**: Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 8/16/96

Sample Name:		5-03B	5-57B	5-58B	5-22B	5-47B	5-41B	
Lab Code:	9608045	-1	-2	-3	-4	-5	-6	
Date Collected:		8/12/96	8/12/96	8/12/96	8/12/96	8/13/96	8/13/96	
Date Analyzed:		8/16/96	8/16/96	8/16/96	8/16/96	8/16/96	8/16/96	
		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Toluene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Ethylbenzene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Xylenes (Total)		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery		100%	101%	99%	96%	105%	102%	-
Dilution Factor		1	1	1	1	1	1	-

Sample Name:		5-24B	5-12B	5-23B	5-14B	5-13B	5-15B	
Lab Code:	9608045	-7	-8	-9	-10	-11	-12	
Date Collected:		8/13/96	8/13/96	8/13/96	8/13/96	8/13/96	8/14/96	
Date Analyzed:		8/16/96	8/16/96	8/16/96	8/16/96	8/16/96	8/16/96	
Analyte:		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		1.2	<0.5	<0.5	<0.5	1.0	<0.5	0.5
Toluene		0.6	<0.5	<0.5	<0.5	5.4	<0.5	0.5
Ethylbenzene		0.7	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Xylenes (Total)		1.3	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery		104%	100%	101%	101%	95%	99%	-
Dilution Factor		1	1	1	1	1	1	-

Sample Name:		5-19B	5-20B	5-17B	5-05B	5-02B	5-18B	
Lab Code:	9608045	-13	-14	-15	-16	-17	-18	
Date Collected:		8/14/96	8/14/96	8/14/96	8/14/96	8/14/96	8/14/96	
Date Analyzed:		8/16/96	8/16/96	8/19/96	8/19/96	8/19/96	8/19/96	
Analyte:		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		0.7	8.1	<0.5	0.9	420	400	0.5
Toluene		0.6	0.7	<0.5	<0.5	1,200	<0.5	0.5
Ethylbenzene		<0.5	0.8	<0.5	<0.5	100	53	0.5
Xylenes (Total)		<0.5	1.5	<0.5	<0.5	880	0.9	0.5
BFB (Surrogate) Recovery		105%	102%	98%	89%	100%	94%	-
Dilution Factor		1	1	1	1	1	1	-

Hall Environmental Analysis Laboratory, Inc.

Client : Daniel B. Stephens and Assoc., Inc. **Project**: Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 8/16/96

Sample Name:		5-48B	5-98	5-16B	5-01B	5-06B	5-37I
Lab Code:	9608045	-19	-20	-21	-22	-23	-24
Date Collected:		8/14/96	8/14/96	8/15/96	8/15/96	8/15/96	8/15/96
Date Analyzed:		8/19/96	8/19/96	8/19/96	8/19/96	8/19/96	8/19/96

	Results	Results	Results	Results	Results	Results	Detection Limit
Benzene	770	630	670	<0.5	2.4	310	0.5
Toluene	7,600	7,900	3,600	<0.5	<0.5	54	0.5
Ethylbenzene	340	300	130	<0.5	<0.5	14	0.5
Xylenes (Total)	3,900	3,600	2,400	<0.5	<0.5	430	0.5
BFB (Surrogate) Recovery	91%	93%	90%	99%	97%	93%	-
Dilution Factor	1	40	100	1	1	10	-

Sample Name:		Filtered purge	Trip Blank 1	Trip Blank 2	Reagent Blank	Reagent Blank
Lab Code:	9608045	-25	-26	-27	RB 8/16	RB 8/19
Date Collected:		8/15/96	8/6/96	8/6/9	NA	NA
Date Analyzed:		8/19/96	8/19/96	8/19/96	8/16/96	8/19/96

Analyte:	Results	Results	Results	Results	Results	Detection Limit
Benzene	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Toluene	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Ethylbenzene	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Xylenes (Total)	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery	99%	99%	98%	100%	96%	-
Dilution Factor	1	1	1	1	1	-

Results for QC: Matrix Spike / Matrix Spike Duplicate

Date extracted: NA	Date analyzed: 8/16, 8/20/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9608045-1 MS/MSD
Project Manager: Bob Marley	9608049-6 MS/MSD
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MSD %	RPD
Benzene	<0.5	20.0	20.7	104	20.4	102	1
Toluene	<0.5	20.0	20.2	101	19.8	99	2
Ethylbenzene	<0.5	20.0	20.3	102	19.8	99	2
Total Xylenes	<0.5	60.0	60.6	101	59.3	99	2

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MSD %	RPD
Benzene	<0.5	20.0	21.4	107	20.6	103	4
Toluene	<0.5	20.0	21.0	105	20.5	103	2
Ethylbenzene	<0.5	20.0	21.6	108	20.5	103	5
Total Xylenes	0.5	60.0	62.6	104	60.4	101	3

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite C
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: Daniel B. Stephens & Assoc.

Address: 6020 Academy NE
Albuquerque, NM 87109

Phone #: 505/822-9400

Fax #:

Project Name: ENRON - THOREAU

Project #: 6031.1

Project Manager: Bob Marley

Sampler: Wolf / Roth

Samples Cold? ☑ Yes ☐ No

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
8/12/96	1230	H_2O	5-03B	2/40mL	✓			9608045-1
8/12	1500	H_2O	5-57B	2/40	✓			-2
8/12	1600	H_2O	5-58B	2/40	✓			-3
8/12	1700	H_2O	5-22B	2/40	✓			-4
8/13	1030	H_2O	5-47B	2/40	✓			-5
8/13	1215	H_2O	5-41B	2/40	✓			-6
8/13	1335	H_2O	5-24B	2/40	✓			-7
8/13	1400	H_2O	5-12B	2/40	✓			-8
8/13	1520	H_2O	5-23B	2/40	✓			-9
8/13	1700	H_2O	5-14B	2/40	✓			-10
8/13	1725	H_2O	5-13B	2/40	✓			-11
8/14	0920	H_2O	5-15B	2/40	✓			-12

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	THP (Method 418.1)	8010/8020 Volatiles	EDB (Method 504)	EDC	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's	8020 BTEX (No MTBE)			Air Bubbles or Headspace (Y or N)
													✓			
													✓			
													✓			
													✓			
													✓			
													✓			●
													✓			
													✓			
													✓			
													✓			
													✓			
													✓			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/16/96	1003	Tracy L. Roth	Kathy S. Yanke 8/16
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:
Bill to: Mr. George Robinson: ENRON ENVIRONMENTAL AFFAIRS
1400 Smith St., Suite 3AC 3142
Houston, TX 77002

Non-Consent Decree - Thoreau
060-1070-100-247-0286-535025-50510-GENV

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite C
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: Daniel B. Stephens & Assoc.

Address: 6020 Academy NE Suite 100 Albuquerque, NM 87109

Phone #: 505/822-9400

Fax #:

Project Name: Enron-Thoreau

Project #: 6031.1

Project Manager: Bob Marley

Sampler: Wolf/Roth

Samples Cold? ☑ Yes ☐ No

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
8/14	1050	H_2O	5-19B	2/40	✓			9608045-13
8/14	1235	H_2O	5-20B	2/40	✓			-14
8/14	1345	H_2O	5-17B	2/40	✓			-15
8/14	1510	H_2O	5-05B	2/40	✓			-16
8/14	1550	H_2O	5-02B	2/40	✓			-17
8/14	1717	H_2O	5-18B	2/40	✓			-18
8/14	1745	H_2O	5-48B	2/40	✓			-19
8/14	NA	H_2O	5-9B	2/40	✓			-20
8/15	0920	H_2O	5-16B	2/40	✓			-21
8/15	1005	H_2O	5-01B	2/40	✓			-22
8/15	1230	H_2O	5-06B	2/40	✓			-23
8/15	1345	H_2O	5-37B	2/40	✓			-24

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/16/96	1008	Stacy L. Roth	8/16

Remarks:
Bill to: George Robinson: Enron Environmental Affairs
1400 Smith St, Suite 3AC 3142
Houston, Texas 77002

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	THP (Method 418.1)	8010/8020 Volatiles	EDB (Method 504)	EDC	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's	8020 BTEX/MTBE			Air Bubbles or Head (Y or N)
													✓	✓		
													✓	✓		
													✓	✓		
													✓	✓		
													✓	✓		
													✓	✓		●
													✓	✓		
													✓	✓		
													✓	✓		
													✓	✓		
													✓	✓		
													✓	✓		

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite C
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: Daniel B. Stephens & Assoc.

Address: 6020 Academy NE Suite 100 Alb. NM 87109

Phone #: 505/822-9400

Fax #:

Project Name: Enron-Thoreau

Project #: 6031.1

Project Manager: Bob Marley

Sampler: Wolf/Roth

Samples Cold? ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
8/15	1640	H_2O	Filtered Purge Water	2/40	✓			9608045-25
8/16	NA	H_2O	TRIP Blanks	4/40	✓			-26
8/16	NA	H_2O	TRIP Blanks	2/40	✓			-27

ANALYSIS REQUEST

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	THP (Method 418.1)	8010/8020 Volatiles	EDB (Method 504)	EDC	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's	8020 BTEX (w/o MTBE)		Air Bubbles or Headspace (Y or N)
													✓		
													✓		
													✓		

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
8/16/96	1003	Stacy L. Roth	8/16
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:
Bill to: George Robinson: Enron Environmental
1400 Smith St, Suite 3AC 3142
Houston, TX 77002

NATIONAL ENVIRONMENTAL TESTING, INC.

Austin Division
2621 Ridgepoint Drive
Suite 130
Austin, TX 78754
Tel: (512) 928-8905
Fax: (512) 928-3208

ANALYTICAL AND QUALITY CONTROL REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526

Project Description: 603.1, ENRON-THOREAU

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to NET, Inc. - Dallas Division for analysis:

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
316869	5-17B	08/14/1996	13:45	08/17/1996
316870	5-01B	08/15/1996	10:05	08/17/1996
316871	5-06B	08/15/1996	12:30	08/17/1996
316872	UNFILTERED PURGE WATER	08/15/1996	14:05	08/17/1996
316873	FILTERED PURGE WATER	08/15/1996	16:40	08/17/1996
316874	5-99	08/15/1996		08/17/1996

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Debby Skogen
Project Coordinator

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526
Sample Number: 316869

Project Description: 603.1, ENRON-THOREAU

Sample Description: 5-17B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
=PCB/PEST-AQUEOUS (8080)					08/21/1996					
=PCB-1016	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=PCB-1221	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=PCB-1232	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=PCB-1242	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=PCB-1248	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=PCB-1254	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=PCB-1260	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
=SURR: DCB		105	% Rec	S-8080A		08/21/1996	tcc	288	563	50-120
=SURR: TCX		108	% Rec	S-8080A		08/21/1996	tcc	288	563	40-125

=EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526
Sample Number: 316870

Project Description: 603.1, ENRON-THOREAU

Sample Description: 5-01B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					08/21/1996					
PCB-1016	EDL	<0.82	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1221		14.2	ug/L	S-8080A		08/22/1996	tcc	288	563	0.065
PCB-1232	EDL	<0.82	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1242	EDL	<0.82	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1248	EDL	<0.82	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1254	EDL	<0.82	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1260	EDL	<0.82	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
SURR: DCB		105	% Rec	S-8080A		08/21/1996	tcc	288	563	50-120
SURR: TCX	SU	442	% Rec	S-8080A		08/21/1996	tcc	288	563	40-125

EDL - Elevated Detection Limit due to matrix interference.
SU - Surrogate outside limits due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526
Sample Number: 316871

Project Description: 603.1, ENRON-THOREAU

Sample Description: 5-06B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					08/21/1996					
PCB-1016	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1221		166.7	ug/L	S-8080A		08/22/1996	tcc	288	563	0.065
PCB-1232	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1242	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1248	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1254	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1260	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
SURR: DCB		90	% Rec	S-8080A		08/21/1996	tcc	288	563	50-120
SURR: TCX	SU	350	% Rec	S-8080A		08/21/1996	tcc	288	563	40-125

EDL - Elevated Detection Limit due to matrix interference.
SU - Surrogate outside limits due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526
Sample Number: 316872

Project Description: 603.1, ENRON-THOREAU

Sample Description: UNFILTERED PURGE WATER

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					08/21/1996					
PCB-1016	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1221	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1232	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1242	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1248	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1254	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1260	EDL	<0.72	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
SURR: DCB		98	% Rec	S-8080A		08/21/1996	tcc	288	563	50-120
SURR: TCX		106	% Rec	S-8080A		08/21/1996	tcc	288	563	40-125

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526
Sample Number: 316873

Project Description: 603.1, ENRON-THOREAU

Sample Description: FILTERED PURGE WATER

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					08/21/1996					
PCB-1016	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1221	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1232	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1242	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1248	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1254	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1260	EDL	<0.70	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
SURR: DCB	SU	126	% Rec	S-8080A		08/21/1996	tcc	288	563	50-120
SURR: TCX		60	% Rec	S-8080A		08/21/1996	tcc	288	563	40-125

EDL - Elevated Detection Limit due to matrix interference.
SU - Surrogate outside limits due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526
Sample Number: 316874

Project Description: 603.1, ENRON-THOREAU

Sample Description: 5-99

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					08/21/1996					
PCB-1016	EDL	<0.79	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1221		5.61	ug/L	S-8080A		08/22/1996	tcc	288	563	0.065
PCB-1232	EDL	<0.79	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1242	EDL	<0.79	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1248	EDL	<0.79	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1254	EDL	<0.79	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
PCB-1260	EDL	<0.79	ug/L	S-8080A		08/21/1996	tcc	288	563	0.065
SURR: DCB		108	% Rec	S-8080A		08/21/1996	tcc	288	563	50-120
SURR: TCX	SU	338	% Rec	S-8080A		08/21/1996	tcc	288	563	40-125

EDL - Elevated Detection Limit due to matrix interference.
SU - Surrogate outside limits due to matrix interference.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526

Project Description: 603.1, ENRON-THOREAU

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1221		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1232		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1242		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1248		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1254		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1260		<0.065	ug/L	0.065	08/21/1996	288	563

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526

Project Description: 603.1, ENRON-THOREAU

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1221		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1232		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1242		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1248		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1254		<0.065	ug/L	0.065	08/21/1996	288	563
PCB-1260		<0.065	ug/L	0.065	08/21/1996	288	563

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526

Project Description: 603.1, ENRON-THOREAU

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		0.50	ug/L	0.519	103.8	08/21/1996	563
PCB-1260		0.50	ug/L	0.504	100.8	08/21/1996	563

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526

Project Description: 603.1, ENRON-THOREAU

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
PCB/PEST-AQUEOUS (8080)													
PCB-1016	EDL	ug/L	<0.70	0.500	0.570	114.0	0.500	0.565	113.0	0.9	08/21/1996	288	563
PCB-1260	EDL	ug/L	<0.70	0.500	0.536	107.2	0.500	0.548	109.6	2.2	08/21/1996	288	563

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed. The sample selected for QA may not necessarily be your sample.

EDL - Elevated Detection Limit due to matrix interference.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

08/23/1996

NET Job Number: 96.06526

Project Description: 603.1, ENRON-THOREAU

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
PCB/PEST-AQUEOUS (8080)											
PCB-1016	288	563	0.50	ug/L	0.481	96.2					08/21/1996
PCB-1260	288	563	0.50	ug/L	.520	104.0					08/21/1996

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY Daniel B. Stephens & Associates
ADDRESS 6020 Academy NE, Suite 100
PHONE 505/822-9400 FAX 505/822-8877
PROJECT NAME/LOCATION ENRON-THOREAU
PROJECT NUMBER 6031.1
PROJECT MANAGER Bob Marley

REPORT TO:
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
CHRIS WOLF (PRINT NAME) — SIGNATURE
TRACY ROTH (PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: 8080 PCB's only	COMMENTS
8/14/96	1345	5-17B	H_2O	✓						ICE ✓	✓	2 x 1 liter
8/15	1005	5-01B	H_2O	✓						ICE ✓	✓	2 x 1 liter
8/15	1230	5-06B	H_2O	✓						ICE ✓	✓	2 x 1 liter
8/15	1405	Unfiltered Purge Water	H_2O	✓						ICE ✓	✓	2 x 1 liter *One Sx Broken
8/15	1640	Filtered Purge Water	H_2O	✓						ICE ✓	✓	2 x 1 liter
8/15	NA	5-99	H_2O	✓						ICE ✓	✓	1 x 1 liter

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ✓

Is this work being conducted for regulatory enforcement action? Yes ___ No ✓

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? ~~YES~~ / NO

COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO

TEMPERATURE UPON RECEIPT: ___
Bottles supplied by NET? (YES) / ~~NO~~

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE 8/16/96

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
					8/17/96	11:00	

METHOD OF SHIPMENT

REMARKS: MR. GEORGE ROBINSON - ENRON ENVIRONMENTAL AFFAIRS
BILL TO: 1400 Smith St, Suite 3AC 3142
Houston, TX 77002
ENRON NON-CONSENT DECREE - THOREA
060-1070-100-247-0286-535025-50510-GENV

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #2

Lab Reports for the 4th Quarter 1996 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
4901 Hawkins, NE Suite A
Albuquerque, NM 87109
(505)345-3975

11/22/96

Daniel B. Stephens and Associates, Inc.
6020 Academy NE, Suite 100
Albuquerque, NM 87109

Dear Mr. Bob Marley,

Enclosed are the results for the analyses that were requested. These were done according to EPA procedures or the equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these levels (denoted by the < sign) has been made.

Please don't hesitate to contact me for any additional information or clarifications.

Sincerely,

12/2/96

Scott Hallenbeck, Lab Manager

COPY #1 ORIGINAL TO BOB MARLEY

Project: 9611032/Enron-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client : Daniel B. Stephens and Assoc., Inc. **Project**: Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 11/19/96

Sample Name:		5-03B	5-57B	5-58B	5-22B	Reagent Blank
Lab Code:	9611032	-1	-2	-3	-4	RB 11/21
Date Collected:		11/18/96	11/18/96	11/18/96	11/18/96	NA
Date Analyzed:		11/21/96	11/21/96	11/21/96	11/21/96	11/21/96
		Results	Results	Results	Results	Results
Benzene		<0.5	<0.5	<0.5	<0.5	<0.5
Toluene		<0.5	<0.5	<0.5	<0.5	<0.5
Ethylbenzene		<0.5	<0.5	<0.5	<0.5	<0.5
Xylenes (Total)		<0.5	<0.5	<0.5	1.9	<0.5
BFB (Surrogate) Recovery		99%	103%	105%	100%	104%
Dilution Factor		1	1	1	1	1

Results for QC: Matrix Spike / Matrix Spike Duplicate

Date extracted: NA	Date analyzed:11/21/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9611032-1 MS/MSD
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MSD %	RPD
Benzene	<0.5	20.0	20.7	104	19.9	100	4
Toluene	<0.5	20.0	21.1	106	20.2	101	4
Ethylbenzene	<0.5	20.0	20.8	104	20.1	101	3
Total Xylenes	<0.5	60.0	62.5	104	59.8	100	4

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite C
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: DANIEL B. STEPHENS & ASSOC.

Address: 6020 ACADEMY NE
ABQ NM 87109

Phone #: 822-9400

Fax #: 822-8877

Project Name: ENRON-THOREAU

Project #: 6031.1

Project Manager: BOB MARLEY

Sampler: WOLF

Samples Cold? ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
11/18/96	1255	H_2O	5-03B	2/40mL	✓			9611032-1
11/18/96	1425	H_2O	5-57B	2/40mL	✓			-2
11/18/96	1530	H_2O	5-58B	2/40mL	✓			-3
11/18/96	1655	H_2O	5-22B	2/40mL	✓			-4

ANALYSIS REQUEST

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	THP (Method 418.1)	~~8010~~/8020 Volatiles 8020 (No MTBE)	EDB (Method 504)	EDC	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's				Air Bubbles or Headspace (Y or N)
				✓												N
				✓												N
				✓												N
				✓												N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/19	835		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: 8020 (NO MTBE)

Bill to: George Robinson, ENRON ENVIRONMENTAL AFFAIRS
Suite 3AC 3142
PO Box 1188

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
4901 Hawkins, NE Suite A
Albuquerque, NM 87109
(505)345-3975

12/5/96

Daniel B. Stephens and Associates, Inc.
6020 Academy NE, Suite 100
Albuquerque, NM 87109

Dear Mr. Bob Marley,

Enclosed are the results for the analyses that were requested. These were done according to EPA procedures or the equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these levels (denoted by the < sign) has been made.

Please don't hesitate to contact me for any additional information or clarifications.

Sincerely,

Scott Hallenbeck 12/5/96

Scott Hallenbeck, Lab Manager

COPY #1

Project: 9611047/Enron-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client : Daniel B. Stephens and Assoc., Inc. **Project**: Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 11/25/96

Sample Name:		5-47B	5-41B	5-12B	5-23B	5-24B	5-14B	
Lab Code:	9611047	-1	-2	-3	-4	-5	-6	
Date Collected:		11/19/96	11/19/96	11/19/96	11/19/96	11/19/96	11/19/96	
Date Analyzed:		11/25/96	11/25/96	11/25/96	11/26/96	11/26/96	11/26/96	
		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		<0.5	<0.5	<0.5	<0.5	0.9	<0.5	0.5
Toluene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Ethylbenzene		<0.5	<0.5	<0.5	<0.5	0.6	<0.5	0.5
Xylenes (Total)		<0.5	<0.5	<0.5	<0.5	0.8	<0.5	0.5
BFB (Surrogate) Recovery		104%	107%	104%	105%	110%	102%	-
Dilution Factor		1	1	1	1	1	1	-

Sample Name:		5-17B	5-15B	5-20B	5-05B	5-13B	5-18B	
Lab Code:	9611047	-7	-8	-9	-10	-11	-12	
Date Collected:		11/20/96	11/20/96	11/20/96	11/20/96	11/21/96	11/21/96	
Date Analyzed:		11/26/96	11/26/96	11/26/96	11/26/96	11/26/96	11/25/96	
		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		<0.5	<0.5	7.2	3.3	1.2	210	0.5
Toluene		<0.5	<0.5	0.9	1.5	6.1	5.0	0.5
Ethylbenzene		<0.5	<0.5	1.4	<0.5	<0.5	48	0.5
Xylenes (Total)		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery		103%	107%	104%	119%	97%	98%	-
Dilution Factor		1	1	1	1	1	1	-

Hall Environmental Analysis Laboratory, Inc.

Client : Daniel B. Stephens and Assoc., Inc. **Project:** Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 11/25/96

Sample Name:		5-48B	5-19B	5-16B	5-02B	5-98	5-06B
Lab Code:	9611047	-13	-14	-15	-16	-17	-18
Date Collected:		11/21/96	11/21/96	11/21/96	11/21/96	11/21/96	11/22/96
Date Analyzed:		11/25/96	11/25/96	11/25/96	11/25/96	11/25/96	11/25/96

	Results	Results	Results	Results	Results	Results	Detection Limit
Benzene	960	0.9	460	660	970	0.9	0.5
Toluene	8,500	0.6	2,200	1,300	8,600	<0.5	0.5
Ethylbenzene	330	<0.5	130	150	330	<0.5	0.5
Xylenes (Total)	3,900	<0.5	2,500	1,600	4,000	<0.5	0.5
BFB (Surrogate) Recovery	105%	110%	106%	107%	105%	106%	-
Dilution Factor	200	1	40	20	200	1	-

Sample Name:		5-01B	5-37i	Trip Blk	Reagent	Reagent
Lab Code:	9611047	-19	-20	-21	Blank	Blank
Date Collected:		11/22/96	11/22/96	11/06/96		
Date Analyzed:		11/25/96	11/25/96	11/25/96	11/25/96	11/26/96

	Results	Results	Results	Results	Results	Detection Limit
Benzene	0.8	440	<0.5	<0.5	<0.5	0.5
Toluene	<0.5	140	<0.5	<0.5	<0.5	0.5
Ethylbenzene	<0.5	20	<0.5	<0.5	<0.5	0.5
Xylenes (Total)	<0.5	520	<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery	104%	116%	104%	103%	108%	-
Dilution Factor	1	10	1	1	1	-

Results for QC: Matrix Spike / Matrix Spike Duplicate

Date extracted: NA	Date analyzed: 11/25,26/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9611047-1 MS/MSD
Project Manager: Bob Marley	9611047-4 MS/MSD
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MSD %	RPD
Benzene	<0.5	20.0	22.1	111	21.6	108	2
Toluene	<0.5	20.0	22.3	112	21.7	109	3
Ethylbenzene	<0.5	20.0	22.3	112	21.6	108	3
Total Xylenes	<0.5	60.0	66.2	110	64.7	108	2

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MSD %	RPD
Benzene	<0.5	20.0	20.7	104	20.1	101	3
Toluene	<0.5	20.0	20.4	102	20.2	101	1
Ethylbenzene	<0.5	20.0	20.7	104	19.9	100	4
Total Xylenes	<0.5	60.0	62.3	104	60.1	100	4

PS 1/2

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite C
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: Daniel B. Stephens & Assoc.

Project Name: ENRON - THOREAU

Address: 6020 Academy NE
ABQ, NM 87109

Project #: 6031.1

Project Manager: Bob Marley

Phone #: 505/822-9400

Sampler: C. Wolf / S. Sharp

Fax #: 505/822-8877

Samples Cold? ☐ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
11/19/96	1210	H_2O	5-47B	2/40mL	✓			9611047-1
11/19	1330	H_2O	5-41B	2/40mL	✓			-2
11/19	1420	H_2O	5-12B	2/40mL	✓			-3
11/19	1440	H_2O	5-23B	2/40mL	✓			-4
11/19	1610	H_2O	5-24B	2/40mL	✓			-5
11/19	1633	H_2O	5-14B	2/40mL	✓			-6
11/20/96	1155	H_2O	5-17B	2/40mL	✓			-7
11/20	1200	H_2O	5-15B	2/40mL	✓			-8
11/20	1535	H_2O	5-20B	2/40mL	✓			-9
11/20	1620	H_2O	5-05B	2/40mL	✓			-10
11/21/96	1055	H_2O	5-13B	2/40mL	✓			-11
11/21	1059	H_2O	5-18B	2/40mL	✓			-12

ANALYSIS REQUEST

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	THP (Method 418.1)	~~8010~~/8020 Volatiles 8020 +MTBE	EDB (Method 504)	EDC	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's				Air Bubbles or Headspace (Y or N)
				✓	✓											
				✓	✓											
				✓	✓											
				✓	✓											
				✓	✓											
				✓	✓											●
				✓	✓											
				✓	✓											
				✓	✓											
				✓	✓											
				✓	✓											
				✓	✓											

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/21/96	8:30		11/25
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BILL TO: George Robinson, ENRON ENVIRONMENTAL AFFAIR
Suite 3AC 3142
PO Box 1188

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite C
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: Daniel B. Stephens & Assoc.

Address: 6020 Academy
ABQ, NM 87109

Phone #: 505/822-9400

Fax #:

Project Name: ENRON - THOREAU

Project #: 6031.1

Project Manager: Bob Mawley

Sampler: Wolf / Sharp

Samples Cold? ☐ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
11/21/96	1235	H_2O	5-48B	2/40mL	✓			9611047-13
11/21	1242	H_2O	5-19B	2/40mL	✓			-14
11/21	1505	H_2O	5-16B	2/40mL	✓			-15
11/21	1600	H_2O	5-02B	2/40mL	✓			-16
11/21	—	H_2O	5-98	2/40mL	✓			-17
11/22/96	0950	H_2O	5-06B	2/40mL	✓			-18
11/22	1005	H_2O	5-01B	2/40mL	✓			-19
11/22	1145	H_2O	5-37i	2/40mL	✓			-20
11/06/96	—	H_2O	TRIP BLANK	1/40mL	✓			-21

ANALYSIS REQUEST

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	THP (Method 418.1)	~~8010~~/8020 Volatiles 8020 + MTBE	EDB (Method 504)	EDC	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's				Air Bubbles or Headspace (Y or N)
				✓												
				✓	✓											
				✓												
				✓												
				✓												
				✓	✓											
				✓												
				✓												
				✓												
				✓	✓											

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/25/96	8:30	Chris Wolf	Andy Freeman 11/25
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: see pg 1 for "Bill to" address

EPIC LABORATORIES, INC.

ANALYTICAL AND QUALITY CONTROL REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580

Project Description: 6031.1
Job Description: Enron - Thoreau

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to EPIC Laboratories, Inc. for analysis:

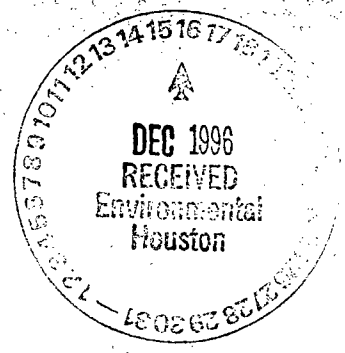
Sample Number	Sample Description	Date Taken	Time Taken	Date Received
323634	5-17B	11/20/1996	11:55	11/26/1996
323638	5-06B	11/22/1996	09:50	11/26/1996
323639	5-01B	11/22/1996	10:05	11/26/1996
323640	5-99	11/22/1996		11/26/1996

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Debby Skogen
Debby Skogen
Project Coordinator

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

EPIC LABORATORIES, INC.



December 10, 1996

Mr. George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

Dear George:

Please note that the four samples sumbitted for the Enron-Thoreau Project, EPIC Job 96.08580, were extracted past the holding time for PCBs.

As per your request, the samples were analyzed despite the missed holding time. There will be no charge the analysis of these four samples due to laboratory error.

I apologize for the inconvenience that this may have caused. If you have any further questions, please feel free to contact me at 1-800-638-2878.

Sincerely,

Debby Skogen

Debby Skogen
Project Coordinator

1548 Valwood Parkway, Suite 118, Carrollton, Texas 75006 (972) 406-8100 Fax: (972) 484-2969
2621 Ridgepoint Drive, Suite 135, Austin, Texas 78754 (512) 928-8905 Fax: (512) 928-3208

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580
Sample Number: 323639

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-01B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					12/04/1996					
PCB-1016		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1221		15.6	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1232		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1242		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1248		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1254		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1260		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
SURR: DCB		63	% Rec	S-8080A		12/03/1996	tcc	300	570	50-120
SURR: TCX		93	% Rec	S-8080A		12/03/1996	tcc	300	570	40-125

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580
Sample Number: 323638

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-06B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					12/04/1996					
PCB-1016		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1221		42.8	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1232		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1242		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1248		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1254		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1260		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
SURR: DCB		75	% Rec	S-8080A		12/03/1996	tcc	300	570	50-120
SURR: TCX		56	% Rec	S-8080A		12/03/1996	tcc	300	570	40-125

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580
Sample Number: 323634

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-17B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					12/04/1996					
PCB-1016		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
PCB-1221		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
PCB-1232		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
PCB-1242		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
PCB-1248		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
PCB-1254		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
PCB-1260		<0.065	ug/L	S-8080A		12/03/1996	tcc		570	0.065
SURR: DCB		97	% Rec	S-8080A		12/03/1996	tcc		570	50-120
SURR: TCX		77	% Rec	S-8080A		12/03/1996	tcc		570	40-125

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580
Sample Number: 323640

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-99

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					12/04/1996					
PCB-1016		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1221		34.1	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1232		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1242		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1248		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1254		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
PCB-1260		<0.065	ug/L	S-8080A		12/03/1996	tcc	300	570	0.065
SURR: DCB		71	% Rec	S-8080A		12/03/1996	tcc	300	570	50-120
SURR: TCX		52	% Rec	S-8080A		12/03/1996	tcc	300	570	40-125

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580

Project Description: 6031.1
Job Description: Enron - Thoreau

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		<0.065	ug/L	0.065	12/03/1996	300	570
PCB-1221		<0.065	ug/L	0.065	12/03/1996	300	570
PCB-1232		<0.065	ug/L	0.065	12/03/1996	300	570
PCB-1242		<0.065	ug/L	0.065	12/03/1996	300	570
PCB-1248		<0.065	ug/L	0.065	12/03/1996	300	570
PCB-1254		<0.065	ug/L	0.065	12/03/1996	300	570
PCB-1260		<0.065	ug/L	0.065	12/03/1996	300	570

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580

Project Description: 6031.1
Job Description: Enron - Thoreau

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		0.50	ug/L	0.525	105.0	12/03/1996	570
PCB-1260		0.50	ug/L	0.495	99.0	12/03/1996	570

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580

Project Description: 6031.1
Job Description: Enron - Thoreau

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
PCB/PEST-AQUEOUS (8080)													
PCB-1016		ug/L	<0.065	0.50	0.498	99.6	0.50	0.493	98.6	1.0	12/03/1996		570
PCB-1260		ug/L	<0.065	0.50	0.355	71.0	0.50	0.343	68.6	3.4	12/03/1996		570

NOTE: The Quality Control data in this report reflects the batch in which your sample was prepped and/or analyzed.
The sample selected for QA may not necessarily be your sample.

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

12/09/1996

EPIC Job Number: 96.08580

Project Description: 6031.1
Job Description: Enron - Thoreau

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
PCB/PEST-AQUEOUS (8080)											
PCB-1016	300	570	0.50	ug/L	0.561	112.2					12/03/1996
PCB-1260	300	570	0.50	ug/L	0.450	90.0					12/03/1996

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

CHAIN OF CUSTODY RECORD

EPIC LABORATORIES, INC.
1548 VALWOOD PARKWAY, SUITE 118
CARROLLTON, TEXAS 75006
DALLAS (972) 406-8100
AUSTIN (512) 928-8905

COMPANY Daniel B. Stephens & Associates
ADDRESS 6020 Academy NE, Ste 100; Albuquerque, NM 87109
PHONE 505/822-9400 FAX 505/822-8877
PROJECT NAME/LOCATION ENRON - THOREAU
PROJECT NUMBER 6031.1
PROJECT MANAGER Bob Marley

REPORT TO: Bob Marley
INVOICE TO: George Robinson
P.O. NO.
EPIC QUOTE NO.

SAMPLED BY
Chris Wolf (PRINT NAME) Chris Wolf (SIGNATURE)
(PRINT NAME) (SIGNATURE)

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: 8080 PCBs only
11/22/96	1155	5-17B	W	✓						ICE	✓
11/22/96	0950	5-06B	W	✓						ICE	✓
11/22/96	1005	5-01B	W	✓						ICE	✓
11/22/96	—	5-99	W	✓						ICE	✓

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ____ No ✓
Is this work being conducted for regulatory enforcement action? Yes ____ No ✓
Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ●

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? ~~YES~~ (NO)
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: ____
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS Chris Wolf DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Chris Wolf	11/25/96	1605			11/26/96	11:15	

METHOD OF SHIPMENT: FED EX

REMARKS: BILL TO: George Robinson, Enron Environmental Affairs
Suite 3AC 3142
PO Box 1188
Houston, TX 77251

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #3

Lab Reports for the 1st Quarter 1997 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

3/7/97

Hall Environmental Analysis Laboratory
4901 Hawkins, NE Suite A
Albuquerque, NM 87109
(505)345-3975

Daniel B. Stephens and Associates, Inc.
6020 Academy NE, Suite 100
Albuquerque, NM 87109

Dear Mr. Bob Marley,

Enclosed are the results for the analyses that were requested. These were done according to EPA procedures or the equivalent.

Detection limits are determined by EPA methodology. No determination of compounds below these levels (denoted by the < sign) has been made.

Please don't hesitate to contact me for any additional information or clarifications.

Sincerely,

Scott Hallenbeck, Lab Manager

Project: 9702056/Enron-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client : Daniel B. Stephens and Assoc., Inc. **Project:** Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 2/28/97

Sample Name:		5-03B	5-05B	5-57B	5-58B	5-41B	5-23B	
Lab Code:	9702056	-1	-2	-3	-4	-5	-6	
Date Collected:		2/24/97	2/25/97	2/25/97	2/25/97	2/25/97	2/26/97	
Date Analyzed:		3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	
		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		<0.5	3.0	<0.5	<0.5	<0.5	<0.5	0.5
Toluene		<0.5	1.4	<0.5	<0.5	<0.5	<0.5	0.5
Ethylbenzene		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Xylenes (Total)		<0.5	0.6	<0.5	<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery		100%	100%	102%	99%	101%	99%	-
Dilution Factor		1	1	1	1	1	1	-

Sample Name:		5-24B	5-47B	5-12B	5-14B	5-15B	5-13B	
Lab Code:	9702056	-7	-8	-9	-10	-11	-12	
Date Collected:		2/26/97	2/26/97	2/26/97	2/26/97	2/26/97	2/26/97	
Date Analyzed:		3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	
Analyte:		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		0.9	<0.5	<0.5	<0.5	<0.5	1.5	0.5
Toluene		0.6	<0.5	<0.5	<0.5	<0.5	5.9	0.5
Ethylbenzene		1.0	<0.5	<0.5	<0.5	<0.5	<0.5	0.5
Xylenes (Total)		1.8	<0.5	<0.5	<0.5	<0.5	2.5	0.5
BFB (Surrogate) Recovery		104%	101%	100%	99%	101%	97%	-
Dilution Factor		1	1	1	1	1	1	-

Sample Name:		5-19B	5-20B	5-18B	5-16B	5-17B	5-48B	
Lab Code:	9702056	-13	-14	-15	-16	-17	-18	
Date Collected:		2/27/97	2/27/97	2/27/97	2/27/97	2/27/97	2/27/97	
Date Analyzed:		3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	
Analyte:		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		1.3	12	9.4	260	<0.5	1,100	0.5
Toluene		1.0	1.3	5.2	1,100	<0.5	10,000	0.5
Ethylbenzene		<0.5	1.8	64	190	<0.5	430	0.5
Xylenes (Total)		0.7	3.3	1.5	2,000	<0.5	4,700	0.5
BFB (Surrogate) Recovery		102%	108%	97%	102%	103%	103%	-
Dilution Factor		1	1	1	40	1	200	-

Hall Environmental Analysis Laboratory, Inc.

Client: Daniel B. Stephens and Assoc., Inc. **Project:** Enron Thoreau

Volatile Organic Compounds
Units: PPB (µg/L)
Test: EPA 8020
Sample Matrix: Aqueous
Date Received: 2/28/97

Sample Name:		5-22B	5-98B	Filtered Purge	5-99B	5-01B	5-02B	
Lab Code:	9702056	-19	-20	-21	-22	-23	-24	
Date Collected:		2/27/97	2/28/97	2/28/97	2/28/97	2/28/97	2/28/97	
Date Analyzed:		3/3/97	3/3/97	3/3/97	3/3/97	3/3/97	3/4/97	
		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		5.6	290	<0.5	0.8	0.6	260	0.5
Toluene		9.8	510	<0.5	<0.5	<0.5	500	0.5
Ethylbenzene		<0.5	91	<0.5	<0.5	<0.5	90	0.5
Xylenes (Total)		65	690	<0.5	<0.5	<0.5	680	0.5
BFB (Surrogate) Recovery		87%	101%	102%	102%	101%	102%	-
Dilution Factor		1	20	1	1	1	20	-

Sample Name:		5-06B	Trip Blank	Reagent Blank	
Lab Code:	9608045	-25	-26	RB 3/3	
Date Collected:		2/28/97	2/19/97	NA	
Date Analyzed:		3/4/97	3/4/97	3/3/97	
Analyte:		Results	Results	Results	Detection Limit
Benzene		0.9	<0.5	<0.5	0.5
Toluene		<0.5	<0.5	<0.5	0.5
Ethylbenzene		<0.5	<0.5	<0.5	0.5
Xylenes (Total)		<0.5	<0.5	<0.5	0.5
BFB (Surrogate) Recovery		102%	103%	99%	-
Dilution Factor		1	1	1	-

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
~~2403 San Mateo NE, Suite P-13~~ 4901 HAWKINS SUITE A
~~Albuquerque, New Mexico 87110~~ 87109
~~505.880.1803~~ (505)345-3975

Client: DANIEL B. STEPHENS & ASSOC	Project Name: ENRON THOREAU
Address: ~~6020 ACADEMY NE #100~~ ALBUQUERQUE NM 87109	Project #: 6031.1
	Project Manager: BOB MARLEY
Phone #: 505-822-9400	Sampler: CLARENCE PAGMAN
Fax #: 505-822-~~7788~~ 9477	Samples Cold? ☒ Yes ☐ No

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.	BTEX (Method 602/8020) ~~PD MTBE~~	BTEX + MTBE (602/8020)	TPH Method 8015 MOD (Gas/Diesel)	BTEX + TPH + MTBE (Gasoline Only)	BTEX + MTBE + TPH (Gas + Diesel)	TPH (Method 418.1)	601/602 Volatiles	EDB (Method 504.1)	EDC	610 (PNA or PAH)	Air Bubbles or Headspace (Y or N)
2/24/97	1525	H_2O	5-03B	2/40ml	X			9702056-1	X										2
2/25/97	1255	H_2O	5-05B	2/40ml	X			-2	X										2
2/25/97	1155	H_2O	5-57B	2/40ml	X			-3	X										2
2/25/97	1425	H_2O	5-58B	2/40ml	X			-4	X										2
2/25/97	1445	H_2O	5-41B	2/40ml	X			-5	X										2
2/26/97	1040	H_2O	5-23B	2/40ml	X			-6	X										2
2/26/97	1215	H_2O	5-24B	2/40ml	X			-7	X										2
2/26/97	1320	H_2O	5-47B	2/40ml	X			-8	X										2
2/26/97	1450	H_2O	5-12B	2/40ml	X			-9	X										2
2/26/97	1500	H_2O	5-14B	2/40ml	X			-10	X										2
2/26/97	1650	H_2O	5-15B	2/40ml	X			-11	X										2
2/26/97	1720	H_2O	5-13B	2/40ml	X			-12	X										2

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
2/20/97	1705	Clarence Pagman	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
~~2403 San Mateo NE, Suite P-13~~ 4901 HAWKINS SUITE A
~~Albuquerque, New Mexico 87110~~ 87109
~~505.880.1803~~ 505.345.3975

Client: DANIEL B. STEPHENS & ASSOC.	Project Name: EPRDN THORBAN
Address: 6020 ACADEMY NE #100 ALBUQUERQUE NM 87109	Project #: 603111
	Project Manager: BOB MARLEY
Phone #: 505-822-9400	Sampler: CLARENCE PIGMAN
Fax #: 505-822-~~7788~~ 8872	Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.	BTEX (Method 602/8020) MTBE
2/27/97	1100	H_2O	5-19 B	2/40 ml	X			9702056-13	X
2/27/97	1205	H_2O	5-20 B	2/40 ml	X			-14	X
2/27/97	1243	H_2O	5-18 B	2/40 ml	X			-15	X
2/27/97	1415	H_2O	5-16 B	2/40 ml	X			-16	X
2/27/97	1425	H_2O	5-17 B	2/40 ml	X			-17	X
2/27/97	1605	H_2O	5-48 B	2/40 ml	X			-18	X
2/27/97	1655	H_2O	5-22 B	2/40 ml	X			-19	X
2/28/97	0900	H_2O	5-98 B	2/40 ml	X			-20	X
2/28/97	0950	H_2O	FILTERED PURGE H_2O	2/40 ml	X			-21	X
2/28/97	1000	H_2O	5-99 B	2/40 ml	X			-22	X
2/20/97	1020	H_2O	5-01 B	2/40 ml	X			-23	X
2/20/97	1110	H_2O	5-02 B	2/40 ml	X			-24	X

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
2/28/97	1705		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

ANALYSIS REQUEST

BTEX + MTBE (602/8020)	TPH Method 8015 MOD (Gas/Diesel)	BTEX + TPH + MTBE (Gasoline Only)	BTEX + MTBE + TPH (Gas + Diesel)	TPH (Method 418.1)	601/602 Volatiles	EDB (Method 504.1)	EDC	610 (PNA or PAH)	Air Bubbles or Headspace (Y or N)
									N
									N
									N
									N
									N
									N
									N
									N
									N
									N
									N

Remarks:

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
4901 Hawkins NE, Suite A
Albuquerque, New Mexico 87109
505.345.3975
Fax 505.345.4107

Client: DANIEL B. STEPHENS & ASSOC	Project Name: ENRON THOREAU
Address: 6020 ACADEMY NE #100 ALBUQUERQUE NM 87109	Project #: 6031.1
	Project Manager: BOB MARLEY
Phone #: 505-822-9400	Sampler: CLARENCE PLOMAR
Fax #: 505-822-7788	Samples Cold?: ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	HEAL No.	BTEX + MTBE (602/8020) PD
2/28/97	1230	H_2O	5-06B	2/40ml	X		9702056-25	X
2/9/97	400	H_2O	TRIP BLANK	1/40ml	X		-26	X
2/9/97	400	H_2O	TRIP BLANK	1/40ml	X		-26	X

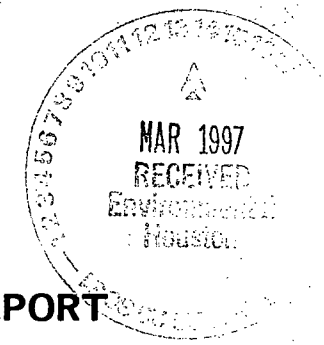
ANALYSIS REQUEST

BTEX + MTBE (602/8020) PD	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	TPH (Method 418.1)	8010/8020 Volatiles	EDB (Method 504)	EDC (Method 8010)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8080 Pesticides / PCB's	8260 (VOA)	8270 (Semi-VOA)			Air Bubbles or Headspace (Y or N)
X																N
X																N
X																N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
2/28/97	1705		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

EPIC LABORATORIES, INC.



ANALYTICAL AND QUALITY CONTROL REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717

Project Description: 6031.1
Job Description: Enron - Thoreau

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to EPIC Laboratories, Inc. for analysis:

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
329235	5-17B	02/27/1997	14:25	03/01/1997
329236	Filtered Purge Water	02/28/1997	09:50	03/01/1997
329237	5-99B	02/28/1997	10:00	03/01/1997
329238	5-01B	02/28/1997	10:20	03/01/1997
329239	5-06B	02/28/1997	12:30	03/01/1997

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Debby Skogen

Debby Skogen
Project Coordinator

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717
Sample Number: 329235

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-17B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					03/05/1997					
PCB-1016		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1221		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1232		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1242		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1248		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1254		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1260		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
SURR: DCB		72	% Rec	S-8080A		03/05/1997	tcc	309	579	50-120
SURR: TCX		80	% Rec	S-8080A		03/05/1997	tcc	309	579	40-125

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717
Sample Number: 329236

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: Filtered Purge Water

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					03/05/1997					
PCB-1016		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1221		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1232		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1242		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1248		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1254		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
PCB-1260		<0.065	ug/L	S-8080A		03/05/1997	tcc	309	579	0.065
SURR: DCB		92	% Rec	S-8080A		03/05/1997	tcc	309	579	50-120
SURR: TCX		116	% Rec	S-8080A		03/05/1997	tcc	309	579	40-125

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717
Sample Number: 329237

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-99B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					03/05/1997					
PCB-1016	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1221	EDL	49.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1232	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1242	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1248	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1254	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1260	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
SURR: DCB	D	NA	% Rec	S-8080A		03/10/1997	tcc	309	579	50-120
SURR: TCX	D	NA	% Rec	S-8080A		03/10/1997	tcc	309	579	40-125

D - Surrogate diluted out.
EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717
Sample Number: 329238

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-01B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					03/05/1997					
PCB-1016	EDL	<6.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1221	EDL	15.2	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1232	EDL	<6.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1242	EDL	<6.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1248	EDL	<6.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1254	EDL	<6.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1260	EDL	<6.7	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
SURR: DCB	D	NA	% Rec	S-8080A		03/10/1997	tcc	309	579	50-120
SURR: TCX	D	NA	% Rec	S-8080A		03/10/1997	tcc	309	579	40-125

D - Surrogate diluted out.
EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717
Sample Number: 329239

Project Description: 6031.1
Job Description: Enron - Thoreau

Sample Description: 5-06B

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
PCB/PEST-AQUEOUS (8080)					03/05/1997					
PCB-1016	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1221	EDL	48.2	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1232	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1242	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1248	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1254	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
PCB-1260	EDL	<6.5	ug/L	S-8080A		03/10/1997	tcc	309	579	0.065
SURR: DCB	D	NA	% Rec	S-8080A		03/10/1997	tcc	309	579	50-120
SURR: TCX	D	NA	% Rec	S-8080A		03/10/1997	tcc	309	579	40-125

D - Surrogate diluted out.
EDL - Elevated Detection Limit due to matrix interference.

QUALITY CONTROL REPORT
BLANKS

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717

Project Description: 6031.1
Job Description: Enron - Thoreau

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		<0.065	ug/L	0.065	03/05/1997	309	579
PCB-1221		<0.065	ug/L	0.065	03/05/1997	309	579
PCB-1232		<0.065	ug/L	0.065	03/05/1997	309	579
PCB-1242		<0.065	ug/L	0.065	03/05/1997	309	579
PCB-1248		<0.065	ug/L	0.065	03/05/1997	309	579
PCB-1254		<0.065	ug/L	0.065	03/05/1997	309	579
PCB-1260		<0.065	ug/L	0.065	03/05/1997	309	579

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717

Project Description: 6031.1
Job Description: Enron - Thoreau

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
PCB/PEST-AQUEOUS (8080)							
PCB-1016		0.50	ug/L	0.487	97.4	03/05/1997	579
PCB-1260		0.50	ug/L	0.486	97.2	03/05/1997	579
PCB/PEST-AQUEOUS (8080)							
PCB-1016		0.50	ug/L	0.540	108.0	03/10/1997	579
PCB-1260		0.50	ug/L	0.543	108.6	03/10/1997	579

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

George Robinson
ENRON CORPORATION
Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

03/11/1997

EPIC Job Number: 97.00717

Project Description: 6031.1
Job Description: Enron - Thoreau

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
PCB/PEST-AQUEOUS (8080)											
PCB-1016	309	579	0.40	ug/L	0.40	100.0					03/05/1997
PCB-1260	309	579	0.50	ug/L	0.380	76.0					03/05/1997

LCS - Laboratory Control Standard

For samples with insufficient sample volume, an LCS/LCS duplicate is reported instead of an MS/MSD.

EPIC LABORATORIES, INC.

1548 VALWOOD PARKWAY, SUITE 118
CARROLLTON, TEXAS 75006
DALLAS (972) 406-8100
AUSTIN (512) 928-8905

CHAIN OF CUSTODY RECORD

COMPANY DANIEL B. STEPHENS & ASSOC
ADDRESS 6020 ACADEMY NE #100 ALBUQUERQUE NM 87109
PHONE 505-822-9400 FAX 505-822-1688
PROJECT NAME/LOCATION ENRON THOREAU
PROJECT NUMBER 6031.1
PROJECT MANAGER DOB MARLEY

REPORT TO: DBS&A
INVOICE TO: GEORGE ROBINSON
P.O. NO.
EPIC QUOTE NO.

SAMPLED BY
CLARENCE PIGMAN (PRINT NAME) — Clarence Pigman (SIGNATURE)
(PRINT NAME) — (SIGNATURE)

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: 8080 PCB's ONLY
2/27/97	1425	5-17B	H2O	X							X
2/28/97	0950	FILTERED PURGE WATER	H2O		X						X
2/28/97	1000	5-99B	H2O	X							X
2/28/97	1020	5-01B	H2O	X							X
2/28/97	1230	5-06B	H2O	X							X

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

PCB's ONLY

PCB's ONLY

2°C 10 Bottles

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO

TEMPERATURE UPON RECEIPT: 2.8 °C
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS — Clarence Pigman — DATE 2/28/97

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Clarence Pigman	2/28/97	1618			3/1/97	1000	Brinkley Showalter

METHOD OF SHIPMENT
FED EX

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - EPIC PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #4

Lab Reports for the Phase II System Air Emission Sampling Events

CORE LABORATORIES

REVISED REPORT

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 965711
Prepared For:

CYPRESS ENGINEERING SERVICES
GEORGE ROBINSON
16300 KATY FREEWAY
HOUSTON, TX 77094

Date: 12/09/96

Signature M. Jean Waits

Date: 12/9/96

Name: M. Jean Waits

CORE LABORATORIES
P O BOX 34766
HOUSTON, TX 77234-4282

Title: Supervising Chemist

ISO 9002
Certificate Number: 5002

CORE LABORATORIES

LABORATORY TESTS RESULTS
12/09/96

JOB NUMBER: 965711 CUSTOMER: CYPRESS ENGINEERING SERVICES ATTN: GEORGE ROBINSON

CLIENT I.D.....: 6031.1
DATE SAMPLED.....: 11/22/96
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: SVE Exhaust DBS&A

LABORATORY I.D...: 965711-0001
DATE RECEIVED....: 11/26/96
TIME RECEIVED....: 11:02
REMARKS.....: REVISED REPORT

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Refinery Gas Analysis		*1		UOP 539, GPA 2286	12/03/96	AH
Hydrogen	<0.10	0.10	Mol %			
Oxygen	20.253	0.01	Mol %			
Nitrogen	78.764	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	0.873	0.01	Mol %			
Hydrogen Sulfide	<0.01	0.01	Mol %			
Methane	0.001	0.001	Mol %			
Ethylene	<0.001	0.001	Mol %			
Ethane	<0.001	0.001	Mol %			
Propylene	<0.001	0.001	Mol %			
Propane	0.001	0.001	Mol %			
Isobutane	0.001	0.001	Mol %			
C4 Olefins	<0.001	0.001	Mol %			
n-Butane	0.003	0.001	Mol %			
Isopentane	0.002	0.001	Mol %			
n-Pentane	0.003	0.001	Mol %			
Hexanes Plus	0.099	0.001	Mol %			
Total	100.00	0.001	Mol %			
Relative Density	1.00282	0				
Gross Heating Value (Dry/Real)	6.2	0	BTU/CF 14.696			
---Analysis of Hexanes Plus	---------	0.001	Mol %			
Pentenes	<0.001	0.001	Mol %			
2,2-Dimethylbutane	<0.001	0.001	Mol %			
2-Methyl Pentane	0.003	0.001	Mol %			
3-Methyl Pentane	0.002	0.001	Mol %			
n-Hexane	0.004	0.001	Mol %			
Hexenes	<0.001	0.001	Mol %			
Methylcyclopentane	0.003	0.001	Mol %			
Benzene	0.001	0.001	Mol %			
Cyclohexane	0.003	0.001	Mol %			
2-Methyl Hexane	0.003	0.001	Mol %			
3-Methylhexane	0.003	0.001	Mol %			
Dimethylcyclopentanes	0.003	0.001	Mol %			
n-Heptane	0.006	0.001	Mol %			
C7 Olefins	<0.001	0.001	Mol %			
Methylcyclohexane	0.009	0.001	Mol %			
Trimethylcyclopentanes	0.003	0.001	Mol %			
Toluene	0.003	0.001	Mol %			
2-Methylheptane	0.005	0.001	Mol %			
3-Methylheptane	0.006	0.001	Mol %			
Dimethylcyclohexanes	0.007	0.001	Mol %			
2,2,4 Trimethylpentane	<0.001	0.001	Mol %			
n-Octane	0.008	0.001	Mol %			

P O BOX 34766
HOUSTON, TX 77234-4282
(713) 943-9776

CORE LABORATORIES

LABORATORY TESTS RESULTS
12/09/96

JOB NUMBER: 965711 CUSTOMER: CYPRESS ENGINEERING SERVICES ATTN: GEORGE ROBINSON

CLIENT I.D.....: 6031.1
DATE SAMPLED.....: 11/22/96
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: SVE Exhaust DBS&A

LABORATORY I.D...: 965711-0001
DATE RECEIVED....: 11/26/96
TIME RECEIVED....: 11:02
REMARKS.....: REVISED REPORT

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Ethyl Benzene	<0.001	0.001	Mol %			
Xylenes	0.002	0.001	Mol %			
C9 Paraffins	0.009	0.001	Mol %			
n-Nonane	0.004	0.001	Mol %			
Decanes Plus	0.011	0.001	Mol %			
Total	0.099	0.001	Mol %			

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CORE LABORATORIES

CORE LABORATORIES
A N A L Y T I C A L R E P O R T

Job Number: 963998
Prepared For:

ENRON OPERATIONS CORPORATION
GEORGE ROBINSON
ENVIRONMENTAL AFFAIRS DEPARTMENT
HOUSTON, TX 77251-1188

Date: 08/26/96

Signature M. Jean Waits

8/27/96
Date:

Name: M. Jean Waits

CORE LABORATORIES
P O BOX 34766
HOUSTON, TX 77234-4282

Title: Supervising Chemist

CORELAB

CORE LABORATORIES

LABORATORY TESTS RESULTS
08/26/96

JOB NUMBER: 963998 CUSTOMER: ENRON OPERATIONS CORPORATION ATTN: GEORGE ROBINSON

CLIENT I.D.....: 6031.1
DATE SAMPLED.....: 08/15/96
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: SVE Exhaust Enron-Thoreau

LABORATORY I.D...: 963998-0001
DATE RECEIVED....: 08/19/96
TIME RECEIVED....: 16:22
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Refinery Gas Analysis		*1		UOP 539, GPA 2286	08/26/96	AH
Hydrogen	<0.10	0.10	Mol %			
Oxygen	19.72	0.01	Mol %			
Nitrogen	79.26	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	0.91	0.01	Mol %			
Hydrogen Sulfide	<0.01	0.01	Mol %			
Methane	<0.01	0.01	Mol %			
Ethylene	<0.01	0.01	Mol %			
Ethane	<0.01	0.01	Mol %			
Propylene	<0.01	0.01	Mol %			
Propane	<0.01	0.01	Mol %			
Isobutane	<0.01	0.01	Mol %			
C4 Olefins	<0.01	0.01	Mol %			
n-Butane	<0.01	0.01	Mol %			
Isopentane	<0.01	0.01	Mol %			
n-Pentane	<0.01	0.01	Mol %			
Hexanes Plus	0.11	0.01	Mol %			
Total	100.00	0.01	Mol %			
Relative Density	1.00220	0				
Gross Heating Value (Dry/Real)	5.9	0	BTU/CF 14.696			
---Analysis of Hexanes Plus	---------	0.001	Mol %			
Pentenes	<0.001	0.001	Mol %			
2,2-Dimethylbutane	<0.001	0.001	Mol %			
2-Methyl Pentane	0.001	0.001	Mol %			
3-Methyl Pentane	0.001	0.001	Mol %			
n-Hexane	0.002	0.001	Mol %			
Hexenes	<0.001	0.001	Mol %			
Methylcyclopentane	0.001	0.001	Mol %			
Benzene	<0.001	0.001	Mol %			
Cyclohexane	0.002	0.001	Mol %			
2-Methyl Hexane	0.002	0.001	Mol %			
3-Methylhexane	0.002	0.001	Mol %			
Dimethylcyclopentanes	0.003	0.001	Mol %			
n-Heptane	0.005	0.001	Mol %			
C7 Olefins	<0.001	0.001	Mol %			
Methylcyclohexane	0.008	0.001	Mol %			
Trimethylcyclopentanes	0.004	0.001	Mol %			
Toluene	0.026	0.001	Mol %			
2-Methylheptane	0.006	0.001	Mol %			
3-Methylheptane	0.006	0.001	Mol %			
Dimethylcyclohexanes	0.008	0.001	Mol %			
2,2,4 Trimethylpentane	<0.001	0.001	Mol %			
n-Octane	0.009	0.001	Mol %			

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CORE LABORATORIES

LABORATORY TESTS RESULTS
08/26/96

JOB NUMBER: 963998 CUSTOMER: ENRON OPERATIONS CORPORATION ATTN: GEORGE ROBINSON

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TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Ethyl Benzene	<0.001	0.001	Mol %			
Xylenes	0.003	0.001	Mol %			
C9 Paraffins	0.010	0.001	Mol %			
n-Nonane	0.003	0.001	Mol %			
Decanes Plus	0.002	0.001	Mol %			
Total	0.105	0.001	Mol %			

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HOUSTON, TX 77234-4282
(713) 943-9776

DANIEL B. STEPHENS & ASSOCIATES, INC.

Chain of Custody

To:

Jean Waits / CORE LABS

8210 MOSLEY Rd.

Houston, TX 77075

Date 8/16/96 Project No. 6031.1

Client Daniel B. Stephens & Assoc.

Relinquished by Chris Wolf

Sent by: ☒ Fed Ex ☐ DHL ☐ Other

Purpose of Shipment GAS ANALYSIS

Possible Contaminants HYDROCARBONS

Item No.	Sample No.	Analysis to be Done	Sample Container	Comments
1	SVE EXHAUST	BTEX, FIXED & EXTENDED	1 steel Cylinder	Serial # 1322
		REFINERY GASES		

Date Received 8-19-96 by Ray Baldwin

Company Representative

Received the above articles in good condition

Except as noted

Bill TO: GEORGE ROBINSON - ENRON ENVIRONMENTAL SERVICES
1400 Smith St. Suite 3AC 3142
Houston, TX 77002

DBS&A Form No. 095 5/92

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

☑ Telephone ☐ Personal	Time 1142	Date 2/14/97

Originating Party	Other Parties
Sandy Sharp - Cypress Engineering	Bill Olson - Envir. Bureau voice mail

Subject

ENRON Thoreau

Discussion

Will be sampling ground water monitor wells week of Feb 24th

Conclusions or Agreements

Distribution

Signed Bill Olson