GW - 80

MONITORING REPORTS

DATE: 1996

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station
McKinley County, New Mexico

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Environmental Bureau
Oil Conservation Division

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

September 5, 1996

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Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

I. Groundwater Monitoring

1st Quarter 1996 Groundwater Sampling Event

The 1st quarter sampling event was completed during the week of February 12, 1996. Groundwater samples were collected from twenty-four 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) and for dissolved iron (Method 236.1), sulfate (Method 300), and nitrate/nitrite (Method 300). In addition, groundwater samples from three of the monitor wells were delivered to a lab for analysis for polychlorinated biphenyl (PCB, Method 8080) compounds.

2nd Quarter 1996 Groundwater Sampling Event

The 2nd quarter sampling event was completed during the week of May 20, 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).

Other Groundwater Sampling Events

Transwestern completed several limited sampling events associated with the startup of Phase II remediation activities.

On April 3, 1996, groundwater samples were collected from the two newly installed soil vapor extraction wells, SVE-1 and SVE-2, and were submitted for analysis for BTEX (Method 8020).

On April 16, 1996, groundwater samples were collected from monitor wells 5-37I and 5-48B and submitted for analysis for BTEX (Method 8020).

On April 17, 1996, groundwater samples were collected from monitor wells 5-1B and 5-6B and submitted for analysis for BTEX (Method 8020) and PCBs (Method 8080). Bill Olson with the State of New Mexico Oil Conservation Division and Julie Curtiss with the Navajo Nation EPA were present to witness the April 17, 1996, sampling event. Bill Olson collected split groundwater samples which were submitted for analysis for volatile organic compounds and PCBs.

On July 3, 1996, groundwater samples were collected from monitor wells 5-37I and 5-48B and submitted for analysis for BTEX (Method 8020).

No measurable thickness of phase separated hydrocarbon was indicated in any of the monitor wells sampled during any of the non-routine sampling events.

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 2nd quarter 1996 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 5-5B. 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 2nd 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 the 4th quarter 1995 sampling event 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 $\approx$ 8.0 mg/L) in monitor wells which produce groundwater samples which also indicate the presence of petroleum hydrocarbons.

Analytical results for indicator inorganic constituents (sulfate, nitrate/nitrite-N, and iron) obtained from groundwater samples collected during the 4th quarter 1995 and 1st quarter 1996 sampling events are presented in Table 3. The measured concentration of iron in groundwater has been at or below the method detection limit for samples from all but two of the monitor wells, 5-2B and 5-48B. The measured concentration of nitrate/nitrite-N has been inconsistent between sample events. It is apparent from the information obtained to date that very little insight into natural attenuation processes will be obtained from the continued measurement of iron and nitrate/nitrite-N concentrations in groundwater samples. No attempt has been made as of yet to determine if a correlation exists between the relative presence of sulfate and the presence of petroleum hydrocarbons. The analysis of groundwater samples for all inorganic constituents was eliminated from the 2nd quarter 1996 sampling event pending an evaluation and determination as to the value this information provides to the monitoring program.

An updated summary of analytical results for BTEX compounds is presented in Table 4. 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 2nd quarter sampling event, is included as Figure 3. Also noted on Figure 3 are sample results for groundwater samples collected from SVE wells SVE-1 and SVE-2. Samples from both SVE wells indicated non-detect for benzene.

An updated summary of analytical results for PCB compounds is presented in Table 5. The detection of low concentrations of PCBs has recurred for samples collected from monitor wells 5-1B and 5-6B after a brief absence from analytical results for samples from these two wells. 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. Transwestern has not yet developed a plan to address this issue further.

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

Planned Changes to the Groundwater Monitoring Program

There are no planned changes to the groundwater monitoring program with the exception that a final determination is pending regarding the collection of samples for analysis for indicator inorganic constituents (sulfate, nitrate/nitrite-N, and iron). Until a final determination is made, Transwestern will defer the collection of groundwater samples for inorganic constituents.

Transwestern anticipates that upon completion of the 4th quarter 1996 sampling event, the eight southernmost monitor wells will have indicated BTEX constituent concentrations below federal MCLs (actually, all but one will have indicated non-detect concentrations) for at least the previous two years. As a result, Transwestern will most likely include a proposal in the next semi-annual report 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 3. If approved, the abandonment activities would occur in mid-1997.

II. Summary of Remediation Activities

Remediation Activities Completed During the 1st & 2nd Quarters, 1996

On March 20, 1996, the Phase I remediation system was shut-down and disconnected in preparation for implementation of the Phase II remediation system. Subsequently, the Phase II system was implemented with the installation of 11 air sparge points (AS-1 thru AS-11 in Figure 4), two additional SVE wells (SVE-1 and SVE-2 in Figure 4), and the installation of associated surface equipment.

In the course of drilling the soil boring for air sparge well AS-2, hydrocarbon stained soil exhibiting a strong petroleum hydrocarbon odor was encountered at a depth of 6 to 10 feet below ground surface (bgs). Field screening of soil boring samples with a PID indicated that soil below 10 feet bgs was also affected down to the depth of the water table at approximately 53 feet bgs. This boring was apparently drilled through the location of a former surface impoundment used to collect condensate liquids. Subsequently, four shallow soil borings (SB-1 thru SB-4 in Figure 4) were drilled around the AS-2 location (approximately 12 feet north, south, east, and west of AS-2) to delineate the lateral extent of the former impoundment. The only delineation soil boring to encounter affected soil was boring SB-4. Apparently the size of the former impoundment was relatively limited. In addition, a soil sample was collected from boring SB-4 and submitted for analysis for PCBs (Method 8080). Results indicated non-detect for PCB compounds which indicates that the former impoundment would have been in service prior to 1972 when PCB compounds were first introduced into the Transwestern system.

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 the 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. A process & instrumentation diagram for the two systems is shown in Figure 5. Diagrams of the air sparge line layout and the SVE line layout are shown in Figure 6 and Figure 7, respectively. As-built details are shown in Figure 8 for the SVE manifold, air sparge manifold, SVE wellhead completion, and air sparge wellhead completion.

The Phase II remediation system was placed into service on April 17, 1996. However, problems with the electric power supply prevented continuous operation until 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, 5-4B, 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.

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 August 1, 1996, the hour meter on the air sparge system indicated a total runtime of 2346 hours ($\approx$ 98 days). No notable events have occurred during routine inspection of the equipment and no liquid (condensed water or petroleum hydrocarbon) has collected in the liquid knockout tank located immediately upstream of the SVE blower. A summary of analytical results for volatile organic compounds in soil vapor samples is presented in Table 6. The analytical results for groundwater samples collected in addition to the routine quarterly sample events are included with the summary of analytical results presented in Table 4 and Table 5. No notable results were obtained from these non-routine groundwater sampling activities.

Remediation Activities Planned for the 3rd & 4th Quarters, 1996

Transwestern anticipates routine operation and maintenance of the Phase II remediation system for the remainder of 1996.

Additional Comments

The previous semi-annual report indicated that a performance test of the Phase II system would be completed subsequent to startup pursuant to the requirements of the remediation system air permit issued by the NMED Air Pollution Control Bureau. However, close review of the conditions of the air permit revealed that a performance test is not required. Therefore, a performance test was not completed. However, Transwestern continues to monitor air emissions pursuant to the approved remediation plan.

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Figures

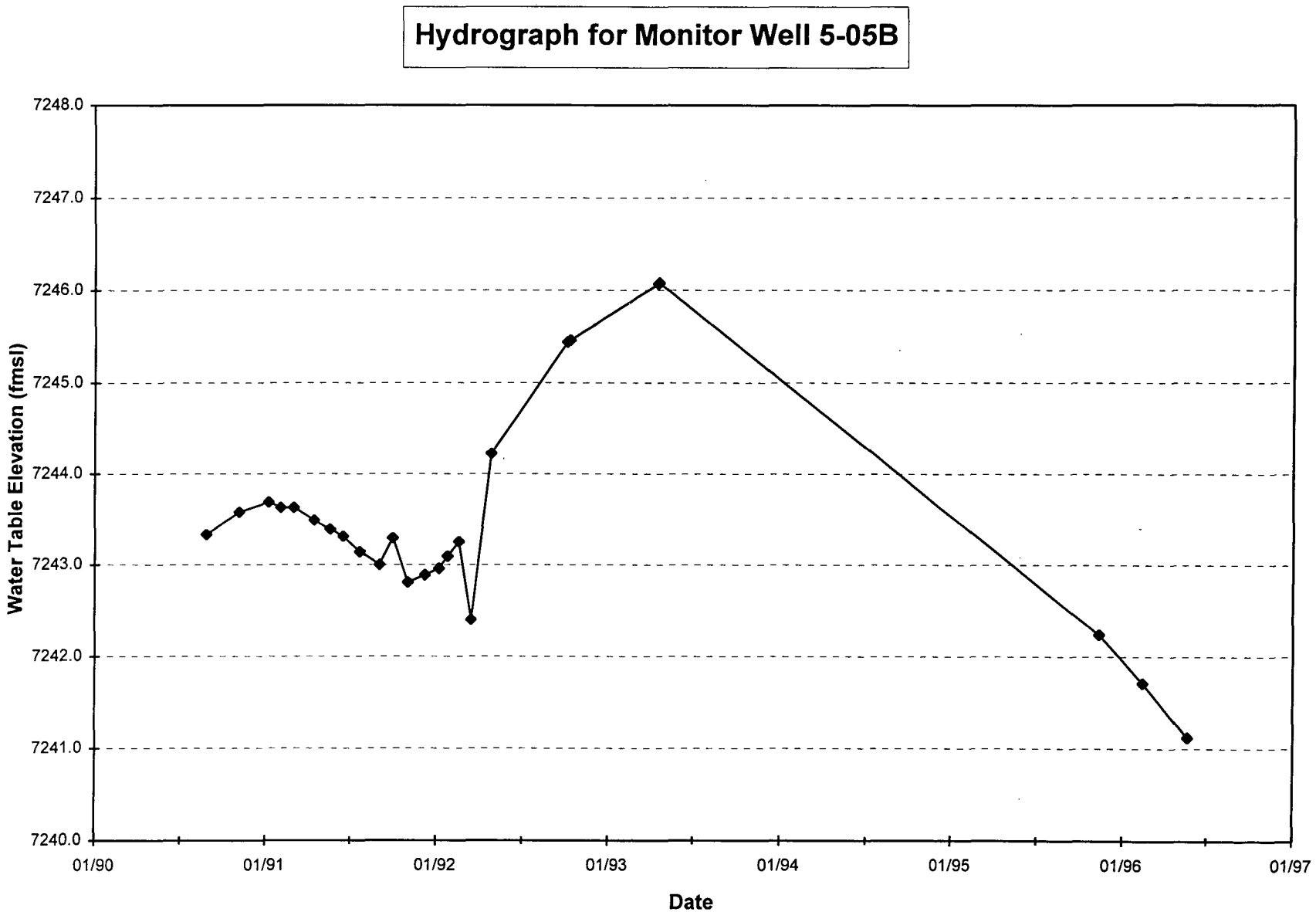
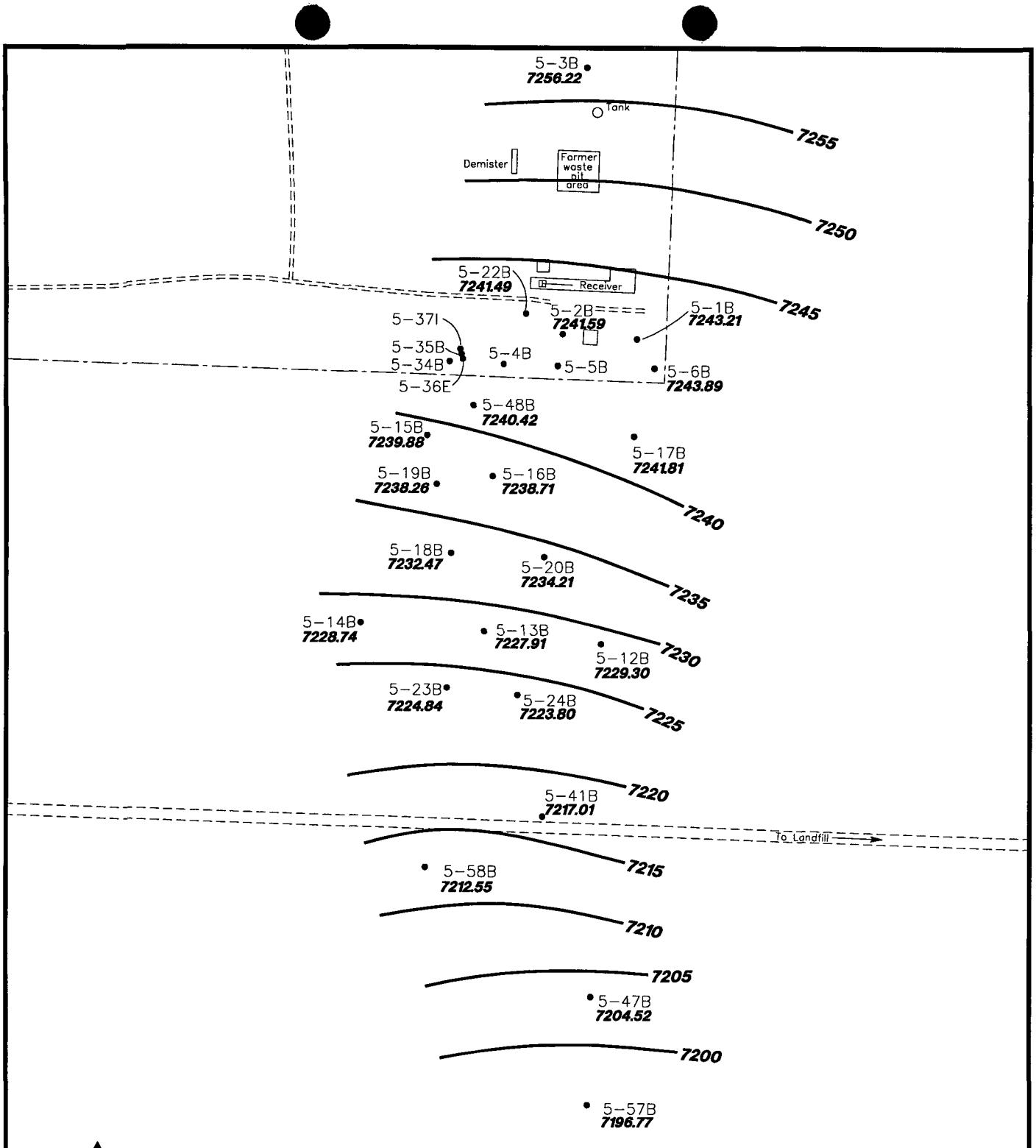

Hydrograph for Monitor Well 5-05B
7248.0
7247.0
7246.0
7245.0
7244.0
7243.0
7242.0
7241.0
7240.0
Water Table Elevation (fmsl)
01/90
01/91
01/92
01/93
01/94
01/95
01/96
01/97
Date

Figure 1



THOREAU COMPRESSOR STATION

Water Table Elevations for the Perched Alluvial Aquifer May 21, 1996

DANIEL B. STEPHENS & ASSOCIATES, INC.

8-8-96

JN 2105

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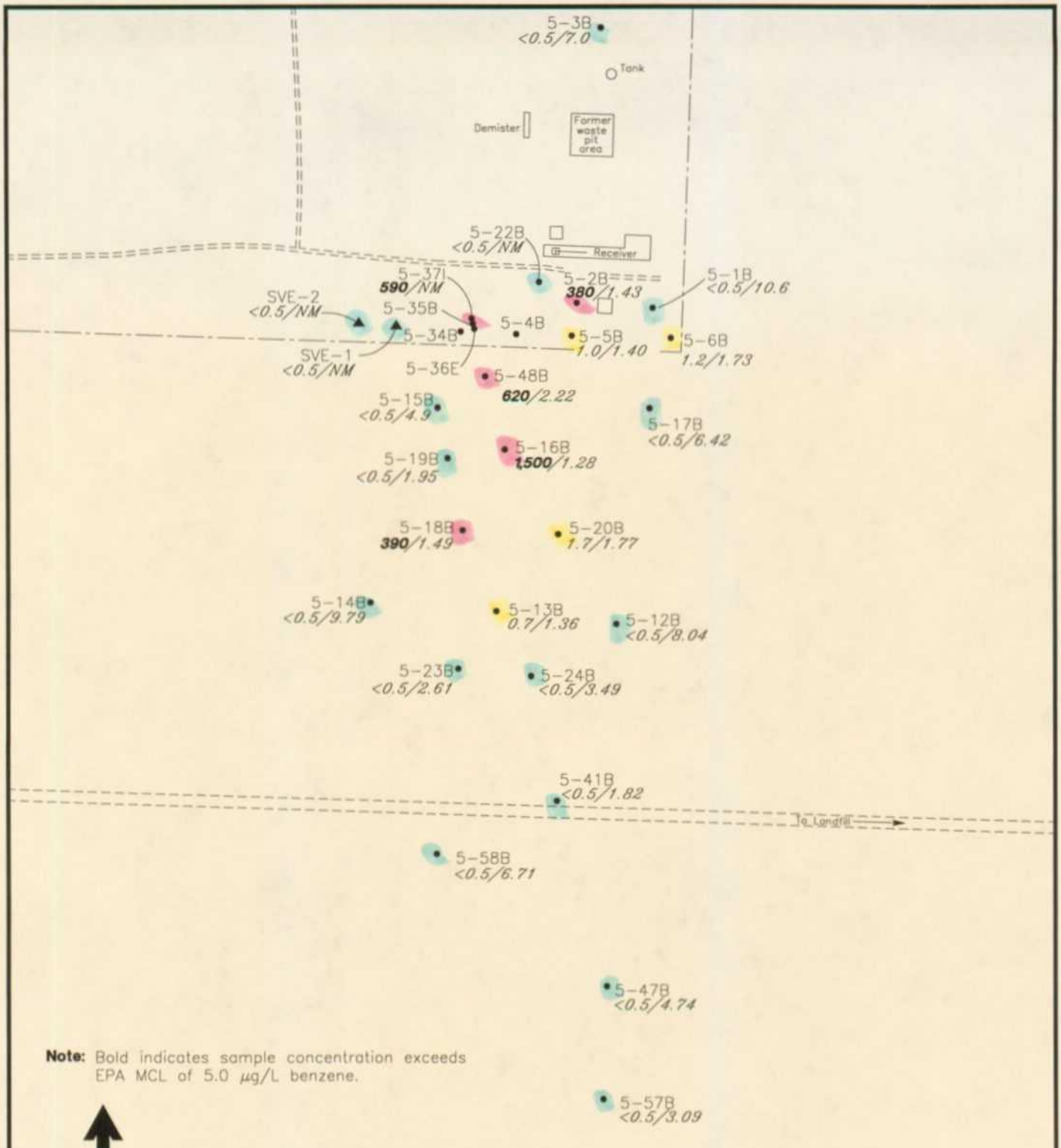
Figure 2



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

THOREAU COMPRESSOR STATION

Benzene and Dissolved Oxygen Concentrations in the Perched Alluvial Aquifer May 21, 1996

DANIEL B. STEPHENS & ASSOCIATES, INC.
8-12-96
JN 2105

Figure 3

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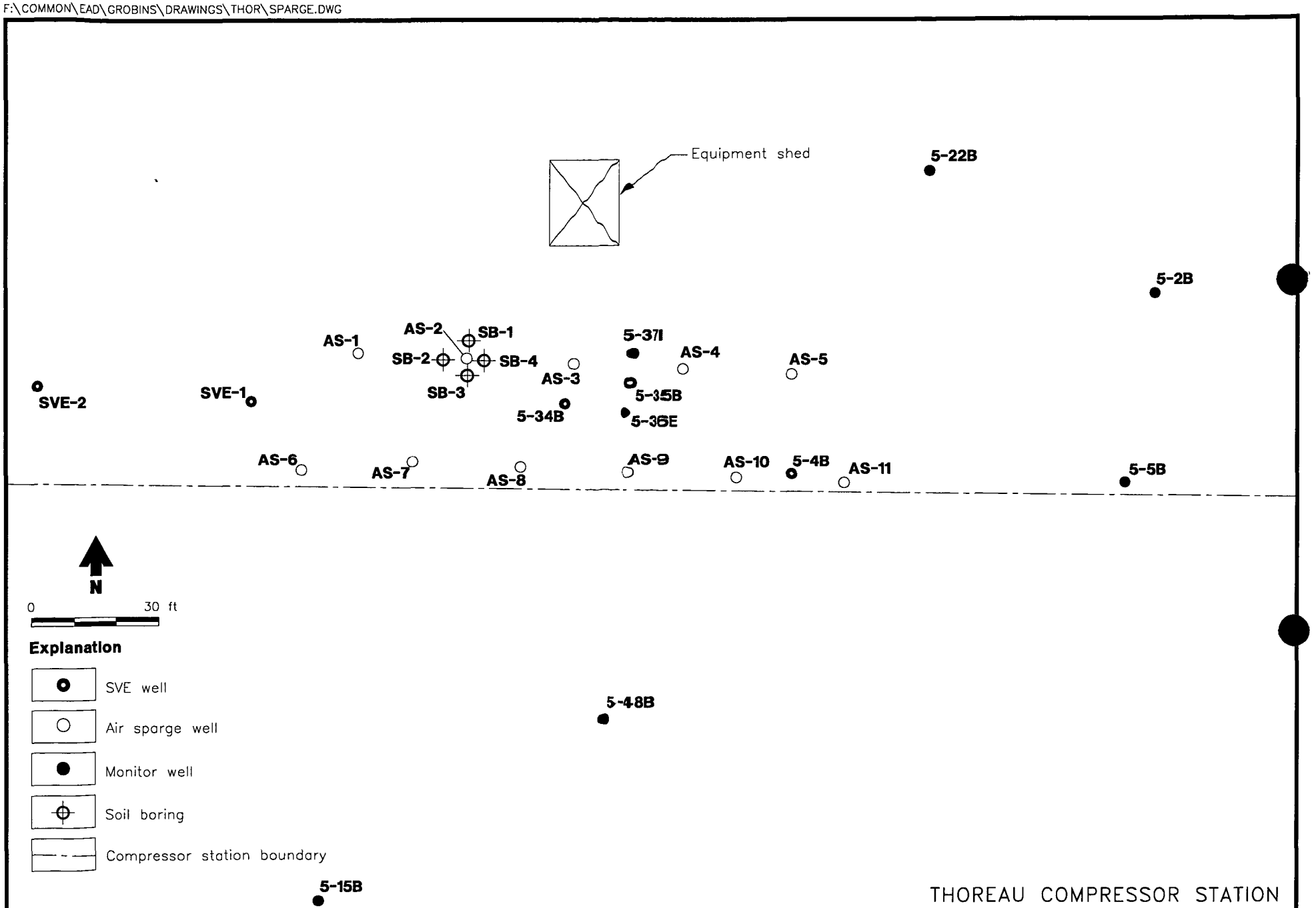

Figure 4

THOREAU COMPRESSOR STATION

Soil Boring and Well Locations

CYPRESS ENGINEERING SERVICES, INC.

8-5-96

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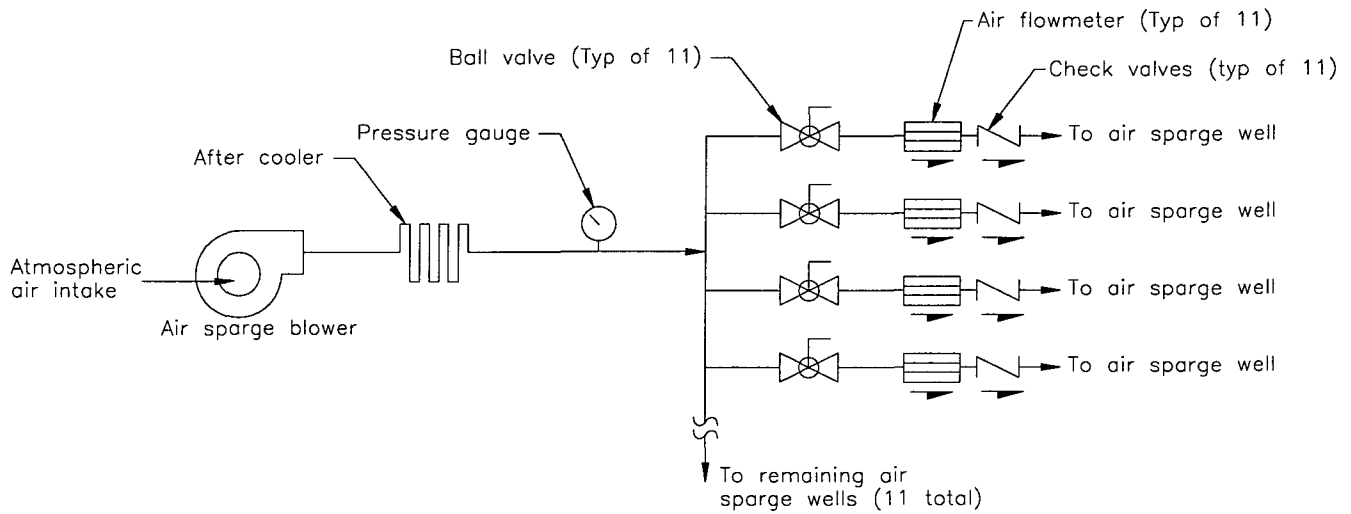

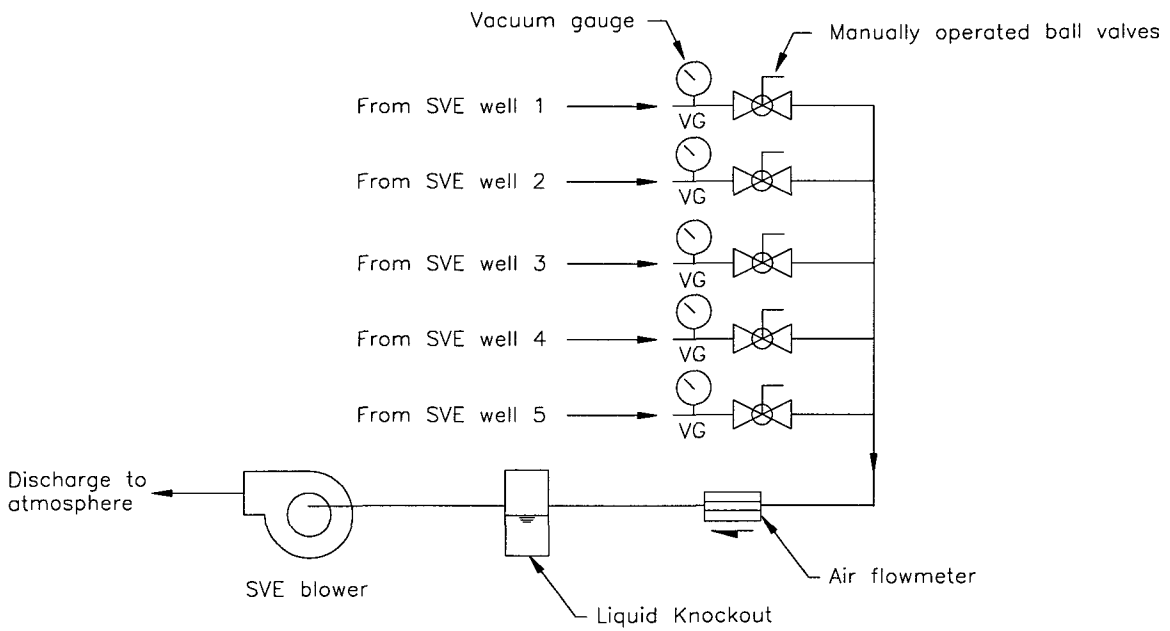

Note: Not to scale

Figure 5

THOREAU COMPRESSOR STATION

Process and Instrumentation Diagram

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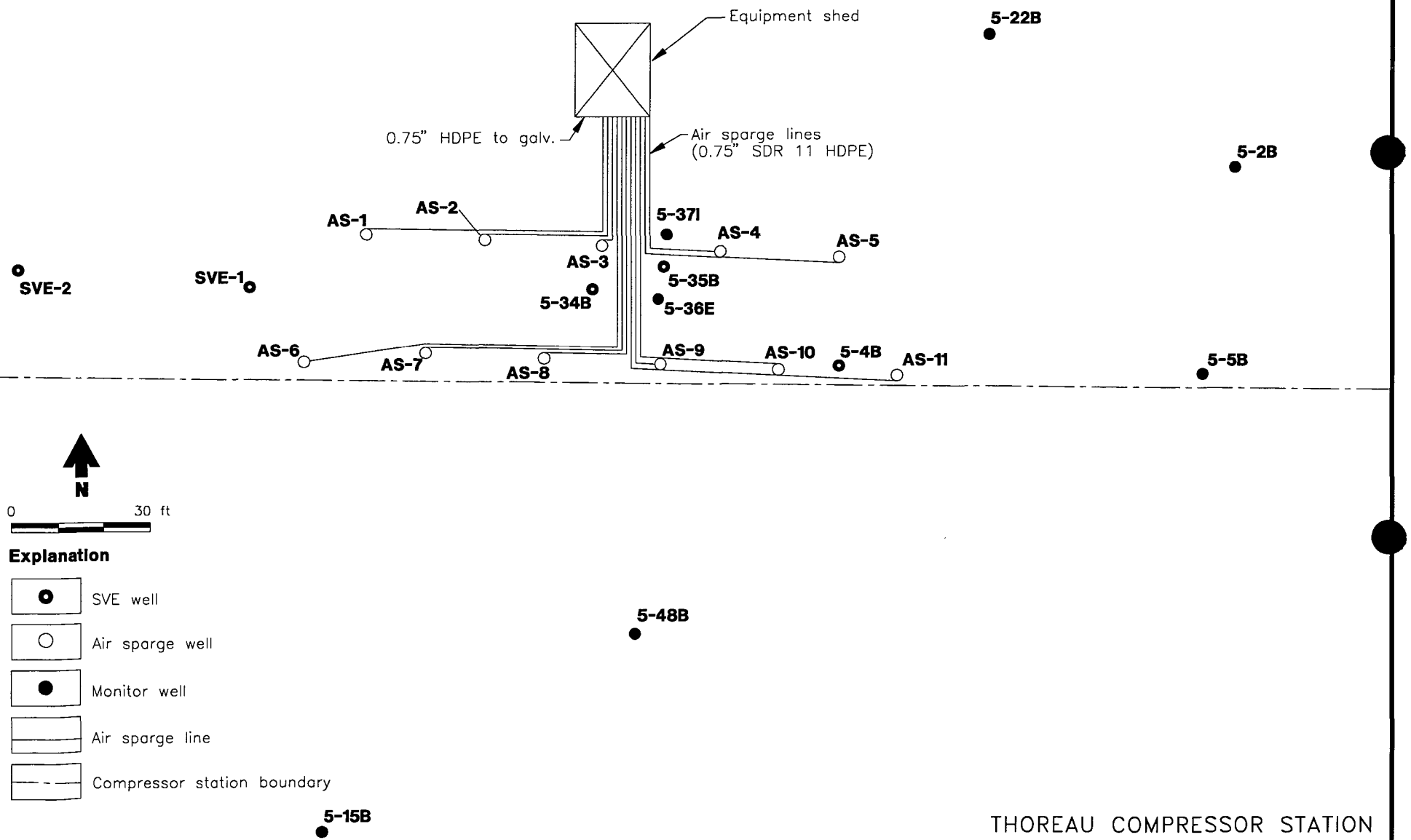

Figure 6

THOREAU COMPRESSOR STATION

Air Sparge Line Layout

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8-5-96

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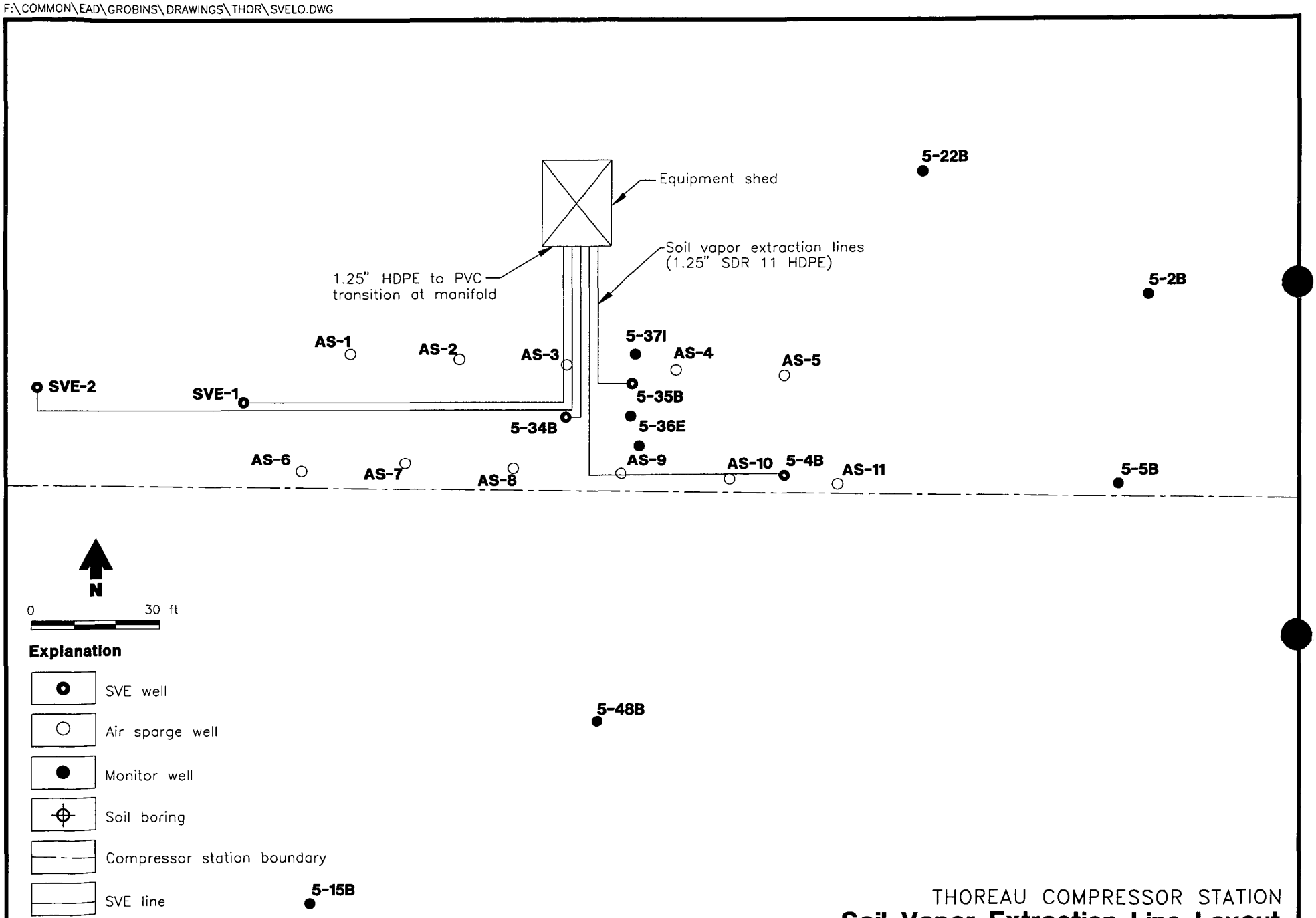

THOREAU COMPRESSOR STATION

Soil Vapor Extraction Line Layout

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8-5-96

Figure 7

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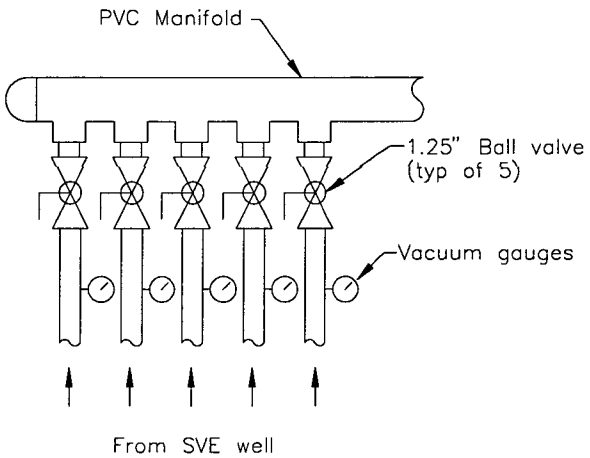
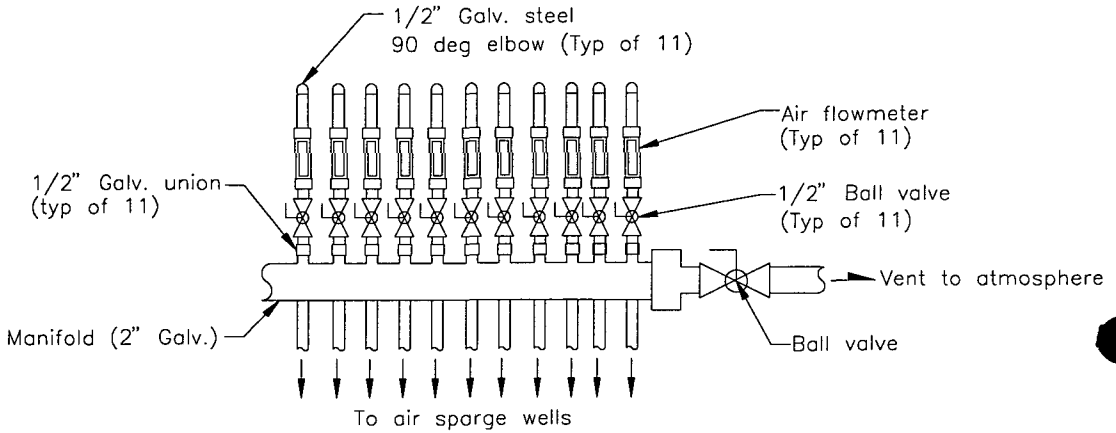
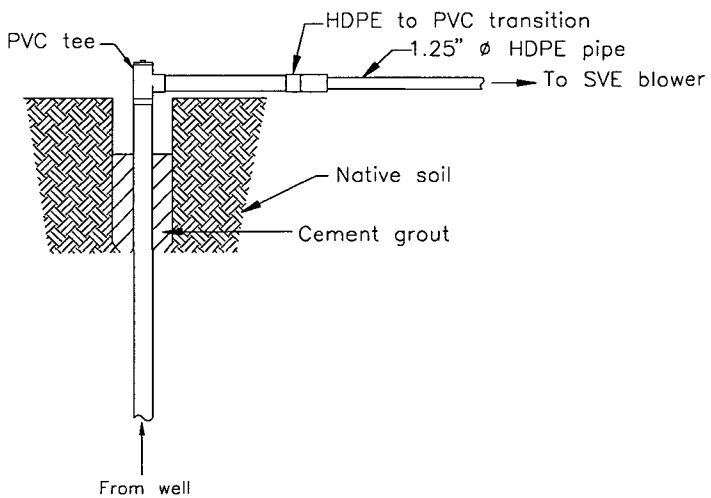


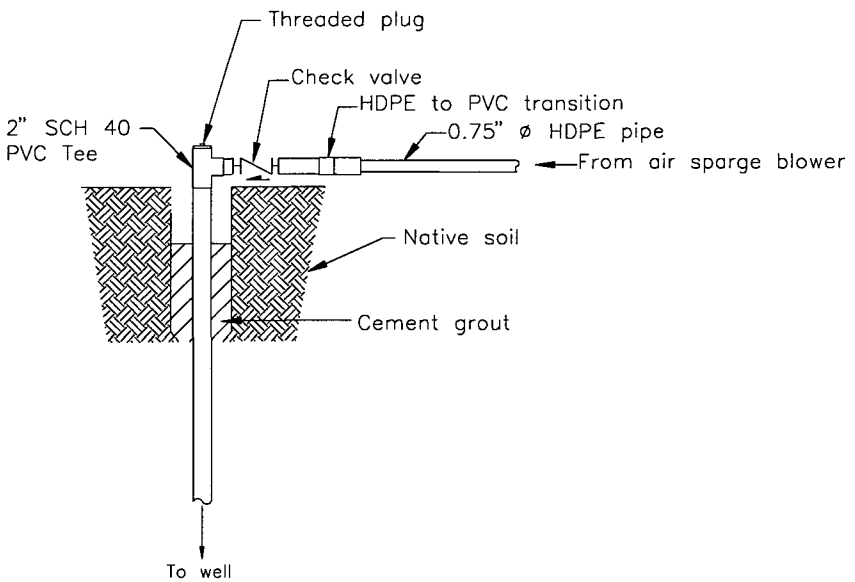
SVE Manifold Detail



Air Sparge Manifold Detail



Soil Vapor Extraction Well



Air Sparge Well

Note: Not to scale

Figure 8

THOREAU COMPRESSOR STATION
As-built Details

CYPRESS ENGINEERING SERVICES, INC.
8-5-96

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
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
		01/28/92	48.48	7243.58
		02/20/92	48.27	7243.79
		03/19/92	47.98	7244.08

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)
		04/29/92	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
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
5 04B	7,292.39	08/29/90	48.35	7244.04
		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

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)
		10/03/91	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	--
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
		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
5 06B	7,289.30	08/29/90	43.47	7245.83
		11/08/90	43.24	7246.06

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)
		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
5 12B	7,279.61	08/14/90	48.85	7230.76
		11/15/90	48.92	7230.69
		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
5 13B	7,282.43	08/14/90	52.43	7230.00

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)
		11/15/90	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
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
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

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)
		04/10/91	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
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
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

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	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
		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
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
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

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)
		04/09/91	50.02	7240.50
		05/23/91	50.92	7239.60
		06/19/91	50.23	7240.29
		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
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
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
		03/06/91	48.42	7244.32
		04/11/91	48.49	7244.25
		05/21/91	48.65	7244.09

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)
		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
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
		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
5 24B	7,279.18	10/25/90	53.64	7225.54
		11/15/90	53.72	7225.46

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)
		01/03/91	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
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	--
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

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)
		04/22/93	48.73	7247.38
		11/14/95	NM	--
		02/15/96	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
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
5 48B	7,292.64	10/06/92	46.80	7245.84
		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
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
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

MP = Measuring point

fmsl = Feet above mean sea level

NM = Not measured

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
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
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
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
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
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
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
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
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
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
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
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
5-19B	11/20/95	7.68	13.0	700	2.0	Clear, slight 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
	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
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
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
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
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
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
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
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
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
5-58B	11/16/95	7.47	14.8	740	8.1	Cloudy brown, no odor
	05/20/96	8.71	13.2	1,073	6.7	Slightly turbid

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 Inorganic Constituents Thoreau Compressor Station No. 5

Monitor Well	Date	Sulfate	Nitrate/Nitrite-N	Iron
		Concentration (mg/L)		
5-01B	11/21/95	81.8	5.58	< 0.05
	02/21/96	78.4	2.10	< 0.05
5-02B	11/21/95	56.3	3.09	0.26
	02/21/96	58.4	< 0.3	0.82
5-03B	11/15/95	50.7	17.70	< 0.05
	02/21/96	98.9	3.40	< 0.05
5-04B	11/22/95	71.5	5.78	< 0.05
	02/21/96	67.9	0.30	< 0.05
5-05B	11/17/95	80.8	6.68	< 0.05
	02/21/96	84.6	< 0.3	< 0.05
5-06B	11/21/95	89.2	9.04	< 0.05
	02/21/96	96.0	1.20	< 0.05
5-12B	11/16/95	81.8	12.40	< 0.05
	02/21/96	84.0	3.40	< 0.05
5-13B	11/20/95	20.8	3.45	< 0.05
	02/21/96	13.9	< 0.3	< 0.05
5-14B	11/16/95	75.0	8.96	< 0.05
	02/21/96	76.0	1.90	< 0.05
5-15B	11/16/95	75.9	7.50	< 0.05
	02/21/96	78.4	1.80	< 0.05
5-16B	11/20/95	41.4	3.76	< 0.05
	02/21/96	13.8	< 0.3	0.05
5-17B	11/20/95	75.5	13.30	< 0.05
	02/21/96	77.1	3.70	< 0.05
5-18B	11/17/95	83.6	4.43	< 0.05
	02/21/96	81.7	< 0.3	< 0.05

Table 3. Summary of Analytical Results for Inorganic Constituents Thoreau Compressor Station No. 5

5-19B	11/20/95	81.8	4.75	< 0.05
	02/21/96	82.1	0.30	< 0.05
5-20B	11/17/95	84.6	3.78	< 0.05
	02/21/96	86.0	< 0.3	< 0.05
5-22B	11/15/95	83.7	9.85	< 0.05
	02/21/96	82.5	3.50	< 0.05
5-23B	11/16/95	83.6	10.10	< 0.05
	02/21/96	84.7	0.90	< 0.05
5-24B	11/17/95	64.9	3.86	< 0.05
	02/21/96	72.6	< 0.3	< 0.05
5-41B	11/16/95	56.7	4.01	< 0.05
	02/21/96	51.5	< 0.3	< 0.05
5-47B	11/15/95	20.4	5.56	< 0.05
	02/21/96	62.3	0.90	< 0.05
5-48B	11/20/95	46.4	3.40	0.12
	02/21/96	< 1.0	< 0.3	0.15
5-57B	11/15/95	15.6	9.17	< 0.05
	02/21/96	57.5	0.70	< 0.05
5-58B	11/16/95	81.3	7.83	< 0.05
	02/21/96	82.4	1.70	< 0.05

Analysis by Soil and Water West, Inc. (Rio Rancho, New Mexico)

Table 4. 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
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
	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

Table 4. 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)			
	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
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
	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

Table 4. 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)			
	10/03/95	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
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
	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

Table 4. 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)			
	11/90	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
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
	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

Table 4. 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)			
	11/91	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
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
	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
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

Table 4. 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	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
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
	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
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

Table 4. 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)			
5-16B	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
	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
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
5-18B	08/90	AS	1100	14	< 1	220

Table 4. 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)			
	11/90	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
	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
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
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

Table 4. 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	160	< 5.0	< 5.0	32
	06/91	EH	300	1.1	< 0.50	15
	07/91	EH	73	1.1	1.0	24
	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
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
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
	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

Table 4. 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	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
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
	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
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

Table 4. 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	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
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
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
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
	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
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
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

Table 4. 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)			

† 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 5. 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
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	
	01/91	EH	< 1.0	
	02/91	EH	< 1.0	
	03/91	EH	< 1.0	

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

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	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	
	08/90	AS	< 0.1	
	11/90	EH	< 1.0	
	01/91	EH	< 1.0	

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

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
	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
	04/90	ER	170	
	06/90	ER	39	1242
	08/90	AS	1.1	1242

Table 5. 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	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
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	
	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	

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

Well No.	Date	Lab†	Total PCB‡ Concentration (µg/L)	Aroclor Reported
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	
	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	
5-18B	08/90	AS	< 0.1	

Table 5. 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	
	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	
	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	

Table 5. 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	
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
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)

‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

ND = Not detected

Table 6. Summary of Phase II SVE Emissions
Thoreau Compressor Station No. 5

Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Non-Methane Hydrocarbons	PID Readings
	(ppmv)					
04/29/96	< 10	30	10	70	2,050	450
05/24/96	< 10	30	10	80	2,000	420
07/03/96	< 10	10	40	10	1,310	442

All air samples analyzed by Core Laboratories of Houston, Texas

ppmv = Parts per million by volume

PID = Photoionization detector

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #1

Lab Reports for the 1st Quarter 1996 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

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

2/29/96

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 or nd) has been made.

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

Sincerely,

Scott Hallenbeck 3/1/96

Scott Hallenbeck, Lab Manager

Project: 9602094/Enron-Thoreau Non-Consent Decree

Hall Environmental Analysis Laboratory

Client:	Daniel B. Stephens & Associates, Inc.	**Project:**	ENRON-THOREAU
Address:	6020 Academy NE Suite 100	**Project Number:**	2105.2.2
	Albuquerque, NM 87109	**Project Manager:**	Bob Marley
		Date Collected:	
		Date Received:	2/23/96
Report Date:	2/28/96	**Sample Matrix:**	Aqueous

Analytical Results

HEAL LAB ID	Sample ID	Nitrate/Nitrite (N) (mg/L)	Sulfate (mg/L)	Dissolved Iron (mg/L)			
9602094-2	5-03B	3.4	98.9	<0.05			
9602094-3	5-47B	0.9	62.3	<0.05			
9602094-4	5-57B	0.7	57.5	<0.05			
9602094-5	5-41B	<0.3	51.5	<0.05			
9602094-6	5-58B	1.7	82.4	<0.05			
9602094-7	5-15B	1.8	78.4	<0.05			
9602094-8	5-17B	3.7	77.1	<0.05			
9602094-9	5-14B	1.9	76.0	<0.05			
9602094-10	5-12B	3.4	84.0	<0.05			
9602094-11	5-24B	<0.3	72.6	<0.05			
9602094-12	5-23B	0.9	84.7	<0.05			
9602094-13	5-05B	<0.3	84.6	<0.05			
9602094-14	5-04B	0.3	67.9	<0.05			
9602094-15	5-18B	<0.3	81.7	<0.05			
9602094-16	5-20B	<0.3	86.0	<0.05			
9602094-17	5-19B	0.3	82.1	<0.05			
9602094-18	5-13B	<0.3	13.9	<0.05			
9602094-19	5-16B	<0.3	13.8	0.05			
9602094-20	5-48B	<0.3	<1.0	0.15			
9602094-21	5-98	<0.3	<1.0	0.11			
9602094-22	5-22B	3.5	82.5	<0.05			
9602094-23	5-01B	2.1	78.4	<0.05			
9602094-24	5-02B	<0.3	58.4	0.82			
9602094-25	5-06B	1.2	96.0	<0.05			
9602094-26	5-37i	<0.3	2.7	1.45			
9602094-2d	Duplicate	3.4	97.8	<0.05			
9602094-11d	Duplicate	<0.3	72.8	<0.05			
9602094-21d	Duplicate	<0.3	<1.0	0.11			
Method ID		300.0	300.0	236.1			
Date Prepared		2/26/96	2/26/96				
Date Analyzed		2/26/96	2/26/96	2/28/96			
MRL		0.3	1.0	0.05			

Sincerely:

Russell H. Zittloser
Inorganic Laboratory Manager

Scott Hallenbeck
Laboratory Manager

Results for sample: Trip Blank

Date collected: 2/14/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-1
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 87 %

Dilution Factor = 1

Results for sample: 5-03B

Date collected: 2/19/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-2
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 85 %

Dilution Factor = 1

Results for sample: 5-47B

Date collected: 2/19/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-3
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 86 %

Dilution Factor = 1

Results for sample: 5-57B

Date collected: 2/19/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-4
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 80 %

Dilution Factor = 1

Results for sample: 5-41B

Date collected: 2/19/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-5
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 82 %

Dilution Factor = 1

Results for sample: 5-58B

Date collected: 2/19/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-6
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 86 %

Dilution Factor = 1

Results for sample: 5-15B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-7
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 83 %

Dilution Factor = 1

Results for sample: 5-17B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-8
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Results for sample: 5-14B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-9
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Results for sample: 5-12B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-10
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 99 %

Dilution Factor = 1

Results for sample: 5-24B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-11
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	1.3	0.5	PPB (µg/L)
Toluene	1.0	0.5	PPB (µg/L)
Ethylbenzene	0.7	0.5	PPB (µg/L)
Total Xylenes	2.0	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 106 %

Dilution Factor = 1

Results for sample: 5-23B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-12
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 96%

Dilution Factor = 1

Results for sample: 5-05B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-13
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	0.9	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Results for sample: 5-04B

Date collected: 2/20/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-14
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 95 %

Dilution Factor = 1

Results for sample: 5-18B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-15
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	290	0.5	PPB (µg/L)
Toluene	54	0.5	PPB (µg/L)
Ethylbenzene	37	0.5	PPB (µg/L)
Total Xylenes	110	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 100 %

Dilution Factor = 1

Results for sample: 5-20B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-16
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	2.8	0.5	PPB (µg/L)
Toluene	1.7	0.5	PPB (µg/L)
Ethylbenzene	2.7	0.5	PPB (µg/L)
Total Xylenes	2.3	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Results for sample: 5-19B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-17
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	0.9	0.5	PPB (µg/L)
Toluene	0.8	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Results for sample: 5-13B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-18
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	1.0	0.5	PPB (µg/L)
Toluene	0.7	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Results for sample: 5-16B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-19
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	1,700	0.5	PPB (µg/L)
Toluene	6,900	0.5	PPB (µg/L)
Ethylbenzene	340	0.5	PPB (µg/L)
Total Xylenes	3,600	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 101 %

Dilution Factor = 1

Results for sample: 5-48B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-20
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	690	5.0	PPB (µg/L)
Toluene	1,100	5.0	PPB (µg/L)
Ethylbenzene	550	5.0	PPB (µg/L)
Total Xylenes	3,300	5.0	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 10

Results for sample: 5-98

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-21
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	580	0.5	PPB (µg/L)
Toluene	1,200	0.5	PPB (µg/L)
Ethylbenzene	540	0.5	PPB (µg/L)
Total Xylenes	3,100	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 102 %

Dilution Factor = 1

Results for sample: 5-22B

Date collected: 2/21/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-22
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 96 %

Dilution Factor = 1

Results for sample: 5-01B

Date collected: 2/22/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-23
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 89 %

Dilution Factor = 1

Results for sample: 5-02B

Date collected: 2/22/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-24
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	260	0.5	PPB (µg/L)
Toluene	1,000	0.5	PPB (µg/L)
Ethylbenzene	62	0.5	PPB (µg/L)
Total Xylenes	600	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 100 %

Dilution Factor = 1

Results for sample: 5-06B

Date collected: 2/22/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-25
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	4.3	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Results for sample: 5-37i

Date collected: 2/22/96	Date received: 2/23/96
Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-26
Project Manager: Bob Marley	Sampled by: C. Wolf/A. Potter
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	640	0.5	PPB (µg/L)
Toluene	520	0.5	PPB (µg/L)
Ethylbenzene	24	0.5	PPB (µg/L)
Total Xylenes	990	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 100 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: RB 2/23
Project Manager: Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: RB 2/23
Project Manager: Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 101 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup

Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-9 MS/MSD
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MS MSD %	RPD
Benzene	<0.5	20.0	18.6	93	19.4	97	4
Toluene	<0.5	20.0	19.1	96	19.8	99	4
Ethylbenzene	<0.5	20.0	18.6	93	19.6	98	5
Total Xylenes	<0.5	60.0	58.4	97	59.5	99	2

Results for QC: Matrix Spike / Matrix Spike Dup

Date extracted: NA	Date analyzed: 2/23/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau Non-Consent Decree	HEAL #: 9602094-3 MS/MSD
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MS MSD %	RPD
Benzene	<0.5	20.0	20.2	101	19.9	100	1
Toluene	<0.5	20.0	20.2	101	20.1	101	0
Ethylbenzene	<0.5	20.0	19.8	99	19.2	96	3
Total Xylenes	<0.5	60.0	61.2	102	60.1	100	2

CHAIN-OF-CUSTODY RECORD

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 #: 505/822-9400

Fax #:

Project Name: ENRON-THOREAU NON-CONSENT DECREE

Project #: 2105.2.2

Project Manager: Bob Marley

Sampler: C. Wolf, A. Potter

Samples Cold? ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	Preservative Other	HEAL No.
2/14	—	H_2O	Trip Blank	~~3~~ 2x40mL	✓			9602094-1
2/19/96	1230	H_2O	5-03B	2x40mL 3x250mL	✓		✓	-2
2/19/96	1415	H_2O	5-47B	2x40mL 3x250mL	✓		✓	-3
2/19/96	1430	H_2O	5-57B	2/40mL 3/250mL	✓		✓	-4
2/19/96	1645	H_2O	5-41B	2/40mL 3/250mL	✓		✓	-5
2/19/96	1645	H_2O	5-58B	2/40mL 3/250mL	✓		✓	-6
2/20/96	1010	H_2O	5-15B	2/40mL 3/250mL	✓		✓	-7
2/20/96	1055	H_2O	5-17B	2/40mL 3/250mL	✓		✓	-8
2/20/96	1212	H_2O	5-14B	2/40mL 3/250mL	✓		✓	-9
2/20/96	1230	H_2O	5-12B	2/40mL 3/250mL	✓		✓	-10
2/20/96	1425	H_2O	5-24B	2/40mL 3/250mL	✓		✓	-11
2/20/96	1405	H_2O	5-23B	2/40mL 3/250mL	✓		✓	-12

ANALYSIS REQUEST

BTEX + ~~MTBE~~ (602/8020) BTEX ONLY	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)~~ Fe	Anions ~~(F, Cl, NO_3, NO_2, P, SO_4)~~	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's	Nitrate/Nitrite		Air Bubbles or Headspace (Y or N)
✓															
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		
✓									✓	✓			✓		

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
2/20/96	1222			2/21
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: Sulfate, Nitrate/Nitrite, & Iron were Field Filtered

Bill to: Non-Consent Decree Thoreau:
060-1070-100-247-0286-S35025-50510
→ George Robinson: ENRON ENVIRONMENTAL AFFAIRS
1400 Smith St., Suite 3AC 3142
Houston, Texas 77002

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LAB
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 #: 505/822-9400

Fax #:

Project Name: ENRON-THOREAU NON-CONSENT DECREE

Project #: 2105.2.2

Project Manager: Bob Marley

Sampler: Wolf/Potter

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 + MTBE (602/8020) BTEX ONLY	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~~ Fe)	Anions (~~F, Cl, NO_3, NO_2, PO_4~~ (SO_4))	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's	Nitrate/Nitrite		Air Bubbles or Headspace (Y or N)
2/20/96	1630	H_2O	5-05B	2/40mL 3/250mL	✓		✓	9602094-13	✓									✓	✓			✓		
2/20/96	1845	H_2O	5-04B	2/40mL 3/250mL	✓		✓	-14	✓									✓	✓			✓		
2/21/96	1010	H_2O	5-18B	2/40mL 3/250mL	✓		✓	-15	✓									✓	✓			✓		
2/21/96	1030	H_2O	5-20B	2/40mL 3/250mL	✓		✓	-16	✓									✓	✓			✓		
2/21/96	1220	H_2O	5-19B	2/40mL 3/250mL	✓		✓	-17	✓									✓	✓			✓		
2/21/96	1240	H_2O	5-13B	2/40mL 3/250mL	✓		✓	-18	✓									✓	✓			✓		
2/21/96	1430	H_2O	5-16B	2/40mL 3/250mL	✓		✓	-19	✓									✓	✓			✓		
2/21/96	1430	H_2O	~~5-48B~~ CW 5-48B	2/40mL 3/250mL	✓		✓	-20	✓									✓	✓			✓		
2/21/96	1435	H_2O	5-98	2/40mL 3/250mL	✓		✓	-21	✓									✓	✓			✓		
2/21/96	1735	H_2O	5-22B	2/40mL 3/250mL	✓		✓	-22	✓									✓	✓			✓		
2/22/96	1005	H_2O	5-01B	2/40mL 3/250mL	✓		✓	-23	✓									✓	✓			✓		
2/22/96	1045	H_2O	5-02B	2/40mL 3/250mL	✓		✓	-24	✓									✓	✓			✓		

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
2/23/96	1222		2/23
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Sulfate, Iron, Nitrate/Nitrite were field filtered

Bill to: Non-Consent Decree Thoreau
060-1070-100-247-0286-535025-50510-6
George Robinson: ENRON ENVIRONMENTAL AFFAIRS
1400 Smith St, Suite 3AC 3142
Houston, TX 77002

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS
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 NON-CONSENT DECREE

Address: 6020 Academy NE ABQ, NM 87109

Project #: 2105.2.2

Project Manager: Bob Marley

Phone #: 505/822-9400

Sampler: Wolf/Potter

Fax #:

Samples Cold? ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
2/22/96	1205	H_2O	5-063 ·	2/40mL 3/250mL	✓		✓	9602094-25
2/22/96	1415	H_2O	5-37i ·	2/40mL 3/250mL	✓		✓	-26

ANALYSIS REQUEST

BTEX + ~~MTBE~~ (602/8020) BTEX ONLY	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~~) Fe	Anions (~~F, Cl, NO_3, NO_2, PO_4, SO_4~~)	Basic Soil Test (PH, EC, SAR, PSA)	8080 Pesticides / PCB's	Nitrate/Nitrite		
✓									✓	✓			✓		
✓									✓	✓			✓		

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
2/23	1222			2/23
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: Sulfate, NO_3/NO_2, Fe were field filtered

Bill to: Thoreau Non Consent Decree
060-1070-100-247-0286-535025-50510-
George Robinson- Enron Environmental Affairs
1400 Smith St. Suite 3AC 3142
Houston, TX 77002

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

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

03/07/1996

NET Job Number: 96.01459

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
296027	5-17B	02/22/1996	02/27/1996
296028	5-01B	02/22/1996	02/27/1996
296029	5-06B	02/22/1996	02/27/1996
296030	5-99	02/22/1996	02/27/1996

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

DJB FOR:
Gregory K. Horton
Project Manager

ANALYTICAL REPORT

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

03/07/1996
Job No.: 96.01459

Project Name: 2105.2.2 ENRON-THOREAU NONCONSENT DECREE

Date Received: 02/27/1996

296027 5-17B
Taken: 02/22/1996 09:00

PCB/PEST-AQUEOUS (8080)		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	120	% Rec
SURR: TCX	77	% Rec

296028 5-01B
Taken: 02/22/1996 10:05

PCB/PEST-AQUEOUS (8080)		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	78	% Rec
SURR: TCX	80	% Rec

296029 5-06B
Taken: 02/22/1996 12:05

PCB/PEST-AQUEOUS (8080)		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	113	% Rec
SURR: TCX	86	% Rec

ANALYTICAL REPORT

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

03/07/1996
Job No.: 96.01459

Project Name: 2105.2.2 ENRON-THOREAU NONCONSENT DECREE

Date Received: 02/27/1996

296030 5-99
Taken: 02/22/1996

PCB/PEST-AQUEOUS (8080)		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	78	% Rec
SURR: TCX	93	% Rec

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.01459

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	bgm	02/15/1996	S-8080A	0.499	0.50	100	NA
PCB-1221	bgm	02/15/1996	S-8080A	0.495	0.5	99	NA
PCB-1232	bgm	02/15/1996	S-8080A	0.50	0.50	100	NA
PCB-1242	bgm	02/15/1996	S-8080A	0.50	0.50	100	NA
PCB-1248	bgm	02/15/1996	S-8080A	0.50	0.50	100	NA
PCB-1254	bgm	02/15/1996	S-8080A	0.50	0.50	100	NA
PCB-1260	bgm	02/15/1996	S-8080A	0.50	0.50	100	NA
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	rwh	03/06/1996	S-8080A	0.532	0.50	106	NA
PCB-1221	rwh	03/06/1996	S-8080A	0.497	0.5	99	NA
PCB-1232	rwh	03/06/1996	S-8080A	0.50	0.50	100	NA
PCB-1242	rwh	03/06/1996	S-8080A	0.50	0.50	100	NA
PCB-1248	rwh	03/06/1996	S-8080A	0.50	0.50	100	NA
PCB-1254	rwh	03/06/1996	S-8080A	0.50	0.50	100	NA
PCB-1260	rwh	03/06/1996	S-8080A	0.50	0.50	100	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.01459

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
PCB/PEST-AQUEOUS (8080)					
PCB-1016	03/06/1996	<0.065	ug/L	0.065	NA
PCB-1221	03/06/1996	<0.065	ug/L	0.065	NA
PCB-1232	03/06/1996	<0.065	ug/L	0.065	NA
PCB-1242	03/06/1996	<0.065	ug/L	0.065	NA
PCB-1248	03/06/1996	<0.065	ug/L	0.065	NA
PCB-1254	03/06/1996	<0.065	ug/L	0.065	NA
PCB-1260	03/06/1996	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate
(MS / MSD)

JOB NUMBER: 96.01459

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
PCB/PEST-AQUEOUS (8080)								
PCB-1016	<0.065	0.400	0.400	0.50	80	80	0	
PCB-1260	<0.065	0.422	0.421	0.50	84	84	0.2	

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.

ANALYTICAL REPORT

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

03/07/1996

NET Job Number: 96.01459

Client Project ID: 2105.2.2 ENRON-THOREAU NONCONSENT DECREE

Analyte	Result	Flag	Units	Reporting Limit	Date Analyzed	Analyst Initials	Prep Batch No.	Run Batch No.	Method Reference
SAMPLE NO. 296027	SAMPLE DESCRIPTION 5-17B								DATE-TIME TAKEN 02/22/1996 09:00
SEMIVOLATILES APPROVAL	rwh				03/06/1996	rwh		101	
PEST/PCB ANALYSIS	c			complete		rwh		138	E-608/S-8080
Prep, 8080(Pest/PCB) Aqueous	c 2/28/9				02/28/1996	mgc	274		S-3510
PCB/PEST-AQUEOUS (8080)									
PCB-1016	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1221	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1232	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1242	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1248	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1254	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1260	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
SURR: DCB	120		% Rec	70-130	03/06/1996	rwh	274	549	S-8080A
SURR: TCX	77		% Rec	70-130	03/06/1996	rwh	274	549	S-8080A
SAMPLE NO. 296028	SAMPLE DESCRIPTION 5-01B								DATE-TIME TAKEN 02/22/1996 10:05
Prep, 8080(Pest/PCB) Aqueous	c 2/28/9				02/28/1996	mgc	274		S-3510
PCB/PEST-AQUEOUS (8080)									
PCB-1016	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1221	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1232	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1242	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1248	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1254	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
PCB-1260	<0.065		ug/L	0.065	03/06/1996	rwh	274	549	S-8080A
SURR: DCB	78		% Rec	70-130	03/06/1996	rwh	274	549	S-8080A
SURR: TCX	80		% Rec	70-130	03/06/1996	rwh	274	549	S-8080A

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY Daniel B. Stephens & Assoc.
ADDRESS 6020 Academy NE, Ste 100, ABQ, NM 87109
PHONE 505/822-9400 FAX 505/822-8877
PROJECT NAME/LOCATION ENRON-THOREAU NonConsent Decree
PROJECT NUMBER 2105.2.2
PROJECT MANAGER Bob Marley

REPORT TO:
INVOICE TO:
P.O. NO.
NET 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	1AE OTHER	ANALYSES: PCBs (8080) 0010
2/22/96	0900	5-17B	H_2O	✓						1	✓
2/22/96	1005	5-01B	H_2O	✓						1	✓
2/22/96	1205	5-06B	H_2O	✓						1	✓
2/22/96	NA	5-99	H_2O	✓						1	✓

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

Chul 3/6

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: 4°C Bottles supplied by NET? (YES) / ~~NO~~

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS Chris Wolf DATE 2/23/96

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Chris Wolf	2/23/96	1128			2/27/96	10:00 AM	R. Dewitt

METHOD OF SHIPMENT: FedEX

REMARKS: Bill to: Thoreau NonConsent Decree, 060-1070-100-247-0286-535025-50510-GENV
George Robinson: Enron Environmental Affairs
1400 Smith St., Suite 3AC 3142, Houston TX 77002

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 2nd Quarter 1996 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

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

6/4/96

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,

6/10/96

Scott Hallenbeck, Lab Manager

Project: 9605065/Enron-Thoreau

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: 5/24/96

Sample Name:		5-03	5-22B	5-57B	5-58B	5-47B	5-41B
Lab Code:	9605065	-1	-2	-3	-4	-5	-6
Date Collected:		5/20/96	5/20/96	5/20/96	5/20/96	5/21/96	5/21/96
Date Analyzed:		5/29/96	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96

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

Sample Name:		5-12B	5-14B	5-24B	5-15B	5-23B	5-05B
Lab Code:	9605065	-7	-8	-9	-10	-11	-12
Date Collected:		5/21/96	5/21/96	5/21/96	5/22/96	5/22/96	5/22/96
Date Analyzed:		5/29/96	5/29/96	5/29/96	5/29/96	5/29/96	5/29/96

Analyte:	Results	Results	Results	Results	Results	Results	Detection Limit
Benzene	nd	nd	nd	nd	nd	1.0	0.5
Ethylbenzene	nd	1.5	nd	nd	nd	nd	0.5
Toluene	nd	2.6	0.9	nd	nd	nd	0.5
Xylenes (Total)	nd	nd	0.7	nd	nd	nd	0.5
BFB (Surrogate) Recovery	97%	97%	88%	98%	97%	96%	-
Dilution Factor	1	1	1	1	1	1	-

Sample Name:		5-20B	5-48B	5-13B	5-18B	5-19B	5-16B
Lab Code:	9605065	-13	-14	-15	-16	-17	-18
Date Collected:		5/22/96	5/22/96	5/22/96	5/22/96	5/22/96	5/23/96
Date Analyzed:		5/29/96	5/30/96	5/30/96	5/30/96	5/30/96	5/30/96

Analyte:	Results	Results	Results	Results	Results	Results	Detection Limit
Benzene	1.7	620	0.7	390	nd	1,500	0.5
Ethylbenzene	0.8	3,600	nd	1.3	nd	6,900	0.5
Toluene	1.3	480	nd	56	nd	280	0.5
Xylenes (Total)	nd	3,600	0.8	50	nd	3,500	0.5
BFB (Surrogate) Recovery	87%	97%	96%	96%	98%	93%	-
Dilution Factor	1	10	1	1	1	50	-

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: 5/24/96

Sample Name:		5-02B	5-37I	5-17B	5-06B	Unfiltered Purge H_20	5-98	
Lab Code:	9605065	-19	-20	-21	-22	-23	-24	
Date Collected:		5/23/96	5/23/96	5/23/96	5/23/96	5/23/96	5/23/96	
Date Analyzed:		5/30/96	5/30/96	5/30/96	5/30/96	5/30/96	5/30/96	
		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		380	590	nd	1.2	130	520	0.5
Ethylbenzene		1,300	340	nd	nd	580	1,600	0.5
Toluene		120	19	nd	nd	35	160	0.5
Xylenes (Total)		1,100	600	nd	nd	290	1,200	0.5
BFB (Surrogate) Recovery		86%	91%	94%	95%	97%	90%	-
Dilution Factor		20	20	1	1	1	10	-

Sample Name:		5-01B	Filtered Purge H_20	Trip Blank-1	Trip Blank-2	Reagent Blank	Reagent Blank	
Lab Code:	9605065	-25	-26	-27	-28	NA	NA	
Date Collected:		5/24/96	5/24/96	5/8/96	5/8/96	5/29/96	5/31/96	
Date Analyzed:		5/31/96	5/31/96	5/31/96	5/31/96			
Analyte:		Results	Results	Results	Results	Results	Results	Detection Limit
Benzene		nd	nd	nd	nd	nd	nd	0.5
Ethylbenzene		nd	nd	nd	nd	nd	nd	0.5
Toluene		nd	nd	nd	nd	nd	nd	0.5
Xylenes (Total)		nd	nd	nd	nd	nd	nd	0.5
BFB (Surrogate) Recovery		97%	98%	97%	97%	92%	94%	-
Dilution Factor		1	1	1	1	1	1	-

Results for QC: Matrix Spike / Matrix Spike Duplicate

Date extracted: NA	Date analyzed: 5/30,31/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9605065-5, 21 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	22.2	111	20.5	103	8
Toluene	<0.5	20.0	21.7	109	19.9	100	9
Ethylbenzene	<0.5	20.0	21.0	105	19.3	96	9
Total Xylenes	<0.5	60.0	66.3	110	61.0	102	8

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MSD %	RPD
Benzene	8.9	20.0	23.5	118	20.9	104	14
Toluene	<0.5	20.0	22.6	113	20.4	102	11
Ethylbenzene	<0.5	20.0	21.6	108	19.2	96	12
Total Xylenes	0.5	60.0	68.2	114	60.3	101	13

CHAIN-OF-CUSTODY RECORD

One of Three

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

Client: ENRON CORP.
BILL TO GEORGE ROBINSON

Address: 1400 SMITH ST
SUITE 3AC 3142
HOUSTON, TEXAS
77002

Phone #: DBSTA 505-822-9400

#:

Project Name: ENRON THOREAU

Project #: 6031.1

Project Manager: BOB MARLEY

Sampler: C. PIGMAN/C. WOLF

Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
5/20/96	1435	H_2O	5-03	2/40ml	X			9605265-1
5/20/96	1540		5-22B					-2
5/20/96	1710		5-57B					-3
5/20/96	1810		5-58B					-4
5/21/96	1415		5-47B					-5
5/21/96	1525		5-41B					-6
5/21/96	1645		5-12B					-7
5/21/96	1750		5-14B					-8
5/21/96	1810		5-24B					-9
5/22/96	1110		5-15B					-10
5/22/96	1125		5-23B					-11
5/22/96	1235	H_2O	5-05B	2/40ml	X			-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	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	BTEX (8020) PD MTBE			Air Bubbles or Headspace (Y or N)
													X			
													↑			
													↓			
													X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
5/24/96	1600	Clarence Pigman	5/24
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

CHAIN-OF-CUSTODY RECORD

Two of Three

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

Client: ENRON CORP	Project Name: ENRON THREAD
BILL TO GEORGE ROBINSON	
Address: 1400 SMITH ST,	Project #: 6031.1
SUITE 3AC 3142	
HOUSTON TEXAS	Project Manager: BOB MARLEY
77002	
Phone #: DOSTA 505-822-9400	Sampler: C. PIGMAN / C. WOLF
[redacted]:	Samples Cold? ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					$HgCl_2$	HCl	Other	
5/22/96	1325	H_2O	5-20B	2/40ml	X			9605016-13
5/22/96	1450		5-48B					-14
5/22/96	1450		5-13B					-15
5/22/96	1640		5-18B					-16
5/22/96	1645		5-19B					-17
5/23/96	1015		5-16B					-18
5/23/96	1250		5-02B					-19
5/23/96	1330		5-37I					-20
5/23/96	1500		5-17B					-21
5/23/96	1645		5-06B					-22
5/23/96	1740		UNFILTERED PURGE H_2O					-23
5/23/96	NA	H_2O	5-98	2/40ml	X			-24

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
5/24/96	1600	Chris Pigman	Kelly S. Parker 5/24
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

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	BTEX (8020) MTBE			Air Bubbles or Headspace (Y or N)
													X			
													X			

Remarks:

CHAIN-OF-CUSTODY RECORD

Three of Three

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

Client: ENRON CORP, BILL TO GEORGE ROBINSON	Project Name: ENRON THOREAU
Address: 1400 SMITH ST, SUITE 3AC 3142 HOUSTON TEXAS 77002	Project #: 6031,1
	Project Manager: BOB MARLEY
Phone #: DOSHA 505-822-9400	Sampler: G PIGMAN / C. WOLF
Fax:	Samples Cold? ☑ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	Preservative Other	HEAL No.
5/24/96	1050	~~H2O~~ ~~8260~~ H2O	5-01B	2/40ml	X			9605063-25
5/24/96	1140	~~H2O~~ ~~8260~~ H2O	FILTERED PURGEABLE	↑	↑			-26
5/8/96	NA	H2O	TRIP BLANK	↕	↕			-27
5/10/96	NA	H2O	TRIP BLANK	2/40ml	X			-28

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	BTEX (8020) NO MTBE			Air Bubbles or Headspace (Y or N)
													X			
													↕			
													↕			
													X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
5/24/96	1600	Chance Pigman	5/24
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

JUN 1996
RECEIVED
Environmental
Houston

ANALYTICAL AND QUALITY CONTROL REPORT

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

06/06/1996

NET Job Number: 96.04149

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
307456	5-37i PURGE WATER	05/23/1996	05/28/1996
307457	5-17B	05/23/1996	05/28/1996
307458	5-06B	05/23/1996	05/28/1996
307459	UNFILTERED PURGE WATER	05/23/1996	05/28/1996
307460	5-01B	05/24/1996	05/28/1996
307461	FILTERED PURGE WATER	05/24/1996	05/28/1996
307462	5-99	05/24/1996	05/28/1996

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

ANALYTICAL REPORT

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

06/06/1996
Job No.: 96.04149

Project Name:

Date Received: 05/28/1996

307461 FILTERED PURGE WATER
Taken: 05/24/1996 11:40

PCB-1242	<0.065		ug/L
PCB-1248	<0.065		ug/L
PCB-1254	<0.065		ug/L
PCB-1260	<0.065		ug/L
SURR: DCB	83		% Rec
SURR: TCX	100		% Rec

307462 5-99
Taken: 05/24/1996

PCB/PEST-AQUEOUS (8080)			
PCB-1016	<0.65	EDL	ug/L
PCB-1221	<0.65	EDL	ug/L
PCB-1232	<0.65	EDL	ug/L
PCB-1242	<0.65	EDL	ug/L
PCB-1248	<0.65	EDL	ug/L
PCB-1254	<0.65	EDL	ug/L
PCB-1260	<0.65	EDL	ug/L
SURR: DCB	31	SU	% Rec
SURR: TCX	119		% Rec

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

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.04149

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	tcc	05/26/1996	S-8080A	0.572	0.50	114	NA
PCB-1221	tcc	05/26/1996	S-8080A	na	0.5	NA	NA
PCB-1232	tcc	05/26/1996	S-8080A	na	0.50	NA	NA
PCB-1242	tcc	05/26/1996	S-8080A	na	0.50	NA	NA
PCB-1248	tcc	05/26/1996	S-8080A	na	0.50	NA	NA
PCB-1254	tcc	05/26/1996	S-8080A	na	0.50	NA	NA
PCB-1260	tcc	05/26/1996	S-8080A	0.558	0.50	112	NA
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	tcc	05/28/1996	S-8080A	0.507	0.50	101	NA
PCB-1221	tcc	05/28/1996	S-8080A	0.5	0.5	100	NA
PCB-1232	tcc	05/28/1996	S-8080A	0.50	0.50	100	NA
PCB-1242	tcc	05/28/1996	S-8080A	0.50	0.50	100	NA
PCB-1248	tcc	05/28/1996	S-8080A	0.50	0.50	100	NA
PCB-1254	tcc	05/28/1996	S-8080A	0.50	0.50	100	NA
PCB-1260	tcc	05/28/1996	S-8080A	0.471	0.50	94	NA
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	tcc	05/28/1996	S-8080A	0.559	0.50	112	NA
PCB-1221	tcc	05/28/1996	S-8080A	na	0.5	NA	NA
PCB-1232	tcc	05/28/1996	S-8080A	na	0.50	NA	NA
PCB-1242	tcc	05/28/1996	S-8080A	na	0.50	NA	NA
PCB-1248	tcc	05/28/1996	S-8080A	na	0.50	NA	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.04149

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
PCB-1254	tcc	05/28/1996	S-8080A	na	0.50	NA	NA
PCB-1260	tcc	05/28/1996	S-8080A	0.569	0.50	114	NA
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	tcc	05/31/1996	S-8080A	0.493	0.50	99	NA
PCB-1221	tcc	05/31/1996	S-8080A	na	0.5	NA	NA
PCB-1232	tcc	05/31/1996	S-8080A	na	0.50	NA	NA
PCB-1242	tcc	05/31/1996	S-8080A	na	0.50	NA	NA
PCB-1248	tcc	05/31/1996	S-8080A	na	0.50	NA	NA
PCB-1254	tcc	05/31/1996	S-8080A	na	0.50	NA	NA
PCB-1260	tcc	05/31/1996	S-8080A	0.485	0.50	97	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.04149

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
PCB/PEST-AQUEOUS (8080)					
PCB-1016	05/26/1996	<0.065	ug/L	0.065	NA
PCB-1221	05/26/1996	<0.065	ug/L	0.065	NA
PCB-1232	05/26/1996	<0.065	ug/L	0.065	NA
PCB-1242	05/26/1996	<0.065	ug/L	0.065	NA
PCB-1248	05/26/1996	<0.065	ug/L	0.065	NA
PCB-1254	05/26/1996	<0.065	ug/L	0.065	NA
PCB-1260	05/26/1996	<0.065	ug/L	0.065	NA
PCB/PEST-AQUEOUS (8080)					
PCB-1016	05/29/1996	<0.065	ug/L	0.065	NA
PCB-1221	05/29/1996	<0.065	ug/L	0.065	NA
PCB-1232	05/29/1996	<0.065	ug/L	0.065	NA
PCB-1242	05/29/1996	<0.065	ug/L	0.065	NA
PCB-1248	05/29/1996	<0.065	ug/L	0.065	NA
PCB-1254	05/29/1996	<0.065	ug/L	0.065	NA
PCB-1260	05/29/1996	<0.065	ug/L	0.065	NA
PCB/PEST-AQUEOUS (8080)					
PCB-1016	05/31/1996	<0.065	ug/L	0.065	NA
PCB-1221	05/31/1996	<0.065	ug/L	0.065	NA
PCB-1232	05/31/1996	<0.065	ug/L	0.065	NA
PCB-1242	05/31/1996	<0.065	ug/L	0.065	NA
PCB-1248	05/31/1996	<0.065	ug/L	0.065	NA
PCB-1254	05/31/1996	<0.065	ug/L	0.065	NA
PCB-1260	05/31/1996	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 96.04149

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
PCB/PEST-AQUEOUS (8080)				
PCB-1016	0.571	0.50	114	
PCB-1260	0.518	0.50	104	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

CHAIN OF CUSTODY RECORD

COMPANY ENRON CORP (BILL TO GEORGE ROBINSON)
ADDRESS 1400 SMITH ST, SUITE 3AC 3142
PHONE DB STA 505-822-9400 FAX
PROJECT NAME/LOCATION ENRON - THOREAU
PROJECT NUMBER 6031.1 (DB STA)
PROJECT MANAGER BOB MARLEY (DB STA)

GEORGE ROBINSON
REPORT TO: BOB MARLEY (DB STA)
INVOICE TO: GEORGE ROBINSON
P.O. NO.
NET QUOTE NO.

SAMPLED BY
CLARENCE PIGMAN (PRINT NAME) — SIGNATURE
CHRIS WOLF (PRINT NAME) — SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: 8080 PCBs ONLY	COMMENTS
5/23/96	1340	5-37i PURGE WATER	X		2/1L	H_2O	N	X	
5/23/96	1500	5-17B	X		2/1L	H_2O	N	X	
5/23/96	1645	5-06B	X		2/1L	H_2O	N	X	
5/23/96	1740	UNFILTERED PURGE H_2O	X		2/1L	H_2O	N	X	
5/24/96	1150	5-01B	X		2/1L	H_2O	N	X	
5/24/96	1140	FILTERED PURGE H_2O	X		2/1L	H_2O	N	X	
5/24/96	NA	5-99	X		2/1L	H_2O	N	X	

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:

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS — DATE 5/24/96

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
	5/24/96 1440				

METHOD OF SHIPMENT: FED EX

REMARKS:

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #3

Lab Reports for the April 17, 1996 & July 3, 1996 Limited Groundwater Sampling Events

Hall Environmental
Analysis Laboratory

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

4/24/96

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, Lab Manager

Project: 9604067/Enron-Thoreau

Results for sample: 5-48B

Date collected: 4/16/96	Date received: 4/18/96
Date extracted: NA	Date analyzed: 4/19/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604067-1
Project Manager:Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	600	PPB (µg/L)
Toluene	1,700	PPB (µg/L)
Ethylbenzene	420	PPB (µg/L)
Total Xylenes	3,100	PPB (µg/L)

BFB (Surrogate) Recovery = 102 %

Dilution Factor = 10

Results for sample: 5-37I

Date collected: 4/16/96	Date received: 4/18/96
Date extracted: NA	Date analyzed: 4/19/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604067-2
Project Manager:Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	580	PPB (µg/L)
Toluene	300	PPB (µg/L)
Ethylbenzene	22	PPB (µg/L)
Total Xylenes	600	PPB (µg/L)

BFB (Surrogate) Recovery = 87 %

Dilution Factor = 10

Results for sample: 5-06B

Date collected: 4/17/96	Date received: 4/18/96
Date extracted: NA	Date analyzed: 4/19/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604067-3
Project Manager:Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	8.9	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 95 %

Dilution Factor = 1

Results for sample: Trip Blank

Date collected: NA	Date received: 4/18/96
Date extracted: NA	Date analyzed: 4/19/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604067-4
Project Manager:Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	<0.5	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 4/19/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: RB 4/19
Project Manager:Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	<0.5	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup

Date extracted: NA	Date analyzed: 4/19/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604067-3 MS/MSD
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS MS %	Dup	MSD %	RPD
Benzene	8.9	20.0	32.6	118	30.8	109	9
Toluene	<0.5	20.0	19.6	98	18.5	93	5
Ethylbenzene	<0.5	20.0	19.1	96	17.7	88	8
Total Xylenes	0.5	60.0	58.0	96	54.1	89	7

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

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

04/26/1996

NET Job Number: 96.03018

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
303129	5-06B	04/18/1996	04/19/1996
303130	5-01B	04/18/1996	04/19/1996

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

ANALYTICAL REPORT

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

04/26/1996
Job No.: 96.03018

Project Name: ENRON/THOREAU

Date Received: 04/19/1996

303129 5-06B
Taken: 04/18/1996

PCB/PEST-AQUEOUS (8080)		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	75	% Rec
SURR: TCX	95	% Rec

303130 5-01B
Taken: 04/18/1996

PCB/PEST-AQUEOUS (8080)		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	104	% Rec
SURR: TCX	97	% Rec

QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 96.03018

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
PCB/PEST-AQUEOUS (8080)			S-8080A				
PCB-1016	bgm	04/25/1996	S-8080A	0.438	0.50	88	NA
PCB-1221	bgm	04/25/1996	S-8080A	na	0.5	NA	NA
PCB-1232	bgm	04/25/1996	S-8080A	na	0.50	NA	NA
PCB-1242	bgm	04/25/1996	S-8080A	na	0.50	NA	NA
PCB-1248	bgm	04/25/1996	S-8080A	na	0.50	NA	NA
PCB-1254	bgm	04/25/1996	S-8080A	na	0.50	NA	NA
PCB-1260	bgm	04/25/1996	S-8080A	0.459	0.50	92	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 96.03018

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
PCB/PEST-AQUEOUS (8080)					
PCB-1016	04/25/1996	<0.065	ug/L	0.065	NA
PCB-1221	04/25/1996	<0.065	ug/L	0.065	NA
PCB-1232	04/25/1996	<0.065	ug/L	0.065	NA
PCB-1242	04/25/1996	<0.065	ug/L	0.065	NA
PCB-1248	04/25/1996	<0.065	ug/L	0.065	NA
PCB-1254	04/25/1996	<0.065	ug/L	0.065	NA
PCB-1260	04/25/1996	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 96.03018

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
PCB/PEST-AQUEOUS (8080)				
PCB-1016	0.492	0.50	98	
PCB-1260	0.573	0.50	115	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate
(MS / MSD)

JOB NUMBER: 96.03018

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
PCB/PEST-AQUEOUS (8080)								
PCB-1016	<6.5	NA	NA	0.50	100	100	0	SDO
PCB-1260	<6.5	NA	NA	0.50	100	100	0	SDO

SDO - Spike diluted out.

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.

DANIEL B. STEPHENS & ASSOCIATES, INC.

Chain of Custody

To:

Gregory Horton — Date 4/18/96 — Project No. 21052.2

NET - Dallas Division — Client ENRON Corp

Relinquished by Bob Marley

Sent by: ☒ Fed Ex ☐ DHL ☐ Other

Purpose of Shipment PCB analysis

Possible Contaminants —

Item No.	Sample No.	Analysis to be Done	Sample Container	Comments
	S-06B	PCBs by 8080	1-1l	
	S-01B	PCBs by 8080	1-1l	

B.10.10. Thoreau Non Consent Decree, 060-1070-100-247-0286-535025-5051O-Genv
George Robinson, ENRON Environ Affairs

Date Received 4/19/96 by RBrown 10:00 AM
Company Representative

Received the above articles in good condition

Except as noted

DBS&A Form No. 095 5/92

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 26, 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 April 17, 1996 ground water samples from ENRON's Thoreau Compressor Station that the New Mexico Oil Conservation Division (OCD) split with ENRON. You will notice that the PCB samples for monitor well MW-6B are not included in the report. I talked to the laboratory and they stated that these samples were lost. Please contact me prior to the next planned sampling event so that the OCD can resample this well.

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

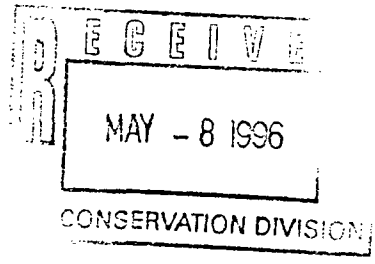
Sincerely,

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. **604373**



May 7, 1996

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

Project Name/Number: THOREAU COMPRESSOR ENRON

Attention: Bill Olson

On **04/17/96**, American Environmental Network (NM), Inc. (ADHS License No. AZ0015) received a request to analyze **aqueous** samples. The samples 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.

EPA 8080 (PCB only) analyses were performed by Paragon Analytics Inc., 225 Commerce Drive, Fort Collins, CO.

All other analyses were performed by American Environmental Network (NM), Inc., Albuquerque, NM.

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 : NMED
PROJECT # : ENRON
PROJECT NAME : THOREAU COMPRESSOR

DATE RECEIVED : 04/17/96
REPORT DATE : 05/07/96

AEN ID: 604373

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	604373-01	9604171300 (MW-68)	AQUEOUS	04/17/96
02	604373-02	9604171340 (MW-1B)	AQUEOUS	04/17/96

---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	2

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.

GAS CHROMATOGRAPHY RESULTS

TEST : PURGEABLE HALOCARBONS/AROMATICS (EPA 8010/8020)
CLIENT : NMED AEN I.D.: 604373
PROJECT # : ENRON
PROJECT NAME : THOREAU COMPRESSOR

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	9604171300 (MW-6B)	AQUEOUS	04/17/96	NA	04/25/96	1

PARAMETER	UNITS	01
BENZENE	**UG/L**	**9.4**
BROMODICHLOROMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.5
CHLOROFORM	UG/L	<0.5
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.3
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5
1,1-DICHLOROETHENE	UG/L	<0.2
CIS-1,2-DICHLOROETHENE	UG/L	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0
1,2-DICHLOROPROPANE	UG/L	<0.2
CIS-1,3-DICHLOROPROPENE	UG/L	<0.2
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5
TETRACHLOROETHENE	UG/L	<0.5 D(1)
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.3
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATES:		
BROMOCHLOROMETHANE (%)		84
TRIFLUOROTOLUENE (%)		101

D(1)=DILUTED 1X, ANALYZED 04/25/96

American Environmental Network, Inc.

GAS CHROMATOGRAPHY RESULTS - QUALITY CONTROL

REAGENT BLANK

TEST	: EPA 8010/8020	AEN I.D.	: 604373
BLANK I.D.	: 042496	MATRIX	: AQUEOUS
CLIENT	: NMED	DATE EXTRACTED	: NA
PROJECT #	: ENRON	DATE ANALYZED	: 04/24/96
PROJECT NAME	: THOREAU COMPRESSOR	DIL. FACTOR	: 1

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
BROMODICHLOROMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.5
CHLOROFORM	UG/L	<0.5
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.3
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5
1,1-DICHLOROETHENE	UG/L	<0.2
CIS-1,2-DICHLOROETHENE	UG/L	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0
1,2-DICHLOROPROPANE	UG/L	<0.2
CIS-1,3-DICHLOROPROPENE	UG/L	<0.2
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5
TETRACHLOROETHENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.3
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATES:		
BROMOCHLOROMETHANE (%)		92
TRIFLUOROTOLUENE (%)		93

American Environmental Network, Inc.

GAS CHROMATOGRAPHY RESULTS - QUALITY CONTROL

REAGENT BLANK

TEST	: EPA 8010/8020	AEN I.D.	: 604373
BLANK I.D.	: 042596	MATRIX	: AQUEOUS
CLIENT	: NMED	DATE EXTRACTED	: NA
PROJECT #	: ENRON	DATE ANALYZED	: 04/25/96
PROJECT NAME	: THOREAU COMPRESSOR	DIL. FACTOR	: 1

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
BROMODICHLOROMETHANE	UG/L	<0.2
BROMOFORM	UG/L	<0.5
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.2
CHLOROBENZENE	UG/L	<0.5
CHLOROETHANE	UG/L	<0.5
CHLOROFORM	UG/L	<0.5
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.2
1,2-DIBROMOETHANE (EDB)	UG/L	<0.2
1,2-DICHLOROBENZENE	UG/L	<0.5
1,3-DICHLOROBENZENE	UG/L	<0.5
1,4-DICHLOROBENZENE	UG/L	<0.5
1,1-DICHLOROETHANE	UG/L	<0.3
1,2-DICHLOROETHANE (EDC)	UG/L	<0.5
1,1-DICHLOROETHENE	UG/L	<0.2
CIS-1,2-DICHLOROETHENE	UG/L	<0.2
TRANS-1,2-DICHLOROETHENE	UG/L	<1.0
1,2-DICHLOROPROPANE	UG/L	<0.2
CIS-1,3-DICHLOROPROPENE	UG/L	<0.2
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.2
ETHYLBENZENE	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.5
TETRACHLOROETHENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
1,1,1-TRICHLOROETHANE	UG/L	<1.0
1,1,2-TRICHLOROETHANE	UG/L	<0.2
TRICHLOROETHENE	UG/L	<0.3
TRICHLOROFLUOROMETHANE	UG/L	<0.2
VINYL CHLORIDE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
SURROGATES:		
BROMOCHLOROMETHANE (%)		86
TRIFLUOROTOLUENE (%)		91

American Environmental Network, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST	: PURGEABLE HALOCARBONS/AROMATICS (EPA 8010/8020)		
MSMSD #	: 60435907	AEN I.D.	: 604373
CLIENT	: NMED	DATE EXTRACTED	: NA
PROJECT #	: ENRON	DATE ANALYZED	: 04/24/96
PROJECT NAME	: THOREAU COMPRESSOR	SAMPLE MATRIX	: AQUEOUS
REF. I.D.	:	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.5	10.0	9.7	97	10.7	107	10
CHLOROBENZENE	<0.5	10.0	9.7	97	10.6	106	9
1,1-DICHLOROETHENE	<0.2	10.0	7.8	78	8.5	85	9
TOLUENE	<0.5	10.0	9.8	98	10.7	107	9
TRICHLOROETHENE	<0.3	10.0	10.0	100	11.3	113	12

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PARAGON ANALYTICS, INC.
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

May 2, 1996

Ms. Kimberly McNeill
American Environmental Network, Inc.
2709-D Pan American Freeway, NE
Albuquerque, NM 87107

RE: Paragon Workorder: 96-04-096
Client Project Name: Thareau
Client Project Number: 604373

Dear Ms. McNeill,

One water sample was received from American Environmental Network, Inc. on April 18, 1996. The sample was scheduled for Aroclors analysis. The results for this analysis are contained in the enclosed report.

Should you have any questions, please call.

Sincerely,

John Whalen

Paragon Analytics, Inc.
John Whalen
Project Manager

JW/drb
Enclosure: report

Paragon Analytics, Inc.

Pesticides / PCBs Case Narrative

AEN-NM

604373

Client ID	Paragon ID
9604171340(MW-1B)	96-04-096-01

1. This report consists of 1 water sample received by Paragon on 04/18/96.

2. These samples were extracted and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was extracted using continuous liquid-liquid extractors, based on Method 3520. These extracts were then processed using sulfuric acid cleanup by Method 3650 in an attempt to remove potential interferences.

3. The extracts were then analyzed using GC/ECD (electron capture detectors) with a DB-17 capillary column according to protocols based on Method 8080. All positive results were then confirmed on a DB-1701 column. The quantitation of each analyte is the lower of the concentrations obtained from each column. This minimizes the chances of reporting elevated results based on interferences.

4. All samples were extracted and analyzed within the established holding times.

5. The method blank associated with this project was below the reporting limits for all analytes.

6. All blank spike and blank spike duplicate recoveries and RPDs were within the acceptance criteria.

7. All matrix spike and matrix spike duplicate recoveries and RPDs were within acceptance criteria.

8. All surrogate recoveries were within acceptance criteria.

9. All initial and continuing calibration criteria were within acceptance criteria.

Roland P. Bruggeman — 5-3-96
Roland P. Bruggeman — Date
Organics Supervisor

DP — 5/2/96
Reviewer's Initials — Date

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

AROCLORS
Method 8080

Lab Name: Paragon Analytics, Inc.
Client Name: AEN-NM
Client Project ID: 604373
Lab Sample ID: WRB1 04/18/96

Sample Matrix: Water
Cleanup: Sulfuric Acid

Sample ID

Reagent Blank

Date Collected: N/A
Date Extracted: 4-18-96
Date Analyzed: 4-26-96

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Aroclor 1016	ND	0.50
Aroclor 1221	ND	0.50
Aroclor 1232	ND	0.50
Aroclor 1242	ND	0.50
Aroclor 1248	ND	0.50
Aroclor 1254	ND	0.50
Aroclor 1260	ND	0.50

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	103	43 - 124

ND = Not Detected at or above client requested detection limit.

AROCLORS
Method 8080

Lab Name: Paragon Analytics, Inc.
Client Name: AEN-NM
Client Project ID: 604373
Lab Sample ID: 96-04-096-01

Sample Matrix: Water
Cleanup: Sulfuric Acid

Sample ID

9604171340(MW-1B)

Date Collected: 4/17/96
Date Extracted: 4/18/96
Date Analyzed: 4/26, 30/1996

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Aroclor 1016	ND	0.50
Aroclor 1221	0.93	0.50
Aroclor 1232	ND	0.50
Aroclor 1242	ND	0.50
Aroclor 1248	ND	0.50
Aroclor 1254	ND	0.50
Aroclor 1260	ND	0.50

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	102	43 - 124

ND = Not Detected at or above client requested detection limit.

AROCLOR BLANK SPIKE

Method 8080

Lab Name: Paragon Analytics, Inc.

Lab Sample ID: WBS1,2 04/18/96

Client Name: AEN-NM
Client Project ID: 604373

Date Extracted: 4-18-96
Date Analyzed: 4-26-96

Sample Matrix: Water
Cleanup: Sulfuric Acid

GC Column: DB-17

Sample Volume: 1,000 mL
Final Volume: 10 mL

Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Aroclor 1260	15.0	13.9	92	50 - 150

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Aroclor 1260	15.0	14.0	93	1	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery BS	% Recovery BSD	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	107	114	43 -124

AROCLOR MATRIX SPIKE

Method 8080

Lab Name: Paragon Analytics, Inc.
Client Name: AEN-NM
Client Project ID: 604373
Lab Sample ID: 96-04-096-01

Sample Matrix: Water
Cleanup: Sulfuric Acid

Sample ID

9604171340(MW-1B)

Date Collected: 4-17-96
Date Extracted: 4-18-96
Date Analyzed: 4-26-96

Sample Volume: 1000 mL
Final Volume: 10 mL

Analyte	Spike Added (ug/L)	Sample Concentration (ug/L)	MS Concentration (ug/L)	MS Percent Recovery	QC Limits % Rec
Aroclor 1260	15.0	ND	14.0	94	50 - 150

Analyte	Spike Added (ug/L)	MSD Concentration (ug/L)	MSD Percent Recovery	RPD	QC Limits RPD
Aroclor 1260	15.0	14.6	97	4	20

SURROGATE RECOVERY MS/MSD

Analyte	% Recovery MS	% Recovery MSD	% Rec Limits
2,4,5,6-Tetrachloro-m-xylene	83	91	43 - 124

ND = Not Detected

AnalyticalTechnologies of New Mexico, Inc.
Albuquerque, New Mexico

Interlab Chain of Custody

96.04.096

DATE: 4/17 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	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
604373-02	4/17	1340	AQ	01															X															3

PROJECT INFORMATION

PROJECT NUMBER: 604373
PROJECT NAME: Tharon
QC LEVEL: (STD) IV
QC REQUIRED: MS MSD BLANK
TAT: (STANDARD) RUSH!

DUE DATE: 5/6
RUSH SURCHARGE:
CLIENT DISCOUNT:
SPECIAL CERTIFICATION REQUIRED: ☐YES ☐NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS	3
CHAIN OF CUSTODY SEALS	NA
INTACT?	NA
RECEIVED GOOD COND./COLD	X
LAB NUMBER	

SAMPLES SENT TO:

SAN DIEGO	
FT. COLLINS	X
RENTON	
PENSACOLA	
PORTLAND	
PHOENIX	

RELINQUISHED BY: 1.
Signature: Time: 4/17/96
Printed Name: Date: 1700
Analytical Technologies of New Mexico, Inc. Albuquerque

RECEIVED BY: 1.
Signature: Time:
Printed Name: Date:
Company: Fed Ex

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

RECEIVED BY: (LAB) 2.
Signature: Time: 900
Printed Name: Date: 4/18/96
Company: Paragon

Paragon Analytics - Fort Collins, Colo

CONDITION OF SAMPLE UPON RECEIPT

CLIENT: AEN - NM SHIPPING CONTAINER #: Cooler

WORKORDER NO. 96.04.096 INITIALS: NL DATE: 4/18/96

1.	Does this project require special handling according to NEESA, Level 3, or CLP protocols? If yes, complete a. and b. a. Cooler Temperature_____ b. Lot No's._____ c. Airbill Number _____	Yes	(No)
2.	Are custody seals on the cooler intact? If so, how many _____ (N/A)	Yes	No
3.	Are custody seals on sample containers intact? (N/A)	Yes	No
4.	Is there a Chain of Custody (COC) or other representative documents, letters or shipping memos?	(Yes)	No
5.	Is the COC complete? Relinquished: Yes ✓ No___ Requested Analysis: Yes ✓ No___	(Yes)	No
6.	Is the COC in agreement with the samples received? No. of Samples: Yes ✓ No___ Sample ID's: Yes ✓ No___ Matrix: Yes ✓ No___ No. of Containers: Yes ✓ No___	(Yes)	No
7.	Are the samples preserved correctly? (N/A)	Yes	No
8.	Is there enough sample? If so, are they in the proper containers?	(Yes)	No
9.	Are all samples within holding times for the requested analyses?	(Yes)	No
10.	Were the sample received on ice? N/A	(Yes)	No
11.	Were all sample containers received intact? (not broken or leaking, etc.)	(Yes)	No
12.	Are samples requiring no headspace, headspace free? (N/A)	Yes	No
13.	Do the samples require quarantine?	Yes	(No)
14.	Do samples require ATI disposal?	Yes	(No)
15.	Did the client return any unused bottles?	Yes	(No)

Describe "NO" items (except No's 1, 13, &14):_____

Was the client contacted? Yes_____ No_____

If yes, Date:_____ Name of person contacted:_____

Describe actions taken or client instructions:_____

Group Leader's Signature: [signature] Date: 4-18

Cooler Temperature: 1°C

AnalyticalTechnologies of New Mexico, Inc., Albuquerque, NM
San Diego • Phoenix • Seattle • Pensacola • Ft. Collins • Portland • Albuquerque • Anchorage

CHAIN OF CUSTODY

DATE: 4/17 PAGE: 1 OF 1

ATI LAB I.D. 604373

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Bill Olson

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

BILL TO:
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
960417 1300 (MW-6B)	4/17/96	1300	water	-01		3											2									5
960417 1340 (MW-1B)	4/17/96	1340	water	-02													1									1

PROJECT INFORMATION	
PROJ. NO.:	ENRON
PROJ. NAME:	Thoreau Compressor
P.O. NO.:	
SHIPPED VIA:	hand delivered

SAMPLE RECEIPT	
NO. CONTAINERS	6
CUSTODY SEALS	(Y) N/A
RECEIVED INTACT	Y
BLUE ICE/ICE	3°C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) X 2 WEEK

CERTIFICATION REQUIRED: ☐ NM ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.
Signature: Will Olson Time: 1630	Signature: Time:
Printed Name: William Olson Date: 4/17/96	Printed Name: Date:
Company:	Company:
RECEIVED BY: 1.	**RECEIVED BY: (LAB) 2.**
Signature: Time:	Signature: John Caldwell Time: 1630
Printed Name: Date:	Printed Name: John Caldwell Date: 4/17/96
Company:	Analytical Technologies of New Mexico

Hall Environmental Analysis Laboratory

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

7/12/96

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,

7/16/96

Scott Hallenbeck, Lab Manager

Project: 9607014/Enron-Thoreau

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

Volatile Organic Compounds

Test: EPA 8020

Sample Matrix: Aqueous
Sample Name: 5-37 I
Lab Code: 9607014-1

Date Collected: 7/3/96
Date Received: 7/5/96
Date Analyzed: 7/8/96

Compound	Result	Units
Benzene	1,100	PPB (µg/L)
Toluene	600	PPB (µg/L)
Ethylbenzene	31	PPB (µg/L)
Total Xylenes	880	PPB (µg/L)

BFB (Surrogate) Recovery = 84%
Dilution Factor = 40

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

Volatile Organic Compounds

Test: EPA 8020

Sample Matrix: Aqueous
Sample Name: 5-48 B
Lab Code: 9607014-2

Date Collected: 7/3/96
Date Received: 7/5/96
Date Analyzed: 7/8/96

Compound	Result	Units
Benzene	670	PPB (µg/L)
Toluene	5,100	PPB (µg/L)
Ethylbenzene	410	PPB (µg/L)
Total Xylenes	3,500	PPB (µg/L)

BFB (Surrogate) Recovery = 89%
Dilution Factor = 40

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

Volatile Organic Compounds

Test: EPA 8020

Sample Matrix: Aqueous
Sample Name: Trip Blank
Lab Code: 9607014-3

Date Collected: NA
Date Received: 7/5/96
Date Analyzed: 7/8/96

Compound	Result	Units
Benzene	<0.5	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 92%
Dilution Factor = 1

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

Volatile Organic Compounds

Test: EPA 8020

Sample Matrix: Aqueous
Sample Name: Reagent Blank
Lab Code: RB 7/5

Date Collected: NA
Date Received: NA
Date Analyzed: 7/8/96

Compound	Result	Units
Benzene	<0.5	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 94%
Dilution Factor = 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
Sample Name: Blank Spike/Blank Spike Duplicate
Lab Code: BS/BSD 7/8

Date Collected: NA
Date Received: NA
Date Analyzed: 7/8/96

Compound	Sample Result	Amount Added	Blank Spike	BS %	Dup	BSD %	RPD
Benzene	<0.5	20.0	20.0	100	20.0	100	0
Toluene	<0.5	20.0	19.4	97	19.8	99	2
Ethylbenzene	<0.5	20.0	18.6	93	19.4	97	4
Total Xylenes	<0.5	60.0	57.5	96	59.5	99	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	Project Name: Enron Thoreau
Address: 6020 Academy Rd NE Suite 100 Alb, NM 87109	Project #: 6031.2
	Project Manager: B. Marley
Phone #: 822-9400	Sampler: Terry Deed
Fax #: 822-8877	Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.	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	BTEX Only 8020			Air Bubbles or Headspace (Y or N)
7/03/96	1310	H_2O	5-37 I	2/40ml		X		9607014-1														X			N
7/03/96	1500	H_2O	5-48 B	2/40ml		X		-2														X			N
7/03/96		H_2O	Trip Blanks	2/40ml		X		-3																	

Remarks:

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
7/05/96	1132		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #4

Lab Reports for Soil and Groundwater Samples Collected During Phase II System Implementation

Hall Environmental
Analysis Laboratory

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

4/8/96

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 or nd) has been made.

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

Sincerely,

Scott Hallenbeck 4/9/96

Scott Hallenbeck, Lab Manager

Project: 9604020/Enron-Thoreau

Results for sample: SVE-2

Date collected: 4/3/96	Date received: 4/3/96
Date extracted: NA	Date analyzed: 4/5/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604020-1
Project Manager: Bob Marley	Sampled by: C. Pigman
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	4.8	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Results for sample: SVE-1

Date collected: 4/3/96	Date received: 4/3/96
Date extracted: NA	Date analyzed: 4/5/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604020-2
Project Manager: Bob Marley	Sampled by: C. Pigman
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	3.0	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Results for sample: Trip Blank

Date collected: NA	Date received: 4/3/96
Date extracted: NA	Date analyzed: 4/5/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604020-3
Project Manager: Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 4/5/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: RB 4/5
Project Manager: Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 96 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup

Date extracted: NA	Date analyzed: 4/5/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604020-2 MS/MSD
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MS MSD %	RPD
Benzene	<0.5	20.0	21.3	106	21.6	108	2
Toluene	3.0	20.0	25.5	113	24.6	108	5
Ethylbenzene	<0.5	20.0	21.3	106	20.8	104	2
Total Xylenes	<0.5	60.0	64.5	107	62.8	105	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 #100
ALBUQUERQUE NM 87109

Project #: 2105.2.2

Project Manager: BOB MARLEY

Phone #: 505-822-9400

Sampler: C. PIGMAN

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.
4/3/96	1510	H_2O	SVE-2	2/40ml	X			9604020-1
4/3/96	1545	H_2O	SVE-1	2/40ml	X			-2
4/1/96	1030	H_2O	TB (TRIP BLANK)	1/40ml	X			-3

ANALYSIS REQUEST

BTEX + ~~MTBE~~ + TMB (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				Air Bubbles or Headspace (Y or N)
X															●	
X																
X															●	

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
4/3/96	1918	Clarence Pigman	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

Hall Environmental Analysis Laboratory

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

4/3/96

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 4/3/96

Scott Hallenbeck, Lab Manager

Project: 9603125/Enron-Thoreau

Results for Sample: Filtered Purge Water

Date collected: 3/29/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed:4/1,2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603125-1
Project Manager: Bob Marley	Sampled by: C. Pigman
Matrix: Aqueous	

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	<1.0	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 103 %
Dilution Factor = 1

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %
Dilution Factor = 1

Results for sample: SB-4

Date collected: 3/29/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed:4/3/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603125-2
Project Manager: Bob Marley	Sampled by: C. Pigman
Matrix: Non-Aqueous	

Test: EPA 8080 PCBs

Compound	Result	Units
Arochlor 1016	<0.1	PPM (mg/kg)
Arochlor 1221	<0.1	PPM (mg/kg)
Arochlor 1232	<0.1	PPM (mg/kg)
Arochlor 1242	<0.1	PPM (mg/kg)
Arochlor 1248	<0.1	PPM (mg/kg)
Arochlor 1254	<0.1	PPM (mg/kg)
Arochlor 1260	<0.1	PPM (mg/kg)

Dilution = 1

% Decaclorobiphenyl: 77%

Results for sample: Contaminate Cuttings

Date collected: 3/29/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed:4/1,2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603125-3
Project Manager: Bob Marley	Sampled by: C. Pigman
Matrix: Non-Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPM (mg/kg)
Toluene	2.1	0.5	PPM (mg/kg)
Ethylbenzene	2.7	0.5	PPM (mg/kg)
Total Xylenes	62	0.5	PPM (mg/kg)

BFB (Surrogate) Recovery = 98 %
Dilution Factor = 1

Test: EPA 418.1

Compound	Result	Det. Limit	Units
TPH	1,000	100	PPM (mg/kg)

Dilution Factor = 5

Results for sample: Clean Cuttings

Date collected: 3/29/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed: 4/1,2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603125-4
Project Manager: Bob Marley	Sampled by: C. Pigman
Matrix: Non-Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPM (mg/kg)
Toluene	nd	0.5	PPM (mg/kg)
Ethylbenzene	nd	0.5	PPM (mg/kg)
Total Xylenes	nd	0.5	PPM (mg/kg)

BFB (Surrogate) Recovery = 85 %
Dilution Factor = 1

Test: EPA 418.1

Compound	Result	Det. Limit	Units
TPH	nd	20	PPM (mg/kg)

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 4/1/96	Date Analyzed:4/1,2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: RB 4/1
Project Manager: Bob Marley	Sampled by:NA
Matrix: Aqueous	

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	<1.0	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 95%
Dilution Factor = 1

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %
Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 4/1/96	Date Analyzed:4/1,2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: RB 4/1
Project Manager: Bob Marley	Sampled by: NA
Matrix: Non-Aqueous	

Test: EPA 8080 PCBs

Compound	Result	Units
Arochlor 1016	<0.1	PPM (mg/kg)
Arochlor 1221	<0.1	PPM (mg/kg)
Arochlor 1232	<0.1	PPM (mg/kg)
Arochlor 1242	<0.1	PPM (mg/kg)
Arochlor 1248	<0.1	PPM (mg/kg)
Arochlor 1254	<0.1	PPM (mg/kg)
Arochlor 1260	<0.1	PPM (mg/kg)

Dilution = 1
% Decaclorobiphenyl: 95%

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPM (mg/kg)
Toluene	nd	0.5	PPM (mg/kg)
Ethylbenzene	nd	0.5	PPM (mg/kg)
Total Xylenes	nd	0.5	PPM (mg/kg)

BFB (Surrogate) Recovery = 92 %
Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup
Blank Spike/Blank Spike Dup

Date extracted: NA	Date analyzed: 4/1,2/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603122-3 MS/MSD
Project Manager: Bob Marley	BS/BSD 4/1
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MS MSD %	RPD
Benzene	<0.5	20.0	20.6	103	105	21.0	2
Toluene	<0.5	20.0	20.4	102	20.6	103	1
Ethylbenzene	<0.5	20.0	19.9	100	20.2	101	1
Total Xylenes	<0.5	60.0	60.3	100	61.4	102	2

Test: EPA 8080 PCB's

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Arochlor 1260	<1.0	5.0	4.6	92	4.6	92	0

Results for QC: Matrix Spike / Matrix Spike Dup
Blank Spike/Blank Spike Dup

Date extracted: NA	Date analyzed: 4/1,2/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9604004-7 MS/MSD
Project Manager: Bob Marley	BS/BSD 4/1
Matrix: Non-Aqueous	Units: PPM (mg/kg)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MS MSD %	RPD
Benzene	<0.05	1.00	0.82	82	0.75	75	13
Toluene	<0.05	1.00	0.83	83	0.75	75	8
Ethylbenzene	<0.05	1.00	0.87	87	0.80	80	7
Total Xylenes	<0.05	3.00	2.69	90	2.52	84	6

Test: EPA 8080

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Arochlor 1260	<0.1	0.5	0.48	96	0.51	102	6

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 #100, ALBUQUERQUE NM 87109
Phone #: 505-822-9400
Fax #: 505-822-8877

Project Name: ENRON THOREAU
Project #: 4105.2.2
Project Manager: BOB MARLEY
Sampler: C. PIGMAN
Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
3/29/96	1110	H_2O	FILTERED PURGE H_2O	2/40ml & 1/1L	X		NONE	9603125-1
3/29/96	1245	SOIL	SB-4	8OZ			NONE	-2
3/29/96	1415	SOIL	CONTAMINATE CUTTINGS	2/8OZ			NONE	-3
3/29/96	1425	SOIL	CLEAN CUTTINGS	2/8OZ			NONE	-4
		H2O	Trip Blank	1/40ml	X			-5

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 only)	8020 BTEX			Air Bubbles or Headspace (Y or N)
												X	X			
												X	~~X~~ DO NOT RUN 8020 on SB-4			
			X										X			
			X										X			
			X										X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/29/96	1703	Clarence Pigman	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: RUN 8020 BTEX ON 8010 INST ~~GAS~~ INSTEAD OF PID

Hall Environmental
Analysis Laboratory

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

4/3/96

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,

4/3/96

Scott Hallenbeck, Lab Manager

Project: 9603118/Enron-Thoreau

Results for Sample: Unfiltered Plastic Tank

Date collected: 3/28/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed: 3/29,4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603118-1
Project Manager: Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 95 %
Dilution Factor = 1

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	6.3*	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 99 %
Dilution Factor = 1

*Indicates sample contained interference peaks that affected quantitation and identification.

Results for Sample: Filtered - Drum 2

Date collected: 3/28/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed: 3/29,4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603118-2
Project Manager: Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	1.6	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 96 %
Dilution Factor = 1

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	<1.0	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 107 %
Dilution Factor = 1

Results for Sample: Filtered Drum 1

Date collected: 3/28/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed: 3/29,4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603118-3
Project Manager: Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	4.0	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %
Dilution Factor = 1

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	<1.0	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 103%
Dilution Factor = 1

Results for Sample: Filterd - Drum 3

Date collected: 3/28/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed: 3/29,4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603118-4
Project Manager: Bob Marley	Sampled by: B. Marley
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	0.8	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %
Dilution Factor = 1

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	<1.0	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 106%
Dilution Factor = 1

Results for Sample: Knockout Pot - 2

Date collected: 3/28/96	Date received: 3/29/96
Date extracted: 4/1/96	Date Analyzed: 4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603118-5
Project Manager: Bob Marley	Sampled by: B. Marley
Matrix: Non-Aqueous Liquid	

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPM (mg/kg)
Arochlor 1221	<1.0	PPM (mg/kg)
Arochlor 1232	<1.0	PPM (mg/kg)
Arochlor 1242	<1.0	PPM (mg/kg)
Arochlor 1248	<1.0	PPM (mg/kg)
Arochlor 1254	<1.0	PPM (mg/kg)
Arochlor 1260	<1.0	PPM (mg/kg)

Decachlorobiphenyl (Surrogate) Recovery = 111 %
Dilution Factor = 1

Results for Sample: Trip Blank

Date collected: NA	Date received: 3/29/96
Date extracted: NA	Date Analyzed: 3/29/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603118-6
Project Manager: Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 94 %
Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 4/1/96	Date Analyzed: 3/29, 4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: RB 4/1
Project Manager: Bob Marley	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Det. Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 99 %
Dilution Factor = 1

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPB (µg/L)
Arochlor 1221	<1.0	PPB (µg/L)
Arochlor 1232	<1.0	PPB (µg/L)
Arochlor 1242	<1.0	PPB (µg/L)
Arochlor 1248	<1.0	PPB (µg/L)
Arochlor 1254	<1.0	PPB (µg/L)
Arochlor 1260	<1.0	PPB (µg/L)

Decachlorobiphenyl (Surrogate) Recovery = 107 %
Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 4/1/96	Date Analyzed: 4/2/96
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: Enron-Thoreau	HEAL #: RB 4/1
Project Manager: Bob Marley	Sampled by: NA
Matrix: Non-Aqueous	

Test: EPA 8080

Compound	Result	Units
Arochlor 1016	<1.0	PPM (mg/kg)
Arochlor 1221	<1.0	PPM (mg/kg)
Arochlor 1232	<1.0	PPM (mg/kg)
Arochlor 1242	<1.0	PPM (mg/kg)
Arochlor 1248	<1.0	PPM (mg/kg)
Arochlor 1254	<1.0	PPM (mg/kg)
Arochlor 1260	<1.0	PPM (mg/kg)

Decachlorobiphenyl (Surrogate) Recovery = 116 %
Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup
Blank Spike / Blank Spike Dup

Date extracted: NA	Date analyzed: 3/29,4/2/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: 9603115-8 MS/MSD BS/BSD 4/1
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Spike	MS %	Dup	MS MSD %	RPD
Benzene	<0.5	20.0	21.6	108	20.6	103	5
Toluene	<0.5	20.0	21.5	107	20.0	100	7
Ethylbenzene	<0.5	20.0	21.1	105	19.6	98	7
Total Xylenes	<0.5	60.0	64.4	107	60.5	101	6

Test: EPA 8080

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Arochlor 1260	<1.0	5.0	4.6	92	4.6	92	0

Results for QC: Blank Spike / Blank Spike Dup

Date extracted: 4/1/96	Date analyzed: 4/2/96
Client: Daniel B. Stephens and Assoicates, Inc.	
Project Name: Enron-Thoreau	HEAL #: BS/BSD 4/1
Project Manager: Bob Marley	
Matrix: Non-Aqueous	Units: PPM (mg/kg)

Test: EPA 8080

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Arochlor 1260	<1.0	5.0	5.3	106	5.4	108	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
Address: 6020 Academy NE Suite 100, Albuq, NM 87109
Phone #: 822 9400
Fax #: 822 8877

Project Name: ENRON - Thoreau
Project #: 2105 2.2
Project Manager: Bob Marley
Sampler: BM
Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
3/28/96		H_2O	Unfiltered Plastic Tank	2/40ml 1/1l	X			9603118-1
3/28/96		H_2O	Filtered-Drum 2	2/40ml 1/1l	X			-2
3/28/96		H_2O	Filtered-Drum 1	2-40ml 1-1l	X			-3
3/28/96		H_2O	Filtered-Drum 3	2-40ml 1-1l	X			-4
3/28/96		H_2O	Knockout Pot-2	1-1l				-5
3/27/96		H_2O	Trip Blank	2-40ml	X			-6

ANALYSIS REQUEST

BTEX + MTBE (602/8020) Blue only	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 only			Air Bubbles or Headspace (Y or N)
X												X			
X												X			
X												X			
X												X			
												X			
X															●

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
3/29/96	0910	Bob Marley		3/29
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks: Knockout Pot-2 has strong HC odor

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #5

Lab Reports for the Phase II System Air Emission Sampling Events

CORELAB

CORE LABORATORIES

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

Job Number: 962057
Prepared For:

DANIEL B. STEPHENS & ASSOCIATES
BOB MARLEY
6020 ACADEMY NE
ALBUQUERQUE, NM 87109

Date: 05/03/96

Signature M. Jean Waits

Date: 5/3/96

Name: M. Jean Waits

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

Title: Supervising Chemist

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ISO 9002
Certificate Number: 1002

CORE LABORATORIES

LABORATORY TESTS RESULTS
05/03/96

JOB NUMBER: 962057 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: 21052.2
DATE SAMPLED.....: / /
TIME SAMPLED.....: :
WORK DESCRIPTION...: SVE Exhaust

LABORATORY I.D...: 962057-0001
DATE RECEIVED....: 05/01/96
TIME RECEIVED....: 12:58
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Refinery Gas Analysis		*1		UOP 539, GPA 2286	05/03/96	AH
Hydrogen	<0.10	0.10	Mol %			
Oxygen	20.37	0.01	Mol %			
Nitrogen	78.26	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	1.17	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	0.20	0.01	Mol %			
Total	100.00	0.01	Mol %			
Relative Density	1.00790	0				
Gross Heating Value (Dry/Real)	12.7	0	BTU/CF 14.696			
---Analysis of Hexanes Plus	0.205	0.001	Mol %			
Pentenes	<0.001	0.001	Mol %			
2,2-Dimethylbutane	<0.001	0.001	Mol %			
2-Methyl Pentane	0.002	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	0.004	0.001	Mol %			
2-Methyl Hexane	0.005	0.001	Mol %			
3-Methylhexane	0.006	0.001	Mol %			
Dimethylcyclopentanes	0.006	0.001	Mol %			
n-Heptane	0.011	0.001	Mol %			
C7 Olefins	<0.001	0.001	Mol %			
Methylcyclohexane	0.019	0.001	Mol %			
Trimethylcyclopentanes	0.007	0.001	Mol %			
Toluene	0.003	0.001	Mol %			
2-Methylheptane	0.012	0.001	Mol %			
3-Methylheptane	0.013	0.001	Mol %			
Dimethylcyclohexanes	0.016	0.001	Mol %			
2,2,4 Trimethylpentane	<0.001	0.001	Mol %			
n-Octane	0.018	0.001	Mol %			

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Certificate Number 3082

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CORE LABORATORIES

LABORATORY TESTS RESULTS
05/03/96

JOB NUMBER: 962057 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: 21052.2
DATE SAMPLED.....: / /
TIME SAMPLED.....: :
WORK DESCRIPTION...: SVE Exhaust

LABORATORY I.D...: 962057-0001
DATE RECEIVED....: 05/01/96
TIME RECEIVED....: 12:58
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Ethyl Benzene	0.001	0.001	Mol %			
Xylenes	0.007	0.001	Mol %			
C9 Paraffins	0.017	0.001	Mol %			
n-Nonane	0.012	0.001	Mol %			
Decanes Plus	0.035	0.001	Mol %			
Total	0.205	0.001	Mol %			

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DANIEL B. STEPHENS & ASSOCIATES, INC.

Chain of Custody

To: Jean Waits/Core Lab

8210 Mosley Rd

Houston, Tx 77075

713 943 9776

Date 4/30/96 Project No. 2105 2.2

Client ENRON Corp

Relinquished by B.S Marley

Sent by: ☒ Fed Ex ☐ DHL ☐ Other

Purpose of Shipment Analysis

Possible Contaminants Petroleum Hydrocarbons

Cylinder

~~Item~~ No.	Sample No.	Analysis to be Done	Sample Container	Comments
1167	SVE Exhaust	BTEX, Extended		Air Sample
		Refinery and fixed		
		Gases		

Date Received 5-1-96 by Ray Baldwin

Company Representative

Received the above articles in good condition

Except as noted

DBS&A Form No. 095 5/92

CORELAB

CORE LABORATORIES

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

Job Number: 962515
Prepared For:

DANIEL B. STEPHENS & ASSOCIATES
BOB MARLEY
6020 ACADEMY NE
ALBUQUERQUE, NM 87109

Date: 06/04/96

Signature M. Waits

SVE
5/24/96

Name: M. Jean Waits

282

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS
06/04/96

JOB NUMBER: 962515 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: 6031.1
DATE SAMPLED.....: 05/24/96
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: SVE Exhaust Composite Enron Thoreau

LABORATORY I.D...: 962515-0001
DATE RECEIVED....: 05/28/96
TIME RECEIVED....: 09:27
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Refinery Gas Analysis		*1		UOP 539, GPA 2286	06/04/96	AH
Hydrogen	<0.10	0.10	Mol %			
Oxygen	19.75	0.01	Mol %			
Nitrogen	79.40	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	0.65	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	0.20	0.01	Mol %			
Total	100.00	0.01	Mol %			
Relative Density	1.00372	0				
Gross Heating Value (Dry/Real)	12.0	0	BTU/CF 14.696			
---Analysis of Hexanes Plus	0.200	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	0.003	0.001	Mol %			
n-Hexane	0.006	0.001	Mol %			
Hexenes	<0.001	0.001	Mol %			
Methylcyclopentane	0.004	0.001	Mol %			
Benzene	<0.001	0.001	Mol %			
Cyclohexane	0.007	0.001	Mol %			
2-Methyl Hexane	0.007	0.001	Mol %			
3-Methylhexane	0.007	0.001	Mol %			
Dimethylcyclopentanes	0.007	0.001	Mol %			
n-Heptane	0.013	0.001	Mol %			
C7 Olefins	<0.001	0.001	Mol %			
Methylcyclohexane	0.021	0.001	Mol %			
Trimethylcyclopentanes	0.007	0.001	Mol %			
Toluene	0.003	0.001	Mol %			
2-Methylheptane	0.012	0.001	Mol %			
3-Methylheptane	0.012	0.001	Mol %			
Dimethylcyclohexanes	0.015	0.001	Mol %			
2,2,4 Trimethylpentane	<0.001	0.001	Mol %			
n-Octane	0.016	0.001	Mol %			

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

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CORE LABORATORIES

LABORATORY TESTS RESULTS
06/04/96

JOB NUMBER: 962515 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: 6031.1
DATE SAMPLED.....: 05/24/96
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: SVE Exhaust Composite Enron Thoreau

LABORATORY I.D...: 962515-0001
DATE RECEIVED....: 05/28/96
TIME RECEIVED....: 09:27
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Ethyl Benzene	0.001	0.001	Mol %			
Xylenes	0.008	0.001	Mol %			
C9 Paraffins	0.019	0.001	Mol %			
n-Nonane	0.009	0.001	Mol %			
Decanes Plus	0.018	0.001	Mol %			
Total	0.200	0.001	Mol %			

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DANIEL B. STEPHENS & ASSOCIATES, INC.

Chain of Custody

To:

Jean Waits/Core Labs — Date 5/24/96 — Project No. 6031.1

8210 Mosley Rd. — Client ENRON CORP

Houston, TX 77075 — Relinquished by Chris Wolf

Sent by: ☒ Fed Ex ☐ DHL ☐ Other

Purpose of Shipment

Possible Contaminants

Item No.	Sample No.	Analysis to be Done	Sample Container	Comments
1	SVE EXHAUST COMPOSITE	BTEX & Fixed and Extended Refinery Gases	1-steel cylinder	SERIAL # 1149

Date Received 5-28-96 by Mary Baldwin

Company Representative

Received the above articles in good condition

Except as noted

DBS&A Form No. 095 5/92

CORE LABORATORIES

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

Job Number: 963251
Prepared For:

DANIEL B. STEPHENS & ASSOCIATES
BOB MARLEY
6020 ACADEMY NE
ALBUQUERQUE, NM 87109

Date: 07/17/96

SVE
7/3/96

Signature

Name: M. Jean Waits

...254-4282

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS
07/17/96

JOB NUMBER: 963251 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....:
DATE SAMPLED.....: / /
TIME SAMPLED.....: :
WORK DESCRIPTION...: SVE Exhaust

LABORATORY I.D...: 963251-0001
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 10:16
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Refinery Gas Analysis		*1		UOP 539, GPA 2286	07/17/96	AH
Hydrogen	<0.10	0.10	Mol %			
Oxygen	20.77	0.01	Mol %			
Nitrogen	78.67	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	0.43	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	0.13	0.01	Mol %			
Total	100.00	0.01	Mol %			
Relative Density	1.00290	0				
Gross Heating Value (Dry/Real)	9.1	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	0.003	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	0.003	0.001	Mol %			
Toluene	0.001	0.001	Mol %			
2-Methylheptane	0.005	0.001	Mol %			
3-Methylheptane	0.005	0.001	Mol %			
Dimethylcyclohexanes	0.005	0.001	Mol %			
2,2,4 Trimethylpentane	<0.001	0.001	Mol %			
n-Octane	0.006	0.001	Mol %			

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(713) 943-9776

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CORE LABORATORIES

LABORATORY TESTS RESULTS

07/17/96

JOB NUMBER: 963251 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....:
DATE SAMPLED.....: / /
TIME SAMPLED.....: :
WORK DESCRIPTION...: SVE Exhaust

LABORATORY I.D...: 963251-0001
DATE RECEIVED....: 07/10/96
TIME RECEIVED....: 10:16
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Ethyl Benzene	<0.001	0.001	Mol %			
Xylenes	0.001	0.001	Mol %			
C9 Paraffins	0.005	0.001	Mol %			
n-Nonane	0.002	0.001	Mol %			
Decanes Plus	0.070	0.001	Mol %			
Total	0.131	0.001	Mol %			

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DANIEL B. STEPHENS & ASSOCIATES, INC.

Chain of Custody

To:

Jean Waits / Core Lab

8210 Mosley Road

Houston, Texas 77075

(713) 943-9776

Date 7/03/96 Project No. 6031.2

Client Enron Corp

Relinquished by T. Deeds

Sent by: ☒ Fed Ex ☐ DHL ☐ Other

Purpose of Shipment Analysis

Possible Contaminants Petroleum Hydrocarbons

Item No.	Sample No.	Analysis to be Done	Sample Container	Comments
Cyl # 1262	SVE Exhaust	BTEX, Extended Refinery + Fixed Gases		Air Sample

Date Received 7-10-96 by Roy Baldwin

Company Representative

Received the above articles in good condition

Except as noted

DBS&A Form No. 095 5/92

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #6

Soil Boring Logs and Well Completion Information for Borings Drilled During Phase II System Implemetation

Table 1. Well Completion Information and April 1996 Water Level Elevation Data Thoreau Compressor Station No. 5

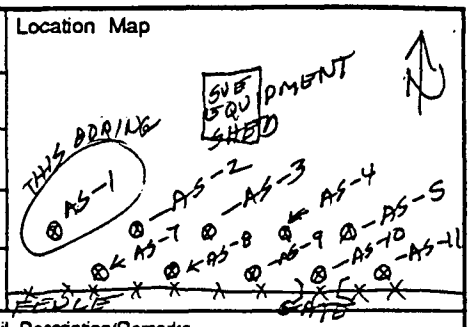
Well ID	Date of Completion	Depth to Water from Ground Surface [a] (ft)	Total Boring Depth (ft bgs)	Screened Interval (ft bgs)	Top of Silica Sand (ft bgs)
AS-1	03/29/96	53.35	60.5	56.0–58.5	54.8
AS-2	03/27/96	53.46	61.0	57.5–60.0	56.5
AS-3	03/27/96	52.61	59.5	57.0–59.5	56.0
AS-4	03/27/96	52.48	60.3	57.8–60.3	55.6
AS-5	03/27/96	51.55	58.0	55.5–58.0	54.1
AS-6	03/29/96	53.80	59.0	56.5–59.0	55.0
AS-7	03/27/96	53.15	60.0	57.0–59.5	55.5
AS-8	03/27/96	53.20	61.0	58.5–61.0	57.2
AS-9	03/27/96	52.37	59.8	57.1–59.6	54.0
AS-10	03/27/96	51.83	60.3	57.8–60.3	56.4
AS-11	03/27/96	51.15	60.0	57.0–59.5	55.4
SVE-1	03/29/96	53.94	60.0	35.0–60.0	33.3
SVE-2	03/29/96	54.32	61.0	35.0–60.0	33.6

[a] Measured April 2, 1996
ft bgs = Feet below ground surface

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. PIGMAN	Client/Project # 4105.2.2
Boring Number AS-1	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 9 5/8 O.D.	Drill Rig CME-75
Date Started 3/27/96	Date Completed 3/29/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
							0	
9.3		CUTTINGS				SAND W/ SILT	5	SAND W/ SILT, REDDISH BROWN (5YR 5/4) V FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, DRY
5.7		CUTTINGS				SAND W/ CLAY	10	SAND W/ CLAY, YELLOWISH RED (5YR 4/6) V. FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED
4.5		CUTTINGS				CLAYEY SAND W/ INTERBDS OF GRAVEL	15	MOIST, 5-10% CLAY CLAYEY SAND, DARK REDDISH BROWN (5YR 3/4) V. FINE GR TO MED GR, MOD SORTED, ROUNDED GR UNCONSOLIDATED, MOIST TO WET, SLIGHT PLASTICITY 20% TO CLAY, MINOR GRAVEL
5.2		CUTTINGS					20	CLAYEY SAND W/ FEW INTERBDS OF GRAVEL, SAME AS ABOVE
7.3		CUTTINGS				CLAYEY SAND	25	CLAYEY SAND SAME AS ABOVE BUT NO INTERBEDDED GRAVEL
9.9		CUTTINGS					30	CLAYEY SAND SAME AS ABOVE
65.6		CUTTINGS				SAND W/ CLAY	35	SAND W/ CLAY, DUSKY RED (2.5YR 3/4) V. FINE TO FINE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST 5% CLAY
NA		NONE					40	NO SAMPLE
8.9						SANDY GRAVEL	45	SANDY GRAVEL, REDDISH BROWN (5YR 4/4) U.S. GRAVEL UP TO 1 1/2 IN DIA WITH MATRIX + INTERBEDS OF POORLY SORTED FINE TO MED GR, CLAYEY SAND, UNCONSOLIDATED
							49	
							50	MOIST

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site	ENRON THOREAU		Location Map
Logged by	C, PIGMAN	Client/Project #	4105.2.2
Boring Number	AS-1	Drilling Co.	TECHNA
Drilling Method	HALLOW STEM AUGER 9 5/8 O.D.	Drill Rig	CME-75
Date Started	3/27/96	Date Completed	3/29/96

SEE PAGE 1

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
0.1		SPLIT SPOON	2.0	48.5-50.5		LAND	50	~~SAND~~ YELLOWISH RED (5YR 4/6) V. FINE TO FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, ~~WET~~ TD SATURATED AT 50.
3.9		CUTTINGS					55	SAND, SAME AS ABOVE, SATURATED
1715 MAX P.I.D.		SPLIT SPOON	2.5	58.5-61.5		FAT CLAY	59 60	BASAL CLAYEY GRAVEL AT 59' W/ GRAY STAINING FAT CLAY, RED (10R 4/6) FRIABLE HIGH PLASTICITY, GRAY REDUCTION SPOTS
							65	

TD. 60.5

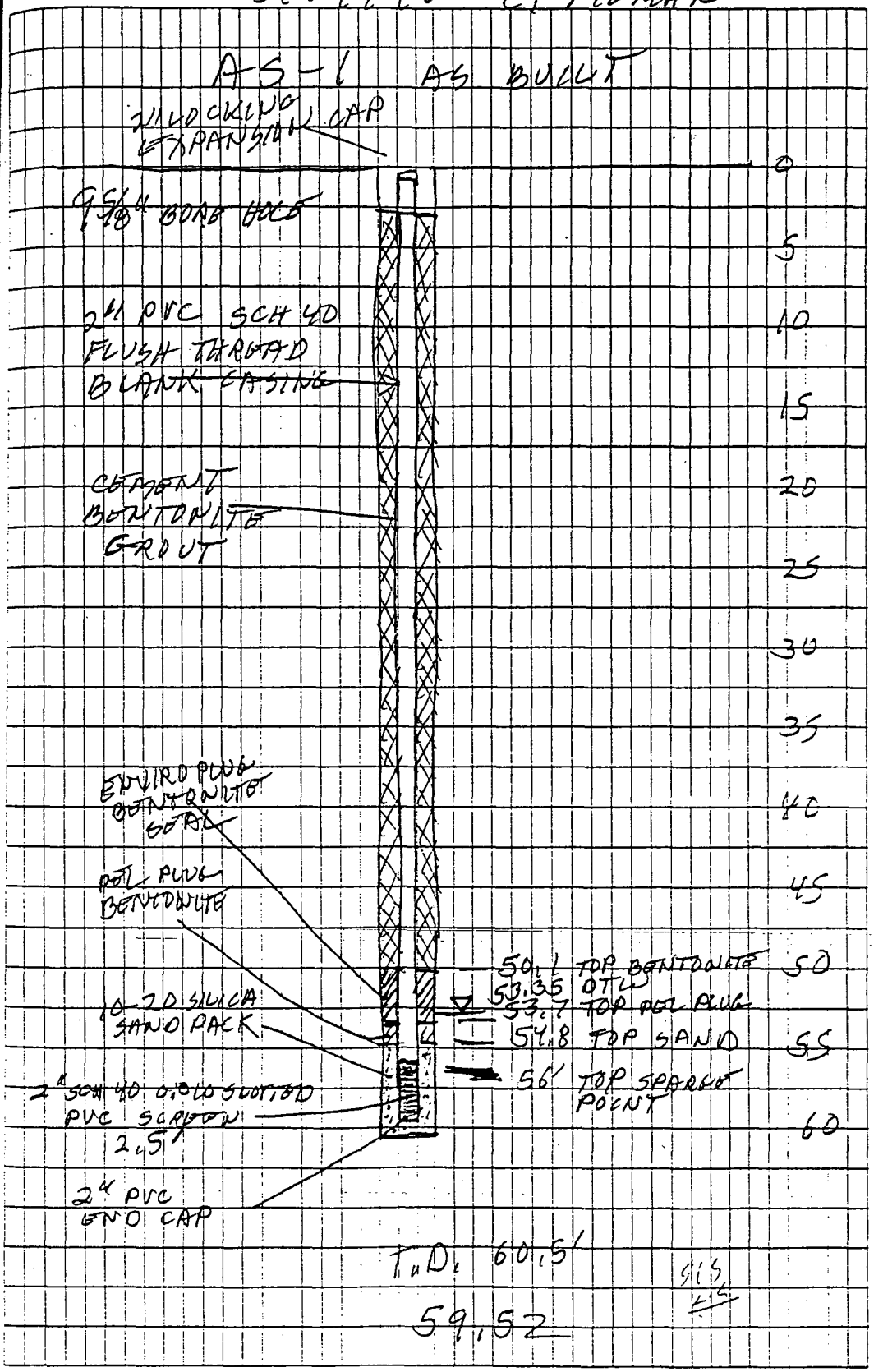
4/2/96

TD = 59.52

DTW = 53.35

3/27/96 C. PLUMAN

AS-1 AS BUILT



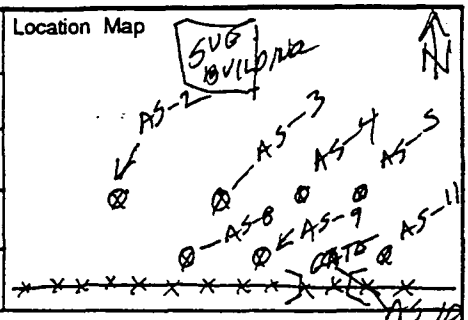
59.52

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	
Logged by C. PIGMAN	Client/Project # 2105.2.2
Boring Number AS-2	Drilling Co. JOHNA
Drilling Method HALLOW STEM AUGER 9 5/8" O.D.	Drill Rig CME-75
Date Started 3/26/96	Date Completed 3/27/96

Location Map



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	
						SAND		
20.1		CUTTINGS			STAINED SOIL		5,	SAND W/ SILT, WEAK RED (10R 4/4) V. FINE TO FINE GR, ~~ANGULAR~~ POORLY SORTED ROUNDED GR, UNCONSOLIDATED,
7 899.3 MAX P.I.D.		CUTTINGS					10	DAMP AT 6' ENCOUNTERED BLACKED SOIL + CHARCOAL
							11	SAND W/ CLAY, DARK REDDISH GRAY (10R 3/1) V. FINE TO COARSE GR, POORLY SORTED,
						SAND W/ CLAY		SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED, MOIST TO WET, STAINED GRAY
7 899.3 MAX P.I.D.		CUTTINGS					15	SAND W/ CLAY SAME AS ABOVE EXCEPT NOT STAINED, COLOR YELLOWISH RED 5YR 4/6
7 899.3		CUTTINGS				CLAYEY SAND W/ CLAY	20	CLAYEY SAND, DARK BROWN (7.5YR 3/4) V. FINE TO COARSE GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED, WET, MED PLASTICITY, 25% CLAY — SOME THIN INTER BEDS OF CLAY
7 899.3		CUTTINGS				SAND W/ CLAY	25	SAND W/ CLAY, BROWN (7.5YR 4/4) FINE TO MED GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST
7 899.3		CUTTINGS				CLAYEY SAND	30	CLAYEY SAND, YELLOWISH RED (5YR 4/6) V. FINE TO MED GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED MOIST TO WET 30% CLAY
7 899.3		CUTTINGS				SAND W/ CLAY	35	SAND W/ CLAY, YELLOWISH RED (5YR 4/6) V. FINE TO COARSE GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED MOIST 5% CLAY
7 899.3		CUTTINGS				CLAYEY SAND W/ GRAVEL	40	CLAYEY SAND W/ INTER BEDS OF GRAVEL, REDDISH BROWN (5YR 4/4) SAND V. FINE TO MED GR POORLY SORTED, ROUNDED GR, UNCONSOLIDATED MOIST GRAVEL L.S. CLASTS UP TO 2" IN DIA
7 899.3		CUTTINGS					45	CLAYEY SAND W/ GRAVEL, SAME AS ABOVE
							50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map: SEE PAGE 1
Logged by C. PIGMAN	Client/Project # 2105,2,2
Boring Number AS-2	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER 9 5/8" O.D.	Drill Rig CME-75
Date Started 3/26/96	Date Completed 3/27/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
> 899.2 MAX P.I.D.		SPLIT SPOON	1.7	59.0 - 61.0			50	SAND W/ CLAY, DARK RED (2.5YR 3/6) V. FINE TO FINE GR. WELL SORTED ROUNDED GR., V.W.CONSOLIDATED / MOIST TO WET, SATURATED AT 50.5 ft. / 5% CLAY
> 899.3 MAX P.I.D.		CUTTINGS				SW CLAY	55	SAND W/ CLAY, SAME AS ABOVE
> 899.3 MAX P.I.D.		SPLIT SPOON	2.2	59.5 - 62.0		FAT CLAY	60	FAT CLAY, DARK RED (2.5YR 3/6) HIGH PLASTICITY, GRAY REDUCTION SPOTS, MOD CONSOLIDATED MOIST, L.L.S. GRAVEL LAYER AT CONTACT
							65	

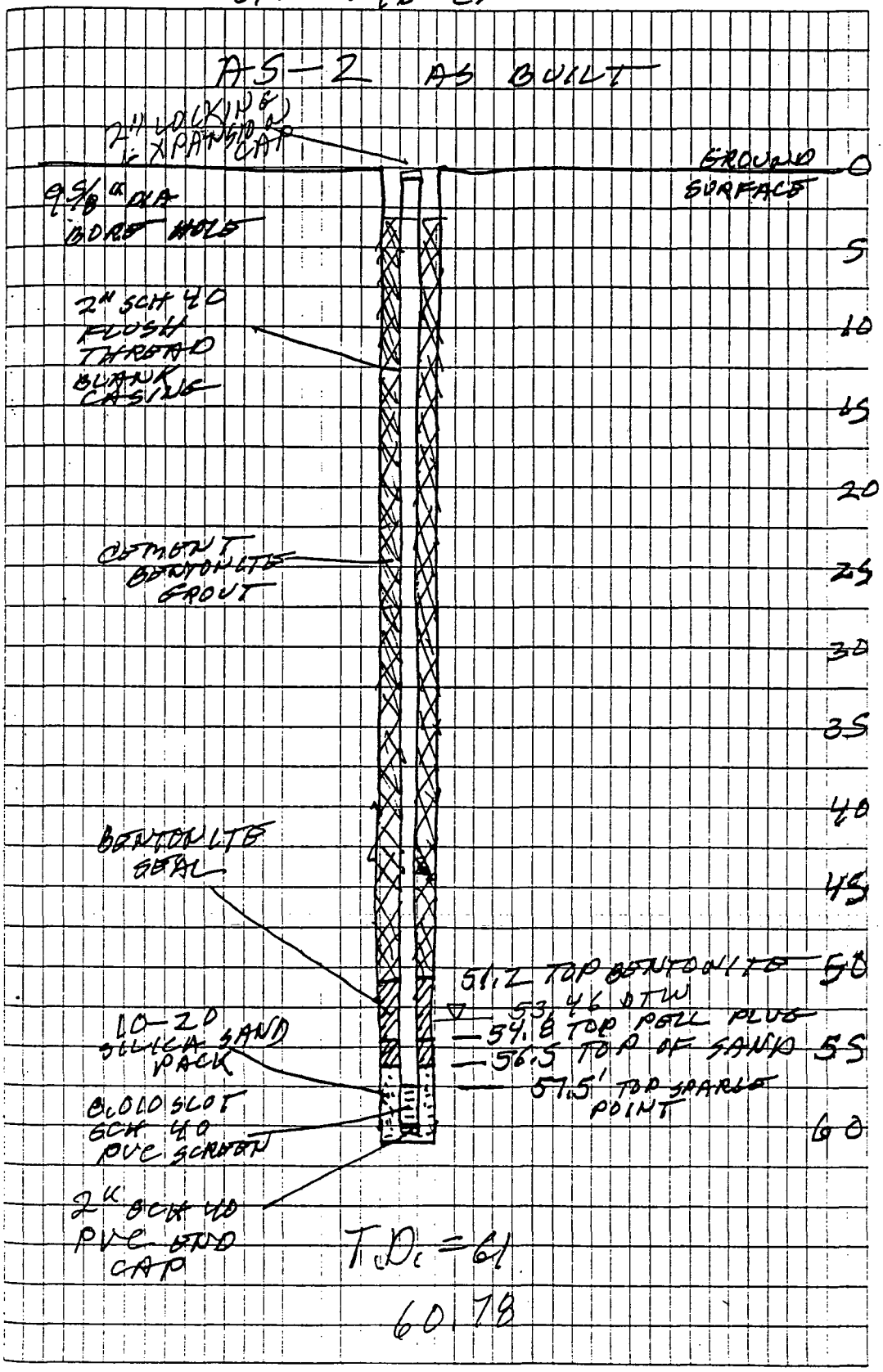
4/2/96

TD = 60.78

PTW = 53.46

3/26/96 CP

AS-2 AS BUILT



60.78

-2

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METHANE
3.8 ppm
OPEN AIR

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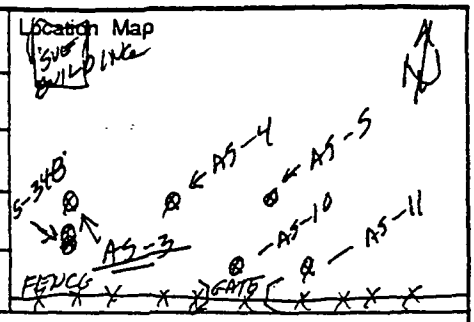
DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	
Logged by C. PIGMAN	Client/Project # 210S.2.2
Boring Number AS-3	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 9 5/8 O.D.	Drill Rig CME 75
Date Started 3/25/96	Date Completed 3/27/96

Location Map



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	
3.2		CUTTINGS					5	SAND, DARK RED (2.5YR 4/6) FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST TO WET
4.8		CUTTINGS					10	SAND W/ CLAY, DARK RED (2.5YR 4/6) FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED MOIST TO WET ≈ 5% CLAY,
3.2		CUTTINGS					15	SAND, W/ SILT REDDISH BROWN, U. FINE TO MED GR, POORLY SORTED, ROUNDED GR UNCONSOLIDATED, MOIST
> 899 MAX P.I.D.		CUTTINGS					20	SAND W/ CLAY, REDDISH RED (5YR 4/6) U. FINE TO COARSE GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED, MOIST TO WET, ≈ 5-10% CLAY W/ INTERBEDS OF CLAY
> 899 MAX P.I.D		CUTTINGS					25	24' ENCOUNTER INTERBEDDED SAND W/ CLAY & SANDY GRAVEL INTERBEDD REDDISH BROWN (5YR 4/4), SAND FINE TO COARSE GR, POORLY SORTED, SUBROUNDED TO ROUNDED GR, L.S. GRAVEL GRAY, UNCONSOLIDATED
> 899 MAX P.I.D		CUTTINGS					30	MOIST TO WET, 10-15% CLAY SAND W/ CLAY, REDDISH BROWN, 5YR 4/4 U. FINE TO COARSE GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED MOIST TO WET 5-10% CLAY
> 899 MAX P.I.D.		CUTTINGS					35	32' ENCOUNTER INTERBEDDED CLAYS CLAYEY SAND, REDDISH BROWN (5YR 4/4) U. FINE TO FINE GR, POORLY SORTED, ROUNDED GR, HIGH PLASTICITY, UNCONSOLIDATED WET 20% CLAY, 4 S.S. INTERBEDS UP TO 1" IN DIA.
> 899 MAX P.I.D		CUTTINGS					40	CLAYEY SAND, SAME AS ABOVE
> 899 MAX P.I.D		CUTTINGS					45	CLAYEY SAND, SAME AS ABOVE SLIGHTLY LESS CLAY 15-20% STILL HAVE INTERBEDDED GRAVELS
							50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON TITOREAL	Location Map: SEE PAGE 1
Logged by C. PIGMAN	Client/Project # 2105,2,2
Boring Number AS-3	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER 9 5/8 O.D.	Drill Rig CME 75
Date Started 3/25/96	Date Completed 3/27/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
NO SAMPLE NOT ~~SPOON~~		SPLIT SPOON	DONE WOULD NOT ADVANCE				50	ASSUMED TO BE SAME AS ABOVE ?
> 899 MAX P.I.D.		~~CUTTINGS~~				SAND	55	SAND W/ CLAY, REDDISH BROWN (5YR 4/3) FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, SATURATED, FEW L.S. GRAVEL INTERBEDDS
							58.7	
> 899.3 MAX P.I.D.		SPLIT SPOON	2.7'	58-62			60	FAT CLAY DUSKY RED, 2.5YR 4/4 HIGH PLASTICITY GRAY REDUCTION SPOTS, MAJOR L.S. GRAVEL UP TO 2" IN DIA BTWN 58.7' & 59.7' - BASAL GRAVEL

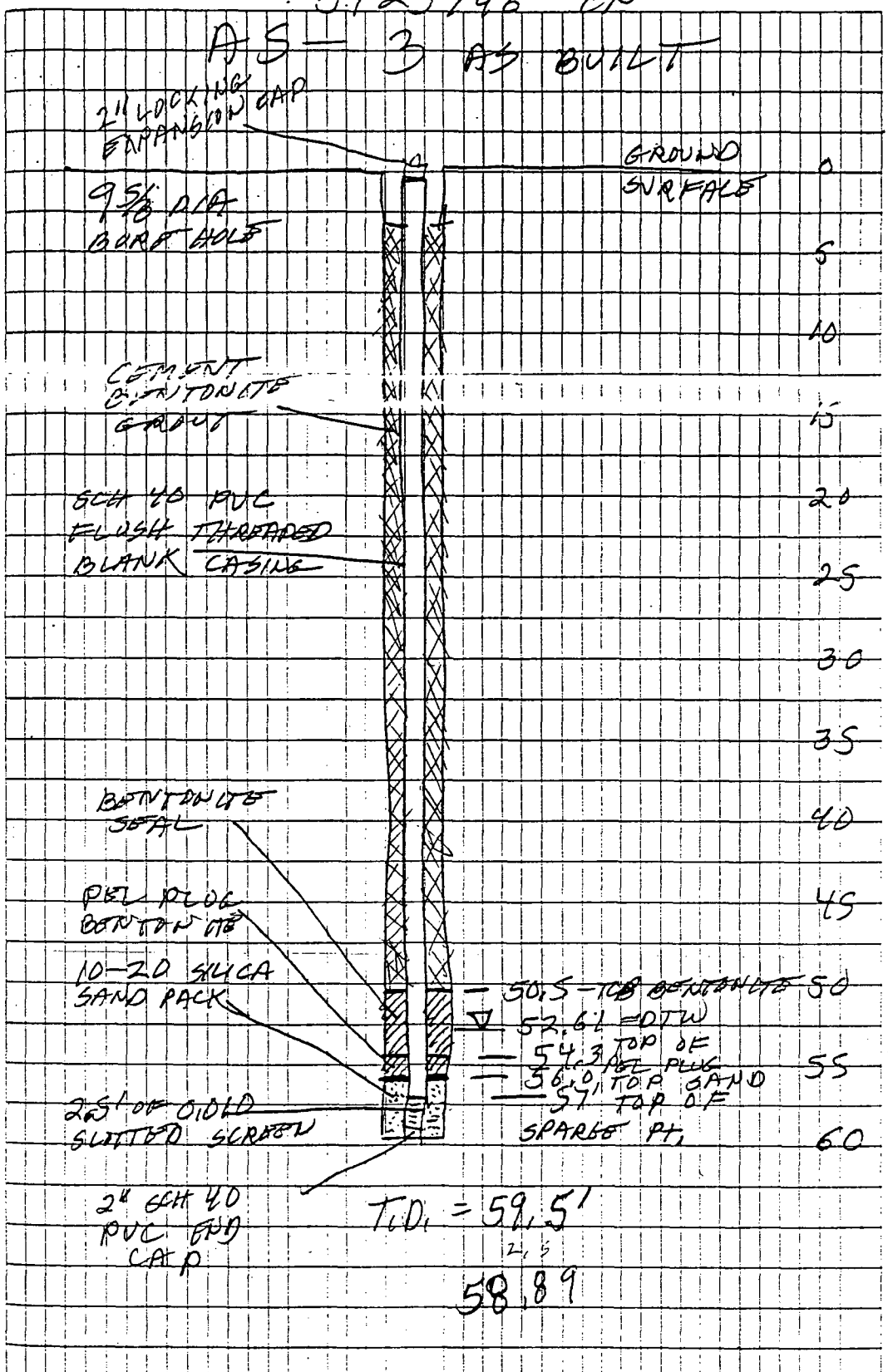
4/2/96

T.D. = 58.89

DTW = 52.61

3/25/96 CP

AS-3 AS BUILT



T.D. = 59.5'

58.89

ROUT UP MARLEY HK IN

DRILLING

1.8 ppm

=TBR

SS

51'

ENVIROPLUG

8

LAND BENTONITE

B

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site: ENRON THOREAU

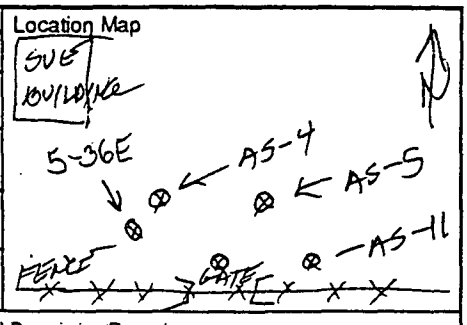
Logged by: C. PIGMAN | Client/Project #: 2105.2.2

Boring Number: AS-4 | Drilling Co.: TECHNA

Drilling Method: HOLLOW STEM AUGER | Drill Rig: CME-75

Date Started: 3/22/96 | Date Completed: 3/27/96

Location Map



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
5.4		CUTTINGS		5		SAND	5	SAND, DARK RED (2.5YR 4/6) FINE TO MED GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST
6.6		CUTTINGS		10			10	SAND SAME AS ABOVE W/ 2-3% CLAY
							12'	12' ENCOUNTER CLAYEY SAND & CLAY BEDS
6.9		CUTTINGS		15		SAND W/ CLAY	15	SAND W/ CLAY W/ INTERBEDS OF CLAY YELLOWISH RED (5YR 4/6) FINE TO MED GR, POORLY SORTED, SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED, MOIST TO WET, SLIGHT PLASTICITY
5.2		CUTTINGS		20			20	SAND W/ CLAY W/ INTERBEDS OF CLAY SAME AS ABOVE, STRONG H2S ODOR, 22' ENCOUNTER GRAVEL BEDS
9.8		CUTTINGS		25		CLAYEY SAND	25	CLAYEY SAND W/ GRAVEL BEDS, YELLOWISH RED (5YR 4/6), VI FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED,
7 9.8 MAXED P.I.D.		CUTTINGS		32'			30	L.S. GRAVEL UP TO 2" IN DIA, SLIGHT PLASTICITY CLAYEY SAND W/ GRAVEL BEDS
								SAME AS ABOVE
> 4.8 MAXED P.I.D.		CUTTINGS		37'		SAND W/ CLAY	35	SAND W/ CLAY, DARK RED (2.5YR 4/6) VI FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST, <5% CLAY
							38	
> 9.8 MAXED P.I.D.		CUTTINGS		40		CLAYEY SAND W/ INTERBEDDED GRAVEL	40	38' ENCOUNTER GRAVEL BEDS SAND, CLAY & GRAVEL INTERBEDDED, DARK RED (2.5YR 4/6) VI FINE TO MED GR W/ PEBBLE SIZE GRAVEL INTERBEDDED,
> 9.8 MAXED P.I.D.		CUTTINGS					45	POORLY SORTED, UNCONSOLIDATED, MOIST TO WET SAND, GRAVEL & CLAY INTERBEDDED SAME AS ABOVE ONLY GRAVEL CLASTS UP TO 3" IN DIA,
							60	

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. P.	Client/Project # 2105.2.2
Boring Number AS-4	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME 75
Date Started 3/22/96	Date Completed 3/27/96

SEE PAGE 1

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
0 978 MAXED P.I.D.		CUTTINGS				SAND W/ GRAVEL	50	SAND, DARK RED (2.5YR 4/6) VF FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, WET, SOME GRAVEL 2 1/2" IN DIA,
0 978 MAXED P.I.D.		CUTTINGS					55	SAND SAME AS ABOVE, AT 58' BECOMES CLAYEY
0 978 MAXED P.I.D.		SPLIT SPOON	4.0	57-61		CLAYEY SAND / FAT CLAY	60	FAT CLAY, WEAK RED (10R 4/4) HIGH PLASTICITY, GRAY REDUCTION SPOTS, HAS FEW GRAVEL CLASTS AT CONTACT W/ OVERLYING CLAYEY SANDS

4/2/96

TD = 60.78

DTW = 52.48

7

2-3 ppm

5 ppm

6 ppm

9 ppm

15 ppm

3 ppm

3'

AFTER

PLUG

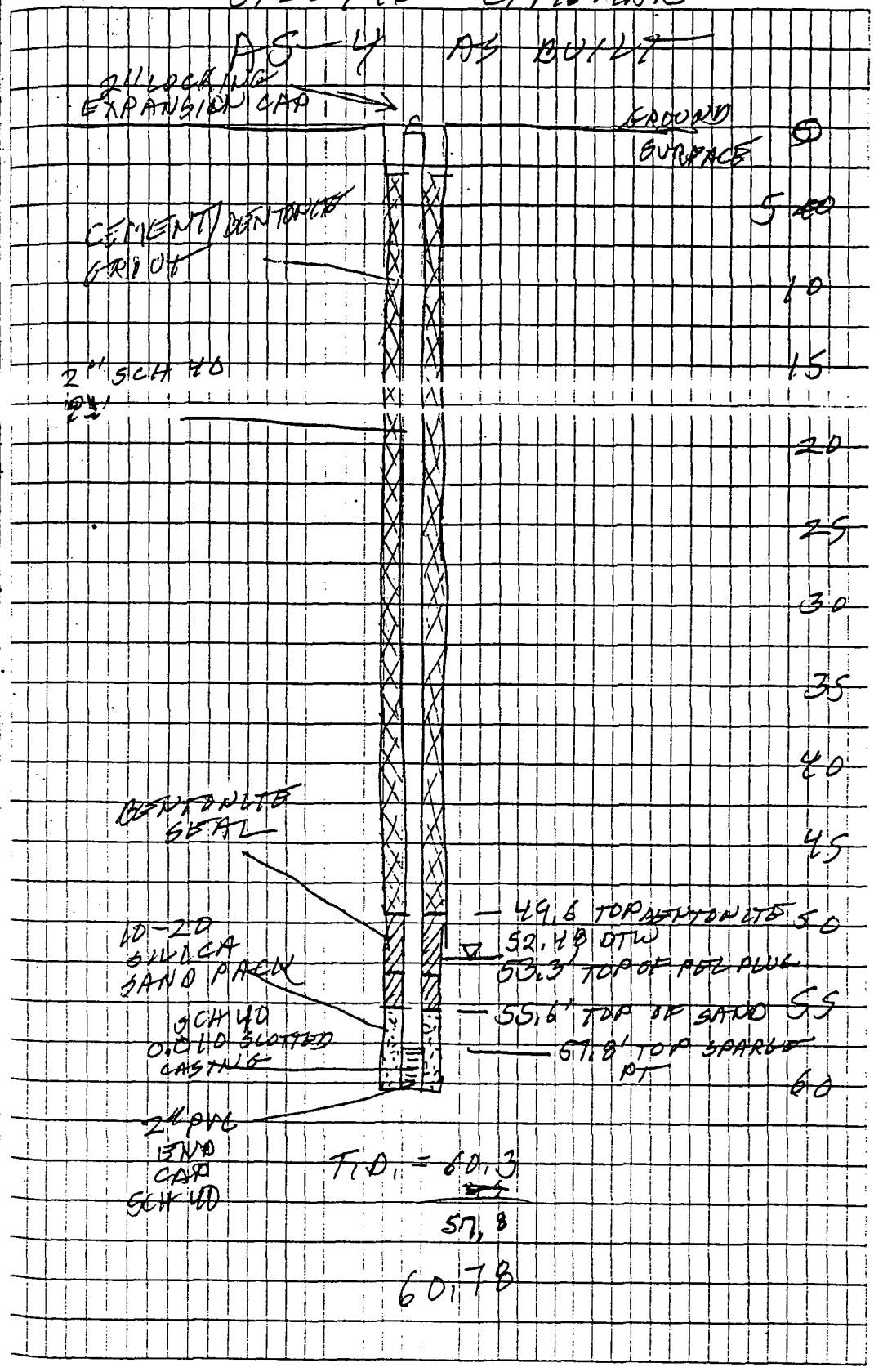
KEY

L

OF

3/22/96 C. PIGMAN

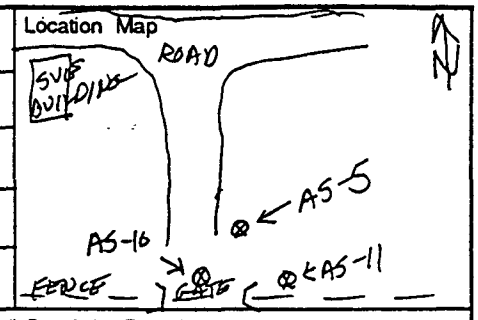
AS-4 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. PIGMAN	Client/Project # 2105.2.2
Boring Number AS-5	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 9 5/8 OD,	Drill Rig CME 75
Date Started 3/22/96	Date Completed 3/27/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	
6.0		CUTTINGS					5	SAND, RED (2.5YR 6/6), FINE TO MED GR, WELL SORTED, SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED, DAMP
4.7		CUTTINGS					10	SAND, DARK RED (2.5YR 4/6) FINE GR, WELL SORTED, ROUNDED GR UNCONSOLIDATED, MOIST
4.2		CUTTINGS					15	SAND W/ CLAY, YELLOWISH RED (5YR 5/6) V. FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED MOIST 4-5% CLAY
4.5		CUTTINGS				SAND	20	SAND W/ CLAY, YELLOWISH RED (5YR 4/6) V. FINE TO COARSE GR, MOD TO POORLY SORTED, SUBROUNDED GR, UNCONSOLIDATED MOIST, SLIGHT PLASTICITY, 5-10% CLAY
3.9		CUTTINGS					25	SAND, YELLOWISH RED (5YR 4/6) FINE TO COARSE GR (MOSTLY MED GR) WELL SORTED ROUNDED GR, UNCONSOLIDATED, MOIST <5% SILT
3.4		CUTTINGS					30	SAND, SAME AS ABOVE
5.1		CUTTINGS				SAND INTERBEDDED W/ GRAVEL	33	AT 33' ENCOUNTER L.S. GRAVEL INTERBEDS
							35	SAND W/ CLAY, REDDISH BROWN (5YR 4/4)
2.3		CUTTINGS				CLAYEY SAND	36	W/ GRAY L.S. GRAVEL INTERBEDS, SAND V. FINE TO COARSE GR, POORLY SORTED L.S. GRAVEL UP TO 1" IN DIA, UNCONSOLIDATED MOIST
							40	AT 36' ENCOUNTER CLAY LAYERS, NO GR CLAYEY SAND W/ CLAY INTERBEDS, REDDISH BROWN (5YR 4/4) V. FINE TO MED GR POORLY SORTED, UNCONSOLIDATED MOIST TO WET, CLAYS MODERATELY PLASTIC & SANDY
4.5		CUTTINGS					45	CLAYEY SAND SAME AS ABOVE
						CLAYEY SAND W/ BEDS OF GRAVEL		AT 46' ENCOUNTER INTERBEDS OF L.S. GRAVEL
							50	46' ENCOUNTER GRAVEL LAYERS

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map: SEE PAGE 1
Logged by C. P.	Client/Project # 2105.12
Boring Number AS-5	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER 9 5/8 OD	Drill Rig CME 75
Date Started 3/22/96	Date Completed 3/27/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
7.3		SPLIT SPOON	1.7	48-50			50	SAND W/ SILT, YELLOWISH RED (5YR5/6) VF TO FINE GR, WELL SORTED ROUNDED GR, UNCONSOLIDATED SATURATED, ≤ 5% SILT
4.1		CUTTINGS				SAND	55	48.7' ENCOUNTER WATER SAME AS ABOVE
		SPLIT SPOON	3.0	57-61			58	58-59' CLAYEY GRAVEL, DARK RED (2.5YR 4/6) GRAVEL UP TO 2" IN DIA IN FAT CLAY MATRIX, WET
			CLAYEY GRAVEL			FAT CLAY	60	60' CLAY W/ GRAVEL, DARK RED (2.5YR 3/6) FAT PLASTIC CLAY WITH SAND TO PEBBLES; MOIST

DID NOT RECORD PID READING WAS LOW ~10

T.D. 58'

4/2/96

T.D. = 58.95

DTW = 51.55

DRILLING

IT

E TANK

P.I.D

SCHNA

0.0 ppm

1.2 ppm

58'

54.1'

T 52.4'

49'

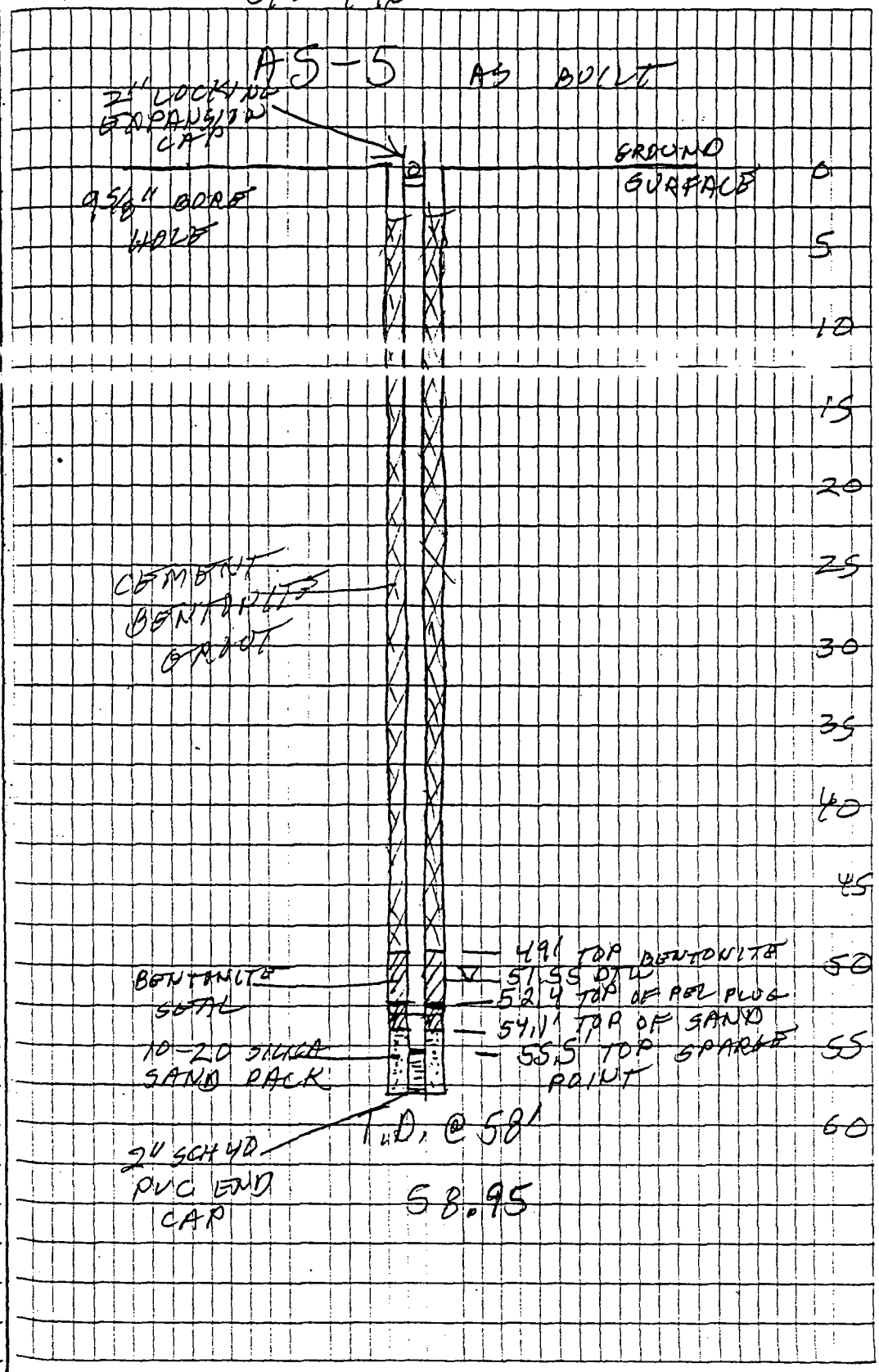
IN

-0

1)

3/22/96

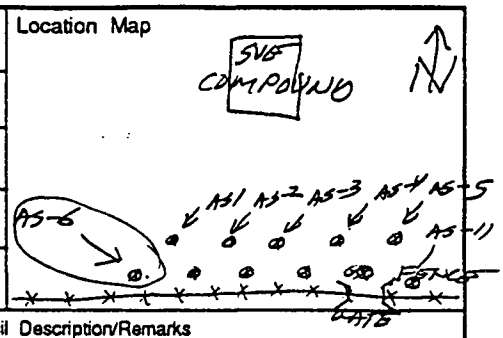
AS-5 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. PIGMAN	Client/Project # 4105.2.2
Boring Number AS-6	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME-75
Date Started 3/28/95	Date Completed 3/29/95



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
							0	
9.5		CUTTINGS				SAND	5	SAND, REDDISH BROWN (5YR 6/8) V. FINE TO MED GR, MOD SORTED, ROUNDED GR UNCONSOLIDATED, DAMP
3.0		CUTTINGS				SAND W/ SILT	10	SAND W/ SILT REDDISH BROWN (5YR 4/4) FINE TO MED GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED MOIST 5% SILT
2.5		CUTTINGS				SAND W/ CLAY	15	SAND W/ CLAY, REDDISH BROWN (5YR 4/4) V. FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST TO WET, SLIGHT PLASTICITY 10% CLAY
2.2		CUTTINGS					20	SAND W/ CLAY, SAME AS ABOVE
3.6		CUTTINGS					25	SAND W/ CLAY SAME AS ABOVE
							28	
5.3		CUTTINGS				SAND W/ SILT	30	SAND W/ SILT, YELLOWISH RED (5YR 4/6) V. FINE TO FINE GR, MOD SORTED ROUNDED GR, UNCONSOLIDATED, MOIST 50% SILT
2.2		CUTTINGS				SAND	35	SAND, DARK RED (2.5YR 4/6) FINE GR WELL SORTED, ROUNDED GR, UNCONSOLIDATED MOIST,
2.3		CUTTINGS				CLAYEY SAND W/ INTERBEDDED GRAVEL OR RAVEL	40	CLAYEY SAND W/ INTERBEDDED GRAVELS REDDISH BROWN (5YR 4/4) V. FINE TO COARSE GR POORLY SORTED, ROUNDED GR SLIGHT PLASTICITY, UNCONSOLIDATED WET, LS, GRAVEL UP TO 1" DIA, 20% CLAY
2.5		CUTTINGS					45	CLAYEY SAND W/ INTERBEDDED GRAVEL SAME AS ABOVE — SOME GRAVEL CLASTS UP TO 2" IN DIA
						SAND	49' 50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU

Location Map

Logged by C. PIGMAN

Client/Project # 41052.2

Boring Number AS-6

Drilling Co. TECHNA

Drilling Method HOLLOW STEM AUGER

Drill Rig CME-75

Date Started 3/28/96

Date Completed 3/29/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
3.3		CUTTINGS				SAND	50	SAND W/ SILT, YELLOWISH RED, (5YR 4/6) FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, WET TO SATURATED
				CP				
2.4		CUTTINGS		58.2			55	SAND W/ SILT SAME AS ABOVE
				63.2				
				59.2			59	
1147 MAX PID		SPLIT SPOON	2.2	63.2		SILTY SAND	60	SILTY SAND DARK RED (2.5YR 4/6) FINE GR, WELL SORTED, ROUNDED GR, MINOR GRAVEL UP TO 1.5" IN DIA.
							61	
						FAT CLAY	65	AT 61½ ENCOUNTER FAT FRIABLE CLAY

4/2/96

TD = 59.89

DTW = 53.80

MW

AS-6

AFTER

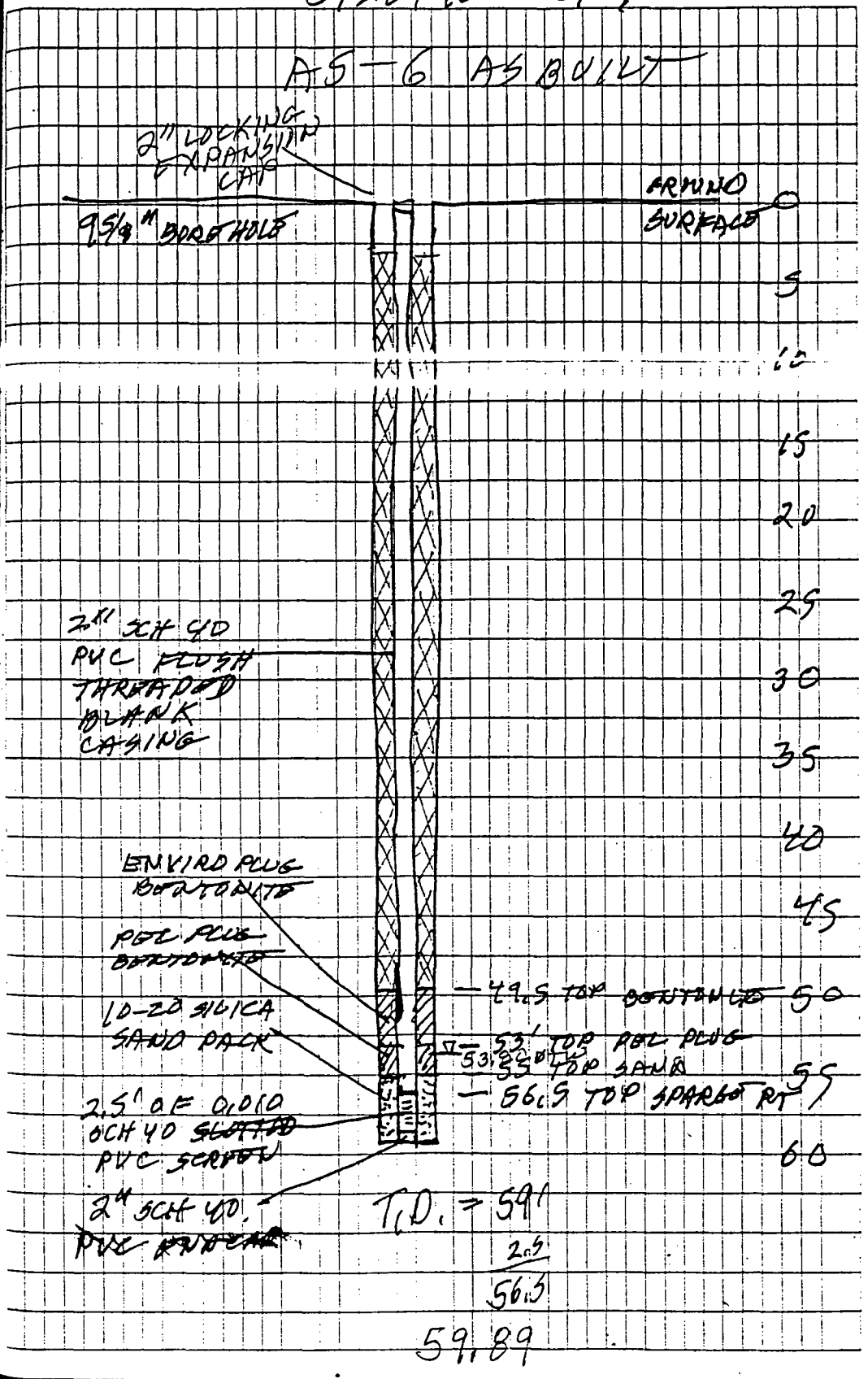
4-6

FROM GROUND SURFACE

DTW	TD
51.20	58.76
50.80	59.94
51.75	60.74
53.53	59.51
53.47	59.82

3/20/96 C. P.

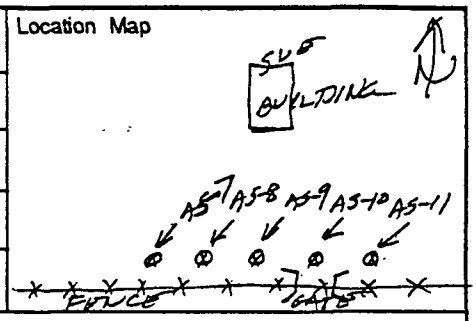
AS-6 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. PIGMAN	Client/Project # 2105.2.2
Boring Number AS-7	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 9 5/8" O.D.	Drill Rig CME-75
Date Started 3/26/96	Date Completed 3/27/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
							0	SAND W/ SILT, REDDISH YELLOW (5YR 6/6) V. FINE TO MED GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, DRY
182		CUTTINGS					5	
237		CUTTINGS				SAND W/ SILT	10	SAND W/ SILT, SAME AS ABOVE ONLY DAMP & SLIGHTLY DARKER IN COLOR
323		CUTTINGS					15	SAND W/ SILT, SAME AS ABOVE ONLY SLIGHTLY DARKER IN COLOR YELLOWISH RED (5YR 5/6)
86		CUTTINGS				CLAYEY SAND	20	CLAYEY SAND, REDDISH BROWN (5YR 4/4) HIGH PLASTICITY, SAND FINE TO MED GR POOR SORT, INTER BEDS OF CLAY, UNCONSOLIDATED
357		CUTTINGS					25	WET STRONG H2S ODOR CLAYEY SAND, SAME AS ABOVE
95		CUTTINGS					30	CLAYEY SAND, SAME AS ABOVE EXCEPT REDDER, DARK RED (2.5YR 4/6)
10.8		CUTTINGS				SAND W/ CLAY	35	SAND W/ CLAY, DARK RED (2.5YR 4/6) V. FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST, 10% CLAY
38.8		CUTTINGS				CLAYEY SAND W/ GRAVEL	40	CLAYEY SAND W/ INTERBEDS OF GRAVEL REDDISH BROWN (5YR 4/4) V. FINE TO COARSE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST, GRAVEL UP TO 1" O.
64		CUTTINGS				SAND W/ CLAY	45	SAND W/ CLAY, REDDISH BROWN (5YR 4/4) V. FINE TO COARSE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST
						SAND	50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map: SEE PAGE 1
Logged by C. PIGMAN	Client/Project # 2105,22
Boring Number AS-7	Drilling Co. TECHNA
Drilling Method HALLOW AUGER 9 5/8 OD	Drill Rig CME-75
Date Started 3/26/95	Date Completed 3/27/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
899 MAX P.I.D.		SPLIT SPOON	2,0	48-50			50	SAND, YELLOWISH RED (5YR 5/8) FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, WET
448		CUTTINGS				SAND	55	SAND, SAME AS ABOVE
899 MAX P.I.D.		SPLIT SPOON	2,8	58,5 62,5		SANDY CLAY	59,5 60 61	SANDY CLAY, DARK RED (2,5YR 4/6) FAT CLAY AT 61 ft W/ GRAY REDUCTION SPOTS, BASAL GRAVEL BTWN 59,3 & 61 ft, MOD CONSOLIDATED AT 61 ft
						FAT CLAY	65	

T.D. 60
W/ SPLIT SPOON
HOLE TO 62,5

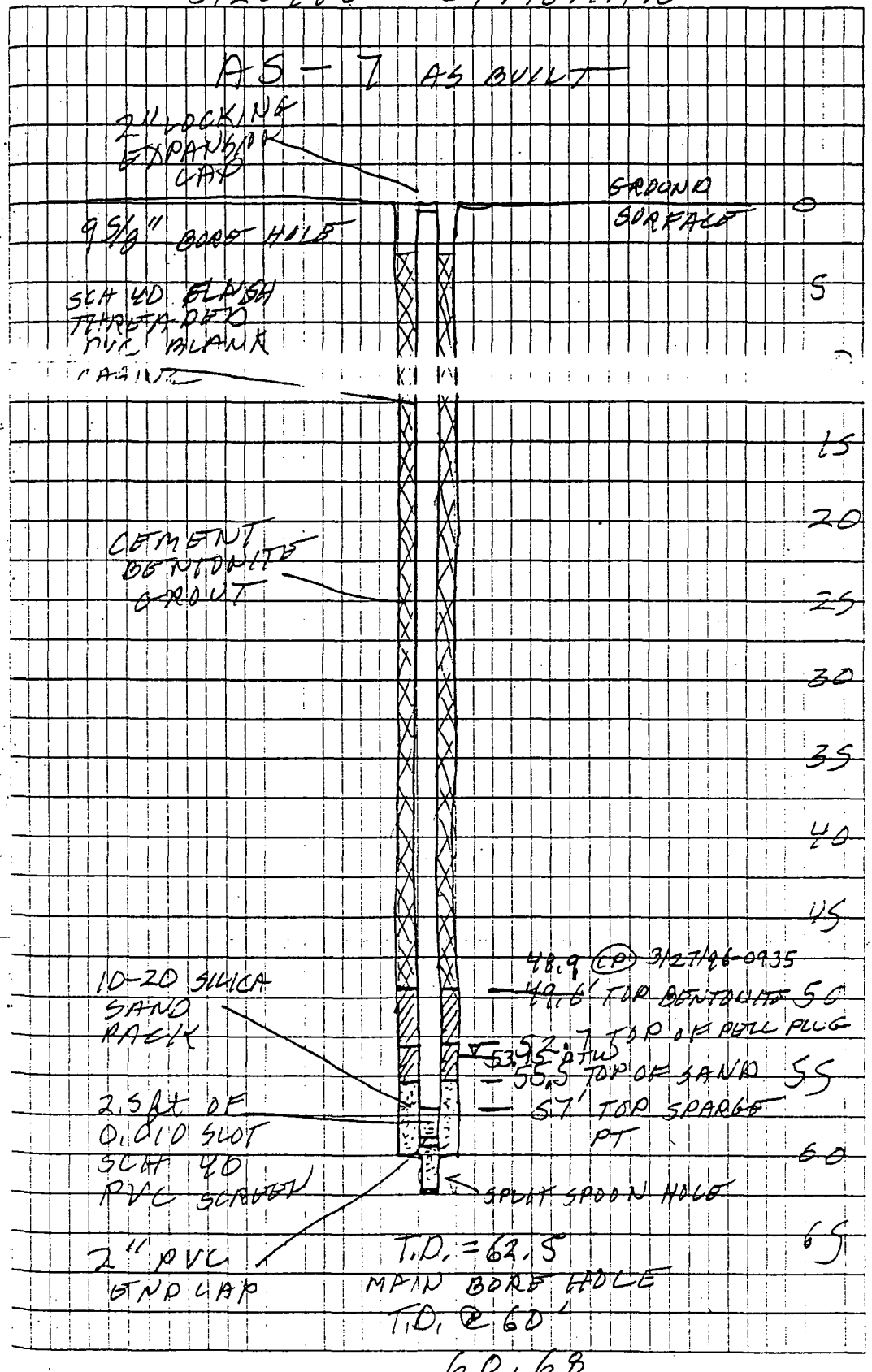
4/2/96
TD = 60,68
DTW = 53,15

DBS&A Form No. 080 3/92

58,5
+,8

3/26/96 C. PIGMAN

AS-7 AS BUILT



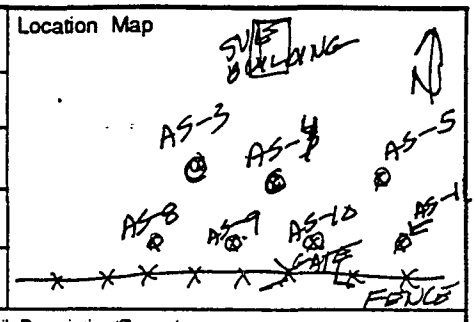
60.68

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site	ENRON THOREAU
Logged by	C. PIGMAN
Client/Project #	2105.2.2
Boring Number	AS-8
Drilling Co.	TECHNA
Drilling Method	HOLLOW STEM AUGER 9¼ OD
Drill Rig	CME 75
Date Started	3/25/96
Date Completed	3/27/96

Location Map



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	
28.4		CUTTINGS				SILTY SAND	5	SILTY SAND ~~OFFSET~~ YELLOWISH RED (5YR 5/6) VI FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, DRY TO DAMP
21.9		CUTTINGS					10	SILTY SAND, YELLOWISH RED (5YR 5/6) ~~SAME AS ABOVE~~ VI FINE TO MED GR POORLY SORTED ROUNDED GR, UNCONSOLIDATED DRY TO DAMP
43.7		CUTTINGS				CLAYEY SAND	15	CLAYEY SAND, YELLOWISH RED (5YR 4/6) VI FINE TO FINE GR, MOD SORTED, ROUNDED GR, SLIGHTLY CONSOLIDATED DAMP, SLIGHT PLASTICITY, 15% CLAY
34.1		CUTTINGS				W/ INTERBEDS OF CLAY	20	CLAYEY SAND W/ INTERBEDS OF CLAY REDDISH BROWN (5YR 4/4) SAND VI FINE TO MED GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED DAMP
9.4		CUTTINGS				CLAY	25	CLAY, SLIGHTLY CONSOLIDATED HIGH PLASTICITY
							27	CLAYEY SAND W/ INTERBEDS OF CLAY SAME AS ABOVE, 27' ENCOUNTER SAND SILT
3.5		CUTTINGS				SAND W/ SILT	30	SAND W/ ~~SILT~~, YELLOWISH RED (5YR 5/6) VI FINE TO COARSE GR, POORLY SORTED ROUNDED GR, UNCONSOLIDATED, MOIST 5-10% SILT
3.7		CUTTINGS				SAND W/ CLAY	35	SAND W/ CLAY YELLOWISH RED (5YR 4/6) VI FINE TO COARSE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED
							38	MOIST — 10-15% CLAY 38' ENCOUNTER GRAVEL
122.4		CUTTINGS				CLAYEY SAND W/ INTERBEDDED GRAVELS	40	CLAYEY SAND W/ INTERBEDDED GRAVELS VI FINE TO COARSE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST GRAVELS MOSTLY GRAY LS, CLASTS UP TO 2" IN DIA.
74.4		CUTTINGS					45	CLAYEY SAND W/ INTERBEDDED GRAVEL SAME AS ABOVE
						SAND	50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THORETA V	Location Map
Logged by CP	Client/Project # 2105.2.2
Boring Number AS-8	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER 9 5/8 O.D.	Drill Rig CME 75
Date Started 3/25/96	Date Completed 3/27/96

SEE PAGE 1

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
899.3 MAX P.I.D.		SPLIT SPOON	1.8	48-50		SAND	50	SAND, YELLOWISH RED (5YR 5/6) FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED WET TO SATURATED, ENCOUNTER WATER AT ≈ 50'
290		CUTTINGS					55	SAND, SAME AS ABOVE
899.3 MAX P.I.D.		SPLIT SPOON	3.5	57.5-61.5			60	SAND SAME AS ABOVE, ENCOUNTER FAT CLAY AT 61' W/ SMALL LIS, ~~BGD AT~~ GRAVEL BGD AT CONTACT GRAVEL TO 3/4" IN DIA CLAY HAS SMALL LT GRAY REDUCTION SPOTS, HIGH PLASTICITY, MOIST, MOD CONSOLID.
899.3 MAX P.I.D.		SPLIT SPOON	1.8	61-63		FAT CLAY	61	

T.D. 61'

4/2/96

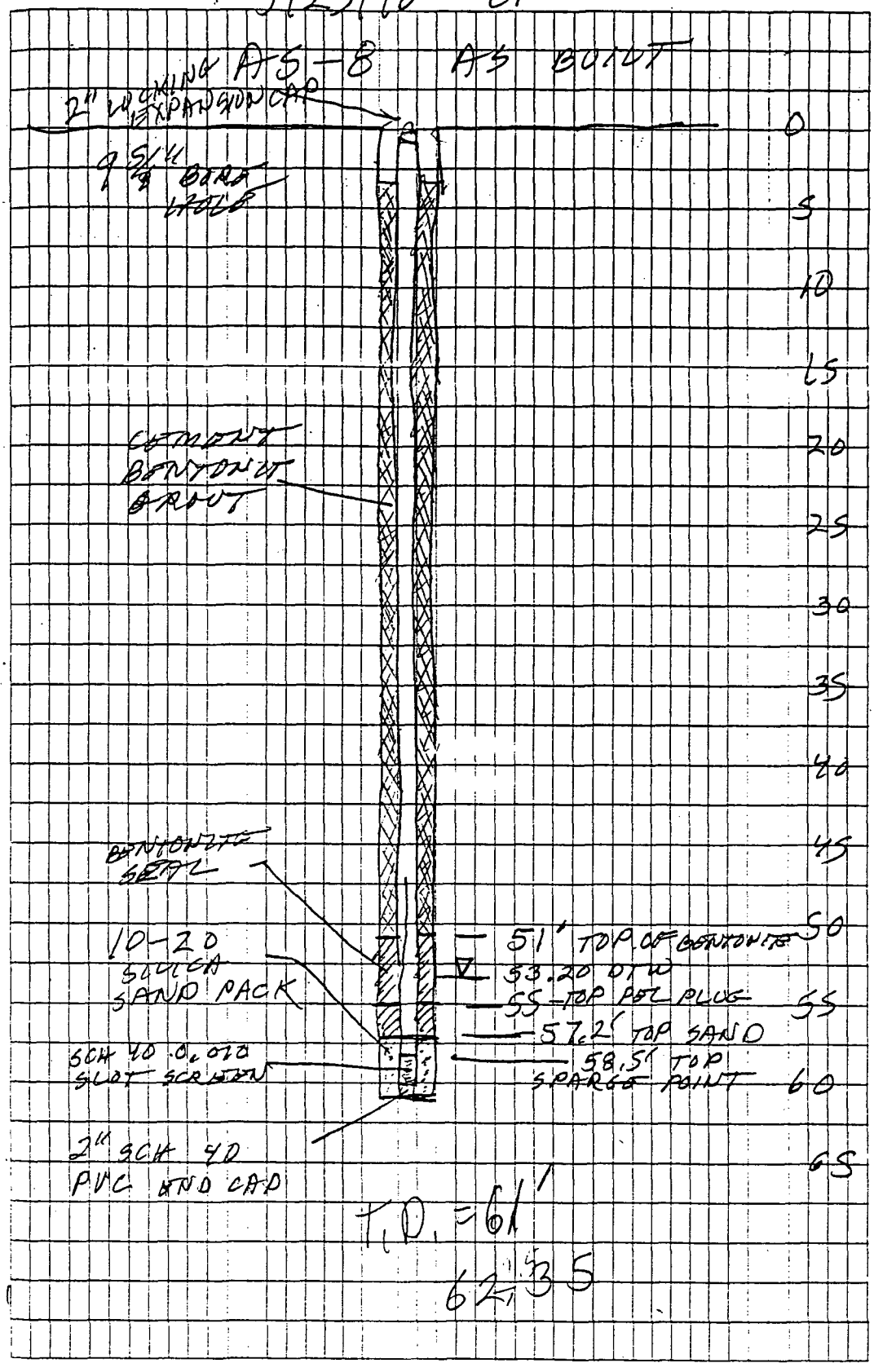
T.D. = 62.35

DTW = 53.20

AN

3/25/96 CP

AS-8 AS BOUT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU

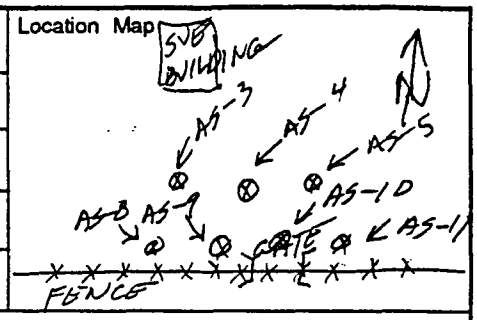
Logged by C. PIGMAN | Client/Project # 2105.2.2

Boring Number AS-9 | Drilling Co. TECHNA

Drilling Method HOLLOW STEM AUGER 9 5/8 O.D. | Drill Rig CME-75

Date Started 3/26/96 | Date Completed 3/27/96

Location Map



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
							0	
899.3 MAX P.I.D		CUTTINGS				SAND W/ SILT	5	SAND W/ SILT, REDDISH BROWN (5YR 5/4) V. FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST, STRONG H.C. ODOR
21.3		CUTTINGS				SAND W/ CLAY	10	SAND W/ CLAY, YELLOWISH RED (5YR 4/6) FINE GR, WELL SORTED
25.9		CUTTINGS					15	SAND W/ CLAY REDDISH BROWN (5YR 4/4) V. FINE TO FINE GR, WELL SORTED, ROUNDED GR UNCONSOLIDATED, MOIST, 5-10% CLAY
1&6 (CA)		CUTTINGS				CLAYEY SAND W/ GRAVEL BEDS	20	CLAYEY SAND W/ INTERBEDS OF GRAVEL AND CLAY, DARK REDDISH GRAY (5YR 4/2) SAND V. FINE TO COARSE GR, POORLY SORTED GRAVEL, GRAY LS; CLAY FAT, HIGH PLASTICITY MOIST TO WET UNCONSOLIDATED, H.C. ODOR
9.5		CUTTINGS				SAND W/ SILT	25	SAND W/ SILT, YELLOWISH RED (5YR 5/6) V. FINE TO MED GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED MOIST
4.6		CUTTINGS					30	SAND W/ SILT SAME AS ABOVE ONLY MOD TO WELL SORTED
6.6		CUTTINGS				CLAYEY SAND W/ GRAVEL BEDS	35	CLAYEY SAND, REDDISH BROWN (5YR 4/4) V. FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED MOIST TO WET, 20-25% CLAY, SOME INTERBEDS OF CLAY AT 36' ENCOUNTER GRAVEL BED
5.7		CUTTINGS					40	CLAYEY SAND W/ INTERBEDDED GRAVEL REDDISH BROWN (5YR 5/4) V. FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST, LS; GRAVEL BEDS W/ CLASTS TO 2"
14.6		CUTTINGS					45	CLAYEY SAND W/ INTERBEDDED GRAVEL SAME AS ABOVE
							49.5 50	

DBS&A Form No. 080 3/92

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map: SEE PAGE 1
Logged by C. P.	Client/Project # 2105.2.2
Boring Number AS-9	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER 9 5/8 O.D.	Drill Rig CME-75
Date Started 3/26/96	Date Completed 3/27/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
> 899 MAX P.I.D.		SPLIT SPOON	~~5.0~~ 2.0'	48-50		SAND (SP)	50	SAND, REDDISH BROWN (5YR 4/4) FINE TO MED GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, ~~SATURATED~~ AT 49.5' STRONG H.C. ODOR, SOME BLACK STAINING
> 899 MAX P.I.D.		CUTTINGS					55	SAND, SAME AS ABOVE ENCOUNTER BASAL GRAVEL AT 59'
> 899 MAX P.I.D.		SPLIT SPOON	3.2	58-60		FAT CLAY	59' 60	FAT CLAY, WEAK RED (10R 5/4) HIGH PLASTICITY, GRAY REDUCTIONS SPOTS FISSIL, DRY TO DAMP, MOD CONSOLIDATED

4/2/96

TD = 59.75

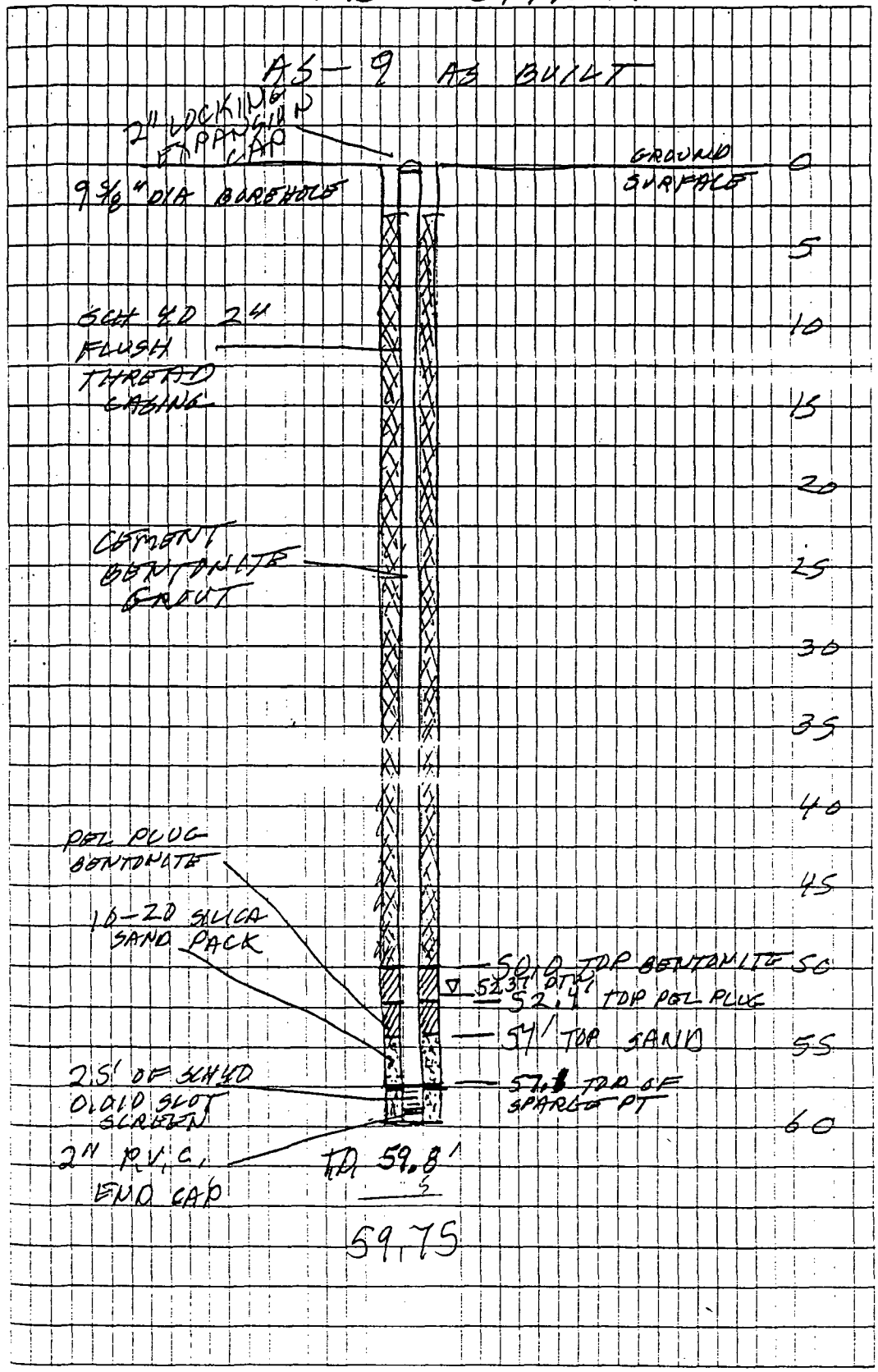
DTW = 52.37

AN

RLD.
-
OARD
LSO
PPM
I PRESSURE
) WILL
OMORROW
CALIBRATION
= FROM
59.8 ft
FTER 1 BAG
AFTER
0.5'
4PS
1.25 BAGS

3/26/95 C. PIGMAN

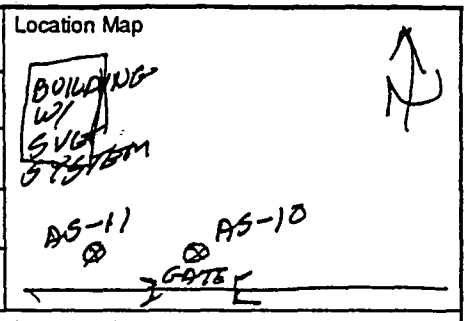
AS-9 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. P.	Client/Project # 2105.2.2
Boring Number AS-10	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME 75
Date Started 3/21/95	Date Completed 3/27/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	
4.5		CUTTINGS				SAND	5	SAND, DARK RED (2.5YR-4/6) V. FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, DAMP
6.1		CUTTINGS					10	SAND, DARK RED (2.5YR 4/6) V. FINE TO MED GR, MOD SORTED, SUB ROUNDED TO ROUNDED GR, UNCONSOLIDATED, MOIST
4.7		CUTTINGS					15	SAND W/ CLAY YELLOWISH RED (5YR 4/6) V. FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST
3.4		CUTTINGS				SAND W/ CLAY	20	SLIGHT PLASTICITY, 5-10% CLAY CLAYEY SAND, SAME AS ABOVE W/ MORE CLAY 10-15% CLAY
8.0		CUTTINGS					25	SAND W/ CLAY — SAME AS 15'
5.1		CUTTINGS					30	SAND W/ CLAY, SAME AS 15' BUT V. FINE TO MED GR
3.8		CUTTINGS					35	SAND W/ SILT, YELLOWISH RED (5YR-4/6) V. FINE TO FINE GR, ROUNDED GR, WELL SORTED, UNCONSOLIDATED, MOIST, ENCOUNTER INTERBEDDED LS, GRAVELS AT 38'
4.5		CUTTINGS				CLAYEY SAND W/ GRAVELS	38 40	CLAYEY SAND W/ GRAVEL, REDDISH BROWN 5YR 4/4, MOSTLY FINE TO MED GR, MOD SORTED, SLIGHT PLASTICITY, L. S. GRAVEL CLASTS SUBANGULAR UP TO 2" IN DIA, UNCONSOLIDATED, WET
6.6		CUTTINGS				SILTY SAND	45 46 48	SAND W/ SILT, RED 2.5YR 5/6 V. FINE TO FINE GR, ROUNDED GR, NO PLASTICITY, UNCONSOLIDATED MOIST
							50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

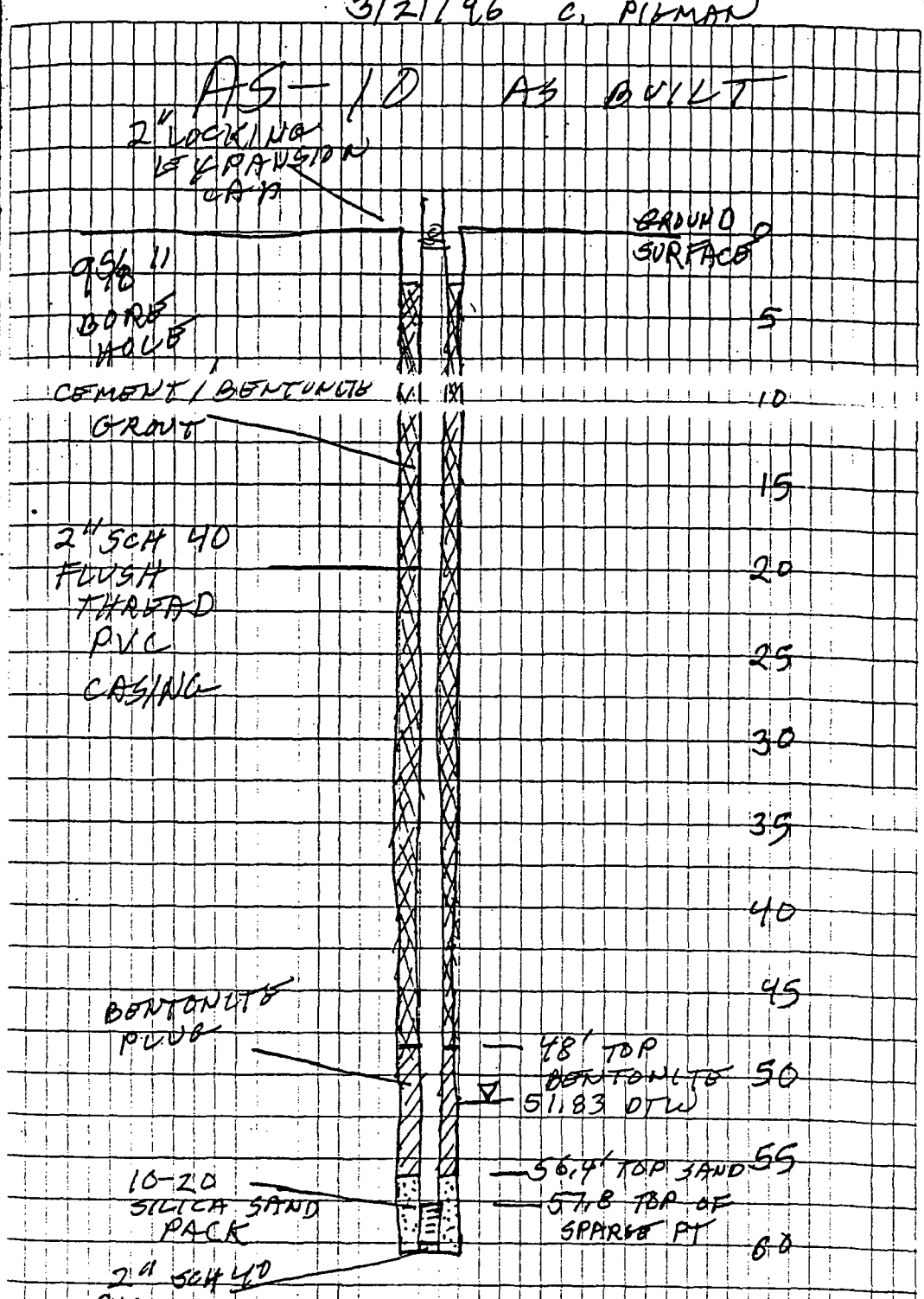
Boring Log

Site ENRON THOREAU	Location Map: SEE PAGE 1
Logged by C. P.	Client/Project # 2105.2.2
Boring Number AS-1D	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME 75
Date Started 3/21/96	Date Completed 3/27/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
825 MAX P.I.D.		SPLIT SPOON	1.3	49.5 51.5		SAND W/ SILT	50	SAND W/ SILT, REDDISH BROWN (5YR 4/4) V. FINE TO FINE GR. WELL SORTED ROUNDED GR; SATURATED UNCONSOLIDATED 49.8 STRONG H.C. ODOR
101		CUTTINGS				SILT	55	SATURATED AT ~~50.0~~ 49.8, BLACK STAINING SAND W/ CLAY — SAME AS ABOVE ONLY CLAYIER
825 MAX P.I.D.		SPLIT SPOON	3.0	57-61	SILTY GRAVEL	~~GRAVEL~~ SILTY GRAVEL	60 60.5	~~GRAVEL~~ SILTY GRAVEL, SILT DARK RED (2.5YR 4/6) GRAVEL MOSTLY GRAY L.S. BUT S.S & SILT ST. PRESENT, CLASTS SUBANGULAR TO SUB ROUNDED & UP TO 2" I.D. DIA, UNCONSOLIDATED, MOIST TO DAMP BELOW 60.5 ft MOSTLY SILT & CLAY
								T.D. AT 60.3'
								4/2/96
								T.D. = 60.4'
								DTW = 51.83

3/21/96 C. PIKMAN

AS-10 AS BUILT



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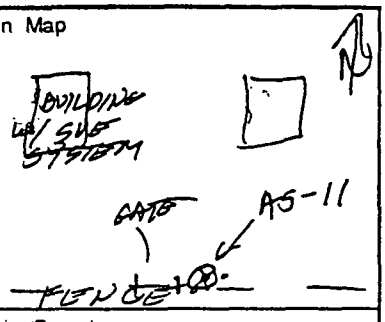
DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. P.	Client/Project # 2105.2.2
Boring Number AS-11	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME 75
Date Started 3/21/96	Date Completed 3/27/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
							0	
2.3		CUTTINGS				SAND	5	SAND, REDDISH BROWN (5YR-5/4) FINE TO MED GR, WELL SORTED, SUBROUNDED GR TO ROUNDED UNCONSOLIDATED, ~~DAMP~~ MOIST, SOME MINOR GRAVEL (8%)
3.0		CUTTINGS					10	SAND, SAME AS ABOVE EXCEPT NO GRAVEL
8.5		CUTTINGS				SAND W/ CLAY	15	SAND W/ CLAY, REDDISH BROWN (5YR-4/3) V. FINE TO MED GR, MOD SORTED, SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED, MOIST TO WET SL 10% CLAY, MINOR PLASTICITY
5.3		CUTTINGS					20	SAND W/ CLAY, SAME AS ABOVE
4.7		CUTTINGS					25	SAND W/ SILT SAME AS ABOVE BUT W/ NO PLASTICITY, V. FINE TO FINE GR
3.3		CUTTINGS				SAND W/ SILT	30	SAND W/ SILT, REDDISH BROWN (5YR-5/4) V. FINE TO MED GR, SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED, MOIST TO WET SL 10% SILT MOD SORTED
2.7		CUTTINGS					35	SAND W/ SILT - SAME AS ABOVE
							37	LS. GRAVEL FRAT, SUBANGULAR, CLASTS UP TO 3" IN DIA
3.8		CUTTINGS				SAND W/ SILT W/ INTERBEDS OF LS GRAVEL	40	37' LS. GRAVEL INTERBEDS UNCOUNTERED SAND W/ SILT & INTERBEDS OF L.S. GRAVEL REDDISH BROWN (5YR4/4) V. FINE TO MED GR, POORLY SO W/ GRAVEL BEDS GRAVEL L.S. & UP TO 2" IN DIA, UNCONSOLIDATED, MOIST TO WET
3.8		CUTTINGS					45	30% GRAVEL SAND W/ ~~CLAY~~ & INTERBEDS OF L.S. GRAVEL REDDISH BROWN (5YR-4/4) V. FINE TO COARSE GR POORLY SORTED, UNCONSOLIDATED, MOIST TO WET, 60% GRAVEL BEDS CLASTS UP TO 3" IN DIA
							50	

DANIEL B. STEPHENS & ASSOCIATES, INC.

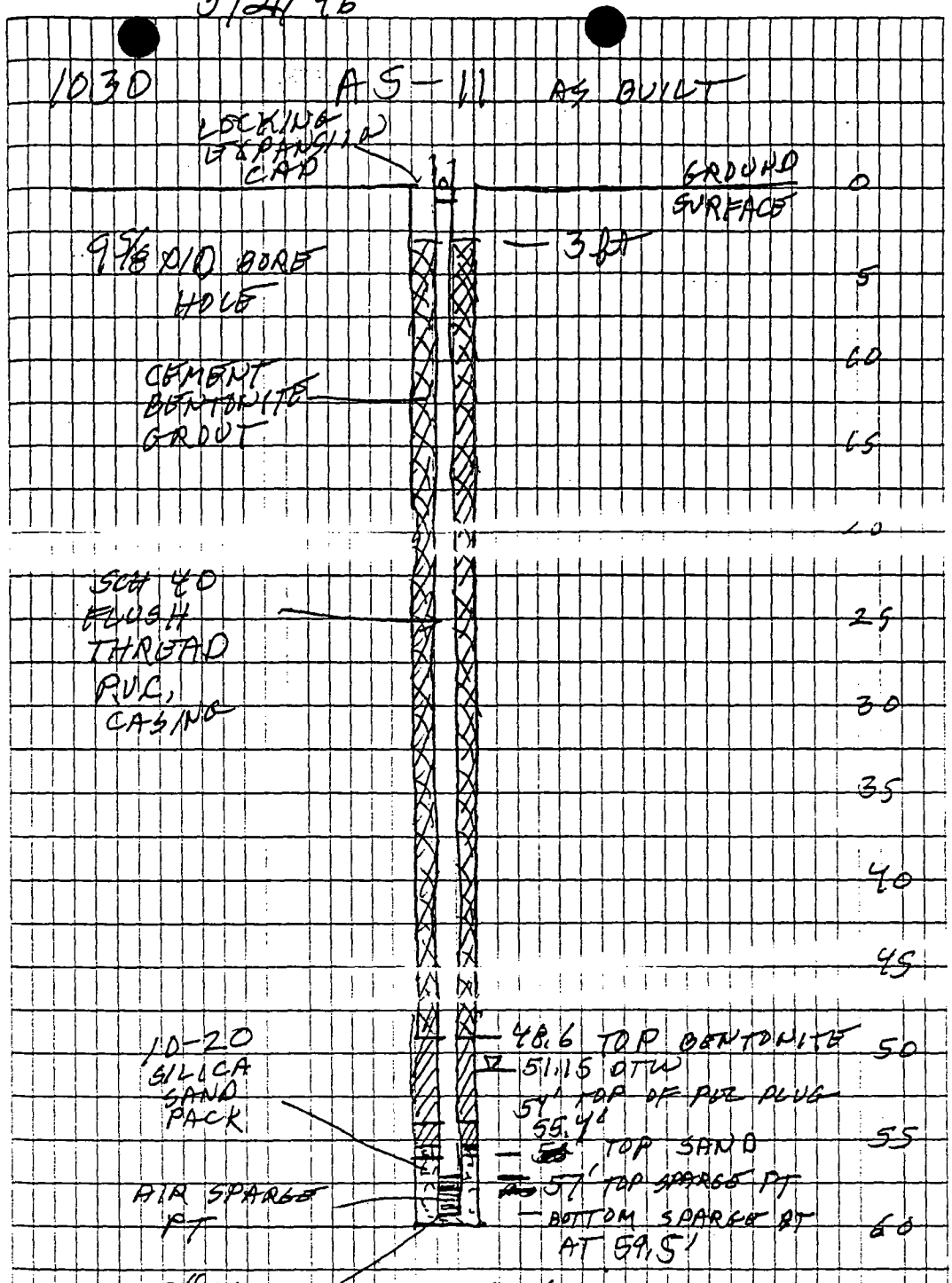
Boring Log

Site ENRON THOREAU			Location Map
Logged by C. P.	Client/Project # 2105.2.2		SEE PAGE 1
Boring Number AS-11	Drilling Co. TECHNA		
Drilling Method HOLLOW STEM AUGER	Drill Rig CME 75		
Date Started 3/21/96	Date Completed 3/27/96		

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
231.7		SPLIT SPOON	1.2'	48-50			50	SILTY SAND, YELLOWISH RED (5YR-4/6) V. FINE TO FINE GR, MOD SORTED ROUNDED GR, UNCONSOLIDATED SATURATED, SLIGHT H.C. ODOR
BAGGIE NOT SAMPLED BY DRILLERS		CUTTINGS				SILT SAND	55	SOME BLACK STAINING 10% SILT SAND - SIMILAR TO ABOVE BUT V. FINE TO MOD GR
651		SPLIT SPOON	4.0	57-61'			57	MOIST - NOT SATURATED
							58	SAND W/ SILT YELLOWISH RED (5YR-4/6) FINE TO MOD GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED, SATURATED
							60	SOME BLACK STAINING.
						FAT CLAY W/ L.S. GRAVEL	60.3	60.3' ENCOUNTER L.S. GRAVEL IN MATRIX OF FAT CLAY, CLAY DUSKY RED (2.5YR-4/4) MOD TO HIGH PLASTICITY GRAVEL GRAY & REDDISH PURPLE CLASTS UP TO 3" IN DIA., WET-TO SATURATED ± 70% GRAVEL
								T.D. 60'
								4/2/96
								T.D. = 60.06
								DTW = 51.15

3/24/96

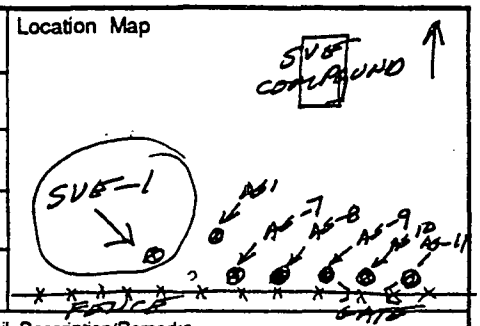
1030 AS-11 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by C. PIGMAN	Client/Project # 4105.2.2
Boring Number SVE-1	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 8 1/2 O.D.	Drill Rig CME-75
Date Started 3/27/96	Date Completed 3/29/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	SAND W/ SILT, YELLOWISH RED, (5YR 4/6) VI FINE TO FINE GR, MOD SORTED ROUNDED GR, UNCONSOLIDATED, DAMP 5% SILT
3.6		CUTTINGS					5	
						SAND W/ SILT		
3.7							10	SAND W/ CLAY DARK RED 2.5YR 4/6 VI FINE TO MED GR, MOD SORTED ROUNDED GR, UNCONSOLIDATED, MOIST 5% CLAY
						SAND W/ CLAY		
4.4		CUTTINGS					15	SAND W/ CLAY, DARK RED (2.5YR 4/6) FINE TO MED GR, WELL SORTED ROUNDED GR, UNCONSOLIDATED MOIST 5% CLAY
5.8		CUTTINGS					20	SAND W/ CLAY SAME AS ABOVE
8.1		CUTTINGS				CLAYEY SAND	25	CLAYEY SAND, REDDISH BROWN (5YR 4/4) VI FINE TO MED GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED MOIST TO WET 20% CLAY
4.4		CUTTINGS				SAND W/ SILT	30	SAND W/ SILT, YELLOWISH RED (5YR 4/6) VI FINE TO MED GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED MOIST 5% SILT
4.3		CUTTINGS					35	SAND W/ SILT, DARK RED (2.5YR 4/6) VI FINE TO MED GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATE, MOIST
5.7		CUTTINGS				SAND W/ SILT & INTERBEDDED GRAVELS	40	INTERBEDDED GRAVELS UP TO 1" IN DIA SAND W/ SILT, DARK RED (2.5YR 4/6) AND INTERBEDDED GRAVELS, FINE TO COARSE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED, GRAVEL
7.2		CUTTINGS					45	MOSTLY L.S.I. W/ CLASTS UP TO 3"
								CLAYEY SAND W/ INTERBEDDED GRAVELS REDDISH BROWN (5YR 4/4) VI FINE TO COARSE GR, POORLY SORTED, ROUNDED GR, UNCONSOLIDATED MOIST TO WET
						SAND	48.5 50	L.S.I. GRAVEL UP TO 3" IN DIA

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

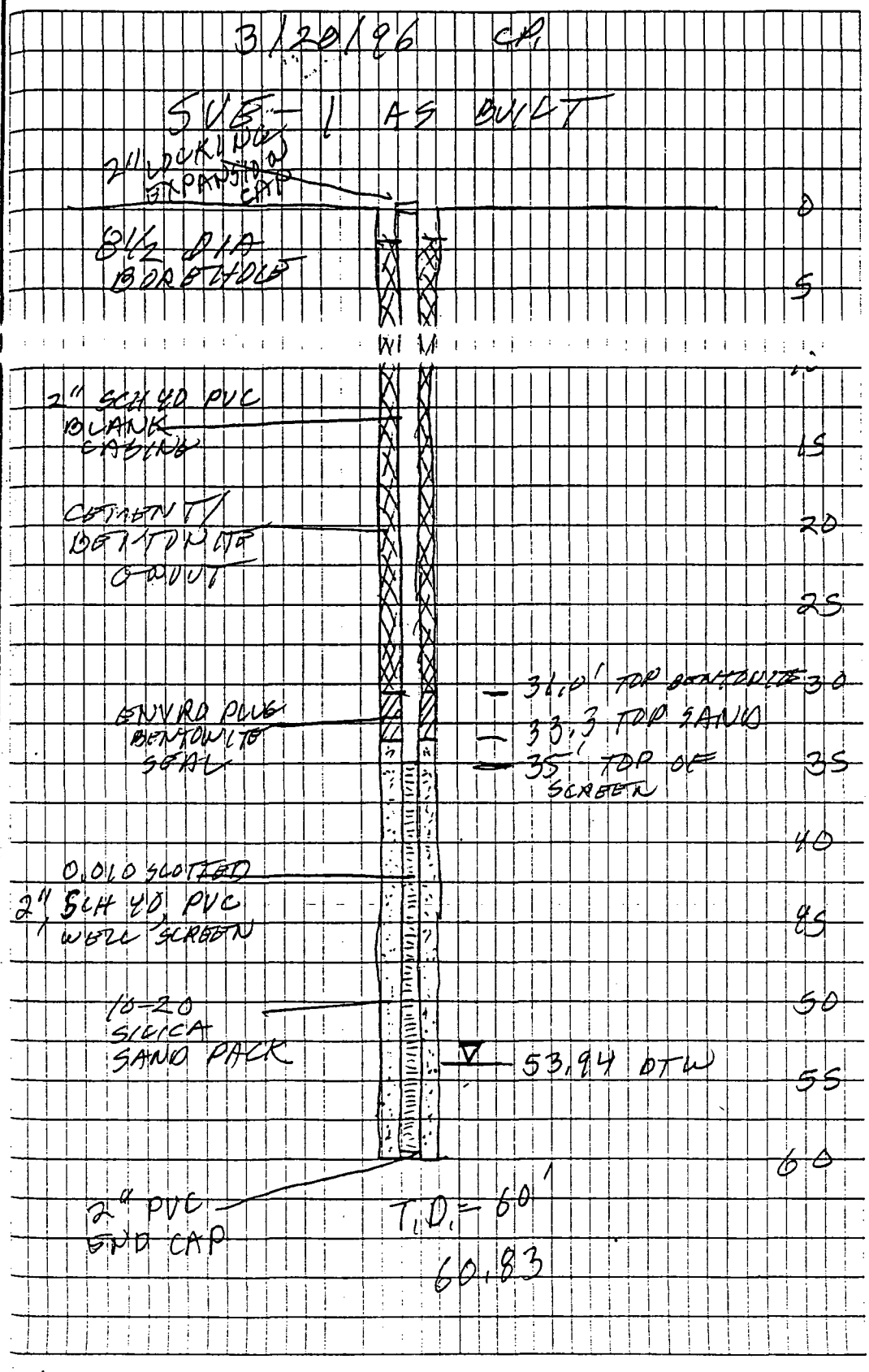
Site ENRON THOREAU	Location Map
Logged by C. PIGMAN	Client/Project # 4105.2.2
Boring Number SVE-1	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME-75
Date Started 3/27/96	Date Completed 3/29/96

SEE PAGE 1

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
3.4		SPLIT SPOON	1.0	48-50			50	SAND W/ SILT, RED (2.5YR 5/6) FINE GR WELL SORTED, ROUNDED GR UNCONSOLIDATED, WET 5% SILT
2.5		CUTTINGS		CD		SAND	55	SAND SAME AS ABOVE
2.1		SPLIT SPOON	3.8	57.8 61.8		SAND W/ CLAY	60	W/CLAY AND SAND & GRAVEL, RED (10R 4/6) FINE TO COARSE GR, MOD TO POORLY SORTED, ROUNDED GR, SLIGHT PLASTICITY
							65	GRAVEL CLASTS UP TO 2" IN DIA, UNCONSOLIDATED SATURATED (STILL ALLUVIAL FILL) 10% SAND 10% GRAVEL
								T.D. 60'
								4/2/96
								T.D.=60.83
								DTW = 53.94

3/20/96 CP

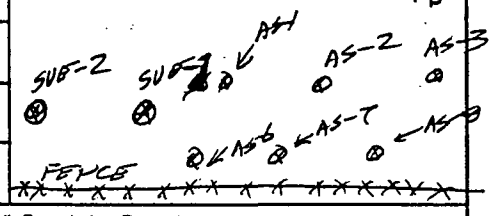
SVE-1 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map: ROAD WAY
Logged by C. PIGMAN	Client/Project # 4105.2.2
Boring Number SVE-2	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER	Drill Rig CME-75
Date Started 3/28/96	Date Completed 3/29/96



PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
							0	
2.9		CUTTINGS				CLAYEY SAND	5	CLAYEY SAND, YELLOWISH RED (5YR 4/6) V. FINE TO FINE GR, MOD SORTED, ROUNDED GR, SLIGHT PLASTICITY, UNCONSOLIDATED WET MINOR PEBBLE GRAVEL 15-20% CLAY
3.6		CUTTINGS				SAND	10	SAND, YELLOWISH RED (5YR 5/6) V. FINE TO FINE GR, WELL SORTED, ROUNDED GR, UNCONSOLIDATED MOIST
4.2		CUTTINGS				CLAYEY SAND	15	CLAYEY SAND, YELLOWISH RED (5YR 4/6) V. FINE GR, MOD SORTED, ROUNDED GR LOW PLASTICITY, UNCONSOLIDATED WET, 30% CLAY
3.0		CUTTINGS				SAND	20 21	CLAYEY SAND SAME AS ABOVE AT 21 FT ENCOUNTER SANDIER SOIL
2.9		CUTTINGS				SAND W/ CLAY	25	~~GRAVEL~~ SAND W/ CLAY DARK RED (2.5YR 4/6) V. FINE TO COARSE GR POORLY SORTED, SUBROUNDED TO ROUNDED GR, SLIGHT PLASTICITY UNCONSOLIDATED WET 10% CLAY
2.4		CUTTINGS				SAND	30	SAND, DARK RED 2.5YR 4/6 V. FINE TO MED GR, POORLY SORTED, SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED MOIST
1.6		CUTTINGS				SAND W/ CLAY	35	SAND W/ CLAY AND INTERBEDDED GRAVELS DARK RED (2.5YR 4/6) V. FINE TO MED GR, POORLY SORTED, SUBROUNDED TO ROUNDED GR, UNCONSOLIDATED
2.5		CUTTINGS				W/ INTERBEDDED GRAVELS	40	WET, L.S. GRAVEL UP TO 2" IN DIA SAND W/ CLAY AND INTERBEDDED GRAVELS SAME AS ABOVE W 30-40% GRAVEL BEDS
3.4		CUTTINGS					45	SAND W/ CLAY AND INTERBEDDED GRAVELS SAME AS ABOVE
						SAND	48 50	48' ENCOUNTER CLEAN SANDS

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Boring Log

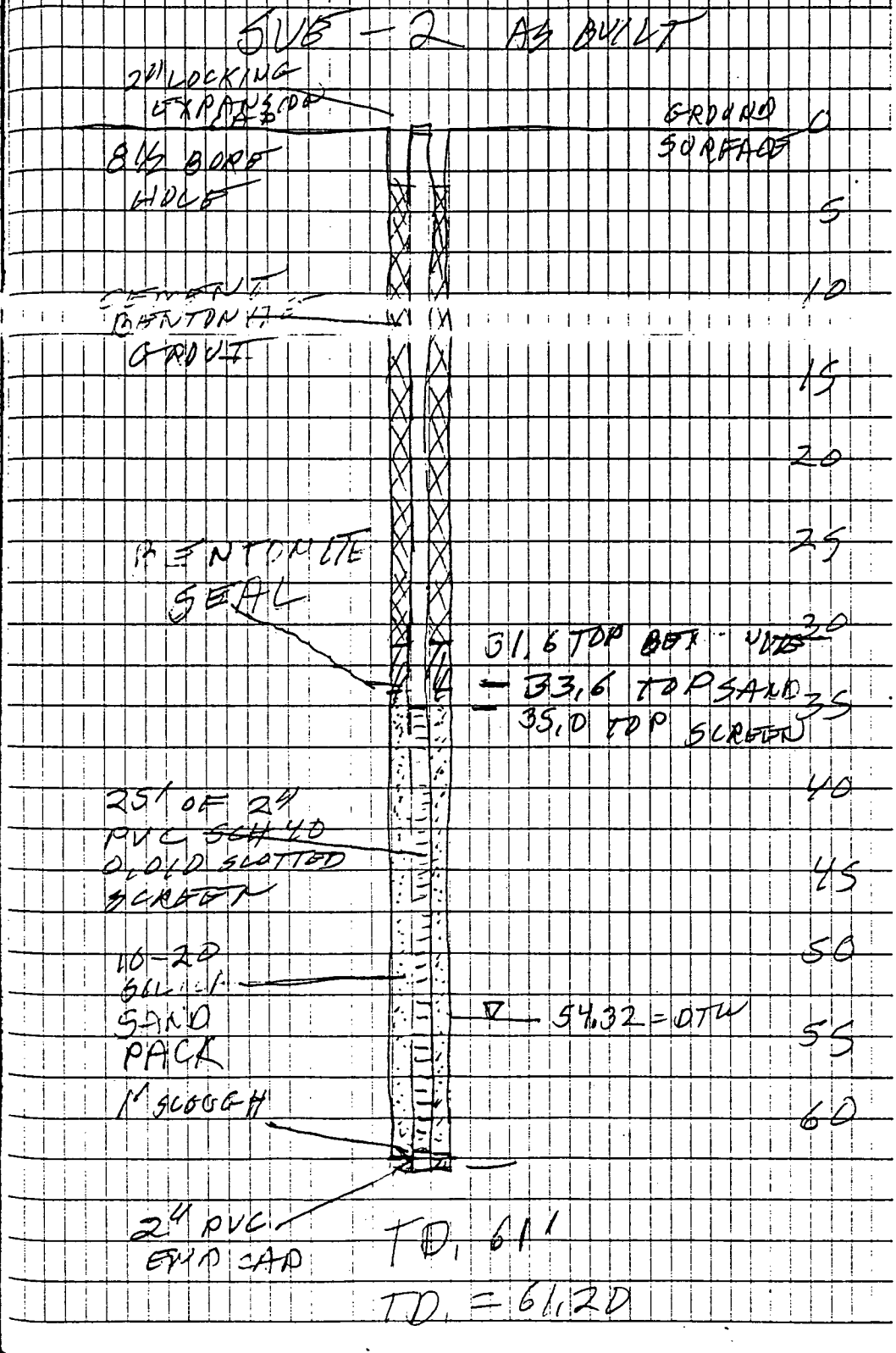
Site ENRON THOREAU	Location Map: SEE PAGE 1
Logged by C. PIGMAN	Client/Project # 4105.2.2
Boring Number SVE-2	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER	Drill Rig CME-75
Date Started 3/28/96	Date Completed 3/29/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks (Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content)
1.0		SPLIT SPOON	2.0	47.5 49.5		SAND	50	SAND, YELLOWISH RED (5YR 5/6), FINE GR., MOIST, SORTED, ROUNDED GR, UNCONSOLIDATED, MOIST
6.9		CUTTINGS					55	SAND SAME AS ABOVE, ONLY SATURATED
0.9		SPLIT SPOON	3.0	59' 63'		CLAYEY SAND	60 6.5	SAND, SAME AS ABOVE, AT 60.5' ENCOUNTER CLAYEY SAND, RED (2.5) VI FINE GR TO COARSE GR (MOSTLY FINE GR) MOD, SORTED, ROUNDED GR, UNCONSOLIDATED, WET, MINOR GRAVEL
							65	

4/2/96 T.D. = 61.20
DTW = 54.32

C. PIGMAN 3/29/96

SUB-2 AS BUILT



DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THORETA

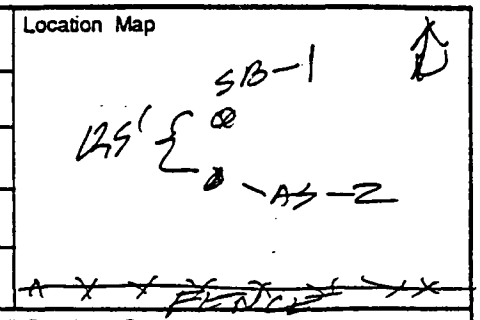
Logged by C. PIGMAN | Client/Project # 4105.2.2

Boring Number SB-1 | Drilling Co. TECHNA

Drilling Method HOLLOW STEM AUGER 8¼OD | Drill Rig CME-75

Date Started 3/24/96 | Date Completed

Location Map



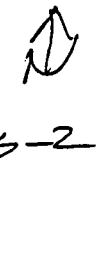
PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
0.7		CUTTINGS		4'			5	SAND W/ SILT, WELL SORTED V. FINE TO FINE GR, MOD SORTED ROUNDED, GR, UNCONSOLIDATED MOIST TO WET
0.7		CUTTINGS SPLIT SPOON		9' 9-11			10	SAND W/ SILT SAME AS ABOVE
LD.							15	

DBS&A Form No. 080 3/92

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOROD-U	Location Map
Logged by C. PIGMAN	Client/Project # 4105, 2, 2
Boring Number SB-2	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 8" OD	Drill Rig CME 75
Date Started 3/29/96	Date Completed 3/29/96

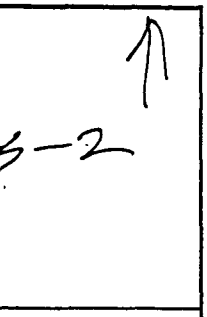


PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
0.3		CUTTINGS		4			5	SILTY SAND, BROWN, V. FINE TO FINE GR, MOD SORTED, ROUNDED GR, UNCONSOLIDATED, DAMP
0.7		CUTTINGS		9			10	
0.9		SPLIT SPOON		9-11				
							15	
								T.D. 10'

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Site ENRON THOREAU	Location Map
Logged by G. PIGMAN	Client/Project # 4105.2.2
Boring Number SB-3	Drilling Co. TECHNA
Drilling Method HOLLOW STEM AUGER 8" OD	Drill Rig CME-75
Date Started 3/29/96	Date Completed 3/29/96

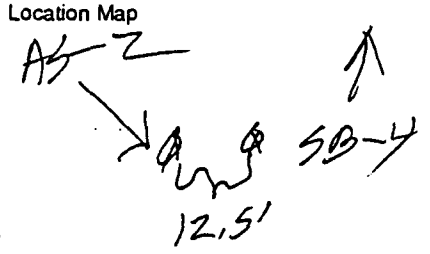


PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
0.9		CUTTINGS		4			5	SILTY SAND, REDDISH BROWN, V. FINE TO FINE GR, MOD SORTED, ROUNDED GR UNCONSOLIDATED, DAMP
4.4 6.1		CUTTINGS SPLIT SPOON		9 9-11			10	SAND W/ SILT, BROWN, V. FINE TO MOD GR, POORLY SORTED, ROUNDED GR UNCONSOLIDATED, MOIST
							15	T.D. 10'

DANIEL B. STEPHENS & ASSOCIATES, INC.

Boring Log

Page____of____

Site ENRON THORGAS	Location Map 
Logged by C. PICKMAN	Client/Project # 4105.2.2
Boring Number SB-4	Drilling Co. TECHNA
Drilling Method HALLOW STEM AUGER 8"O.D	Drill Rig CME-75
Date Started 3/29/96	Date Completed 3/29/96

PID/FID Reading	Blow Counts	Sampling Device	Sample Recovery	Sample Interval	Sample Number	USCS Symbol	Depth (feet)	Soil Description/Remarks Soil type, color, texture, grain size, sorting, roundness, plasticity, consistency, moisture content
1.3		CUTTINGS		4			5	SAND W/ CLAY, BRWN, V FINE TO FINE, MOD SORTED, RNDD SR UNCONSOLIDATED, MOIST
> 7.2 MAX PID 5.4		CUTTINGS SPLIT SPOON		9 9-11			10	CLAYEY SAND, BRNISH GRAY V. FINE, MOD SORTED, UNCONSOLIDATED SLIGHT PLASTICITY, WET
							15	AT 8' ENCOUNTER CARBON STAINED SOIL AND WIRE T.D. 10'

DBS&A Form No. 080 3/92

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

January 31, 1996

Prepared For:
Transwestern Pipeline Company
& ENRON Operations Corp.
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 1995 Groundwater Sampling Event

Transwestern Pipeline Company (Transwestern) has completed two quarterly sampling events during the latter half of 1995. The 3rd quarter sampling event was completed during the week of October 5, 1995. Groundwater samples were collected from twenty-three monitor wells. No measurable thickness of phase separated hydrocarbon was measured in any of the monitor wells. However, a sheen of petroleum hydrocarbon was detected using hydrocarbon indicating paste at monitor wells 5-34B and 5-36E. Groundwater samples from each monitor well were delivered to a lab for analysis by EPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, ground water samples from three of the monitor wells were delivered to the lab for analysis by EPA Method 8080 for polychlorinated biphenyl (PCB) compounds. Denny Foust, NMOCD Hobbs District Office, was present at the site to witness sampling activities. In addition, Julie Curtiss and Patrick Antonio, Navajo Nation EPA, were present to review the site and witness sampling activities.

4th Quarter 1995 Groundwater Sampling Event

The 4th quarter sampling event was completed during the week of November 15, 1995. Groundwater samples were collected from twenty-three monitor wells. No measurable thickness of phase separated hydrocarbon was measured in any of the monitor wells. However, a sheen of petroleum hydrocarbon was detected using hydrocarbon indicating paste at monitor wells 5-34B and 5-36E. Groundwater samples from each monitor well were delivered to a lab for analysis by EPA Method 8020 for BTEX. In addition, ground water samples from three of the monitor wells were delivered to the lab for analysis by EPA Method 8080 for PCBs.

Other Groundwater Sampling Events

Transwestern completed a limited sampling event during the week of June 26, 1995. Groundwater samples were collected from seven on-site monitor wells. No measurable thickness of phase separated hydrocarbon was measured in any of the monitor wells. Groundwater samples from each monitor well were delivered to a lab for analysis by EPA Method 8020 for BTEX. In addition, ground water samples from two of the monitor wells were delivered to the lab for analysis by EPA Method 8080 for PCBs.

Results/Conclusions from Groundwater Sampling Events

Field measured groundwater quality parameters (pH, temperature, electrical conductivity, and dissolved oxygen) obtained during the 4th quarter 1995 sampling event are presented in Table 1, attached. 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 $\approx$ 8.0 mg/L) in monitor wells which produce groundwater samples which also indicate the presence of petroleum hydrocarbons.

Analytical results for indicator inorganic constituents (sulfate, nitrate/nitrite-N, and iron) obtained from groundwater samples collected during the 4th quarter 1995 sampling event are presented in Table 2, attached. No attempt has been made as of yet to determine if a correlation exists between the relative presence of these constituents and the presence of petroleum hydrocarbons.

An updated summary of analytical results for BTEX and PCB compounds are presented in Table 3, attached. The more recent results are consistent with previous sample events which indicate that the area encompassing elevated benzene concentrations is continuing to get smaller. In addition, groundwater samples from monitor well 5-1B have indicated non-detect for PCBs during the last two sample events. As a result, there is just one monitor well which

now indicates the presence of PCB compounds, 5-6B. Transwestern has agreed to discuss this issue with the Navajo Nation EPA in more detail in the near future.

A water table elevation map based on measurements obtained during the 4th quarter sampling event is included as Figure 1, attached. The apparent direction of groundwater flow presented in Figure 1 is consistent with water table elevation maps previously developed for this site. The hydraulic gradient, however, has decreased somewhat from approximately 0.045 ft/ft (as determined from measurements obtained April 19, 1993) to 0.040 ft/ft.

Planned Changes to the Groundwater Monitoring Program

In the course of discussions with the Navajo Nation EPA regarding Transwestern's groundwater remediation plan, Transwestern has agreed to modify its groundwater monitoring schedule to include all monitor wells on a quarterly basis, with the exception of 5-34B, 5-35B, & 5-37I. Monitor wells 5-34B, 5-35B, & 5-37I were excluded due to their close proximity to another existing monitor well, 5-36E, which will be included in the routine monitoring program.

In addition, Transwestern has expanded the scope of the Phase II remediation system to include the installation of two additional soil vapor extraction (SVE) wells rather than just one as originally planned. One of the two additional wells will be included in the groundwater monitoring program prior to its incorporation into the Phase III remediation system as an SVE well.

II. Summary of Remediation Activities

Remediation Activities Completed Prior to the 3rd Quarter, 1995

The Phase I remediation system was placed into service on December 9, 1994. This system consisted of a single 1/2 HP electric regenerative blower which extracted soil vapor from monitor well 5-35B via PVC piping. The initial extraction rate was measured at approximately 17.2 acfm at a vacuum of 17.8 inches of H_2O. Pursuant to the requirements of the remediation system air permit issued by the NMED Air Pollution Control Bureau, a performance test of the system was completed on December 14, 1995, by Kramer & Associates of Albuquerque, NM. A copy of the report generated by Kramer & Associates was subsequently delivered to the NMOCD and the NNEPA Air Quality Program.

Subsequent to startup of the Phase I system, routine inspection of the equipment and sampling of SVE emissions and groundwater were completed as directed by the groundwater remediation plan. The only notable event to occur during routine inspection of the equipment was the collection of a small volume of condensed water and petroleum hydrocarbon in the liquid knockout tank located immediately upstream of the SVE blower. These liquids were routinely drained from the knockout tank and placed into a 55 gallon drum for storage pending final disposition. A summary of analytical results for volatile organic compounds in soil vapor samples is presented in Table 4, attached. The analytical results for groundwater samples collected from monitor well 5-4B are included with the summary of analytical results presented in Table 3.

Remediation Activities Completed During the 3rd & 4th Quarters, 1995

Routine inspection of the equipment and sampling of SVE emissions and groundwater continued during the latter half of 1995 as directed by the groundwater remediation plan. Very little if any liquids collected in the knockout tank during this time period, primarily due to two factors: 1) the concentration of VOCs in the soil vapor were reduced; and 2) the ambient temperature was warmer.

On November 22, 1995, the SVE conduit was modified so that extraction of soil vapor would be from monitor well 5-34B rather than 5-35B. This change was made in order to more effectively remove soil vapor from the subsurface. The extraction rate from the SVE system in this configuration is approximately 22 acfm. A soil vapor sample was collected at the time the modification was made, however, analysis results indicate non-detect for VOCs. This result is not likely an accurate representation of the extracted soil vapor and most likely indicates that the sample cylinder leaked. A second sample was collected on January 9, 1996. The analytical results for this sample will be reported in the next semi-annual report. A summary of the analytical results for VOCs in soil vapor samples collected during

this time period is presented in Table 4. The analytical results for groundwater samples collected during this time period from monitor well 5-4B are included with the summary of analytical results presented in Table 3.

Remediation Activities Planned for the 1st & 2nd Quarters, 1996

Transwestern anticipates implementation of the Phase II remediation system beginning in late February or early March, 1996.

Transwestern recently made a minor modification to the Phase II system to include two additional SVE wells to be installed rather than just one as originally planned. This modification was made after discussions with the NNEPA regarding SVE well placement for effective coverage of the area of concern. This issue, along with modified remediation plan figures, was discussed in more detail in a letter addressed to the NNEPA and dated January 2, 1996. A copy of this letter and attachments have already been delivered to the NMOCD.

Pursuant to the requirements of the remediation system air permit issued by the NMED Air Pollution Control Bureau, a performance test of the Phase II system will be completed subsequent to startup. A copy of the report generated subsequent to the test will be delivered to the NMOCD and the NNEPA Air Quality Program.

In addition to the Phase II system implementation activities, routine inspection of the equipment and sampling of SVE emissions and groundwater will continue as directed by the groundwater remediation plan.

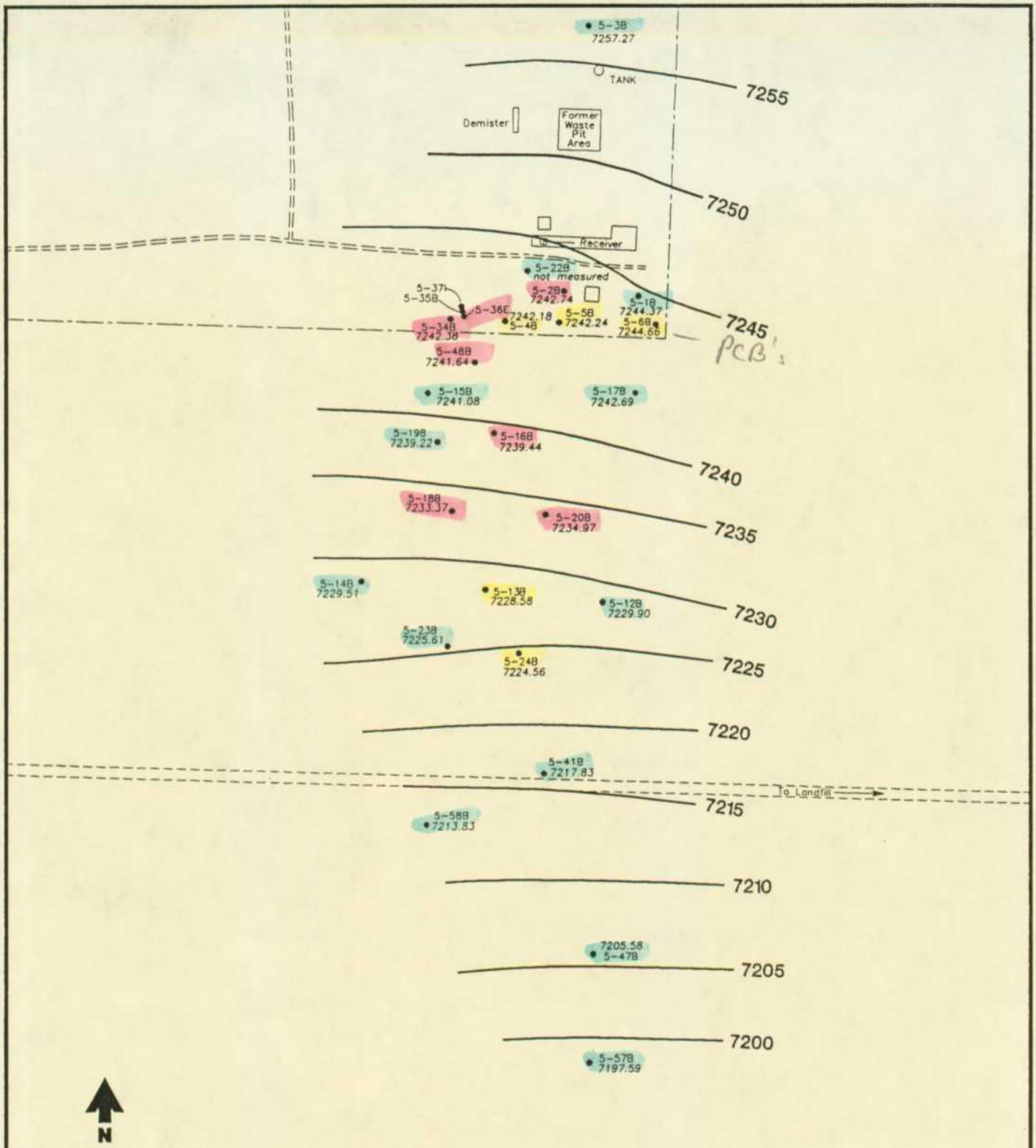


Figure 1

THOREAU COMPRESSOR STATION

Water Table Elevation for the Perched Alluvial Aquifer, November 14, 1995

DANIEL B. STEPHENS & ASSOCIATES, INC.
1-12-96
JN 2105

2105\210501C.DWG

Table 1

Summary of Field Measured Parameters, November 1995
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	1314	3.8	Muddy, no odor
5-02B	11/21/95	6.89	14.5	920	2.1	Slightly cloudy, HC odor
5-03B	11/15/95	7.59	14.0	860	8.0	Clear, no odor
5-04B	11/17/95	7.15	14.6	1097	---	Clear, moderate HC odor
5-04B	11/22/95	7.87	14.0	720	5.6	Slightly cloudy, no HC odor
5-05B	11/17/95	7.04	13.0	1350	2.9	Clear, moderate HC odor
5-06B	11/21/95	7.51	14.0	880	3.2	Slightly cloudy, no HC odor
5-12B	11/16/95	7.38	13.9	900	6.5	Clear, no odor
5-13B	11/20/95	7.59	13.9	800	4.3	Clear, HC odor
5-14B	11/16/95	8.03	14.6	1056	8.0	Very slightly cloudy
5-15B	11/16/95	7.98	12.5	982	6.9	Clear, no odor
5-16B	11/20/95	7.50	13.0	800	2.4	Clear, strong HC odor
5-17B	11/20/95	7.65	13.4	1525	7.4	Clear, no odor
5-18B	11/17/95	7.68	14.0	720	1.4	Clear, HC odor
5-19B	11/20/95	7.68	13.0	700	2.0	Clear, slight HC odor
5-20B	11/17/95	7.16	13.7	1200	2.9	Clear, slight HC odor
5-22B	11/15/95	7.70	12.9	990	6.4	Clear, no odor
5-23B	11/16/95	7.31	13.3	800	3.8	Clear, no odor
5-24B	11/17/95	7.33	13.2	1050	1.7	Slight cloudy, HC odor
5-41B	11/16/95	7.28	14.5	940	2.0	Clear, no odor
5-47B	11/15/95	7.83	13.0	900	2.5	Slightly cloudy, no odor
5-48B	11/20/95	7.60	13.7	1035	1.4	Clear, strong HC odor
5-57B	11/15/95	7.59	13.1	880	4.6	Brown muddy
5-58B	11/16/95	7.47	14.8	740	8.1	Cloudy brown, no odor

HC = hydrocarbon

Table 2

Summary of Analytical Results for Indicator Inorganic Constituents
November 1995
Thoreau Compressor Station No. 5

Monitor Well	Date	Concentration (mg/L)		
		Sulfate	Nitrate/ Nitrite-N	Iron
5-01B	11/21/95	81.8	5.58	<0.05
5-02B	11/21/95	56.3	3.09	0.26
5-98*	11/21/95	60.1	0.74	0.28
5-03B	11/15/95	50.7	17.7	<0.05
5-04B	11/22/95	71.5	5.78	<0.05
5-05B	11/17/95	80.8	6.68	<0.05
5-06B	11/21/95	89.2	9.04	<0.05
5-12B	11/16/95	81.8	12.4	<0.05
5-13B	11/20/95	20.8	3.45	<0.05
5-14B	11/16/95	75.0	8.96	<0.05
5-15B	11/16/95	75.9	7.50	<0.05
5-16B	11/20/95	41.4	3.76	<0.05
5-17B	11/20/95	75.5	13.3	<0.05
5-18B	11/17/95	83.6	4.43	<0.05
5-19B	11/20/95	81.8	4.75	<0.05
5-20B	11/17/95	84.6	3.78	<0.05
5-22B	11/15/95	83.7	9.85	<0.05
5-23B	11/16/95	83.6	10.10	<0.05
5-24B	11/17/95	64.9	3.86	<0.05
5-41B	11/16/95	56.7	4.01	<0.05
5-47B	11/15/95	20.4	5.56	<0.05
5-48B	11/20/95	46.4	3.40	0.12
5-57B	11/15/95	15.6	9.17	<0.05
5-58B	11/16/95	81.3	7.83	<0.05

Analysis done by Soil and Water West, Inc. (Rio Rancho, New Mexico)

* Sample replicate

Table 3

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 1 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-01A	05/89	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	NA	NA
	12/89	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	NA	NA
	04/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	06/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	08/90	AS	ND	0.1	ND	1	ND	1	ND	1	ND	1
	11/90	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	01/91	EH	ND	*	ND	1.0	ND	1.0	ND	1.0	ND	1.0
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
5-01B	08/89	ER	2.1[1]	*	NA	NA	NA	NA	NA	NA	NA	NA
	12/89	ER	2.0[2]	*	ND	5.0	6.3	5.0	ND	5.0	NA	NA
	03/90	ER	94[3]	*	ND	5.0	ND	5.0	ND	5.0	25	5.0
	06/90	ER	11[2]	5.0	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	08/90	AS	2.0[2]	0.1	ND	1	ND	1	ND	1	3.5	1
	11/90	EH	5.5[2]	*	ND	0.50	ND	0.50	ND	0.50	3.0	1.0
	01/91	EH	28[2]	*	ND	1.0	ND	1.0	ND	1.0	4.8	1.0

† ABB = ASEA Brown Boveri
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)
NET = National Environmental Testing, Inc. (Carrollton, Texas)

‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 2 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-01B (cont.)	02/91	EH	ND	*	1.6	0.50	ND	0.50	ND	0.50	4.6	1.0
	03/91	EH	ND	*	2.0	0.50	ND	0.50	ND	0.50	5.2	1.0
	04/91	EH	ND	*	1.2	0.50	ND	0.50	ND	0.50	3.6	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	5.4	1.0
	06/91	EH	ND	*	ND	0.50	0.63	0.50	ND	0.50	1.9	1.0
	07/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	6.0	1.0
	09/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	7.8	1.0
	10/91	ER	210[3]	50	ND	0.50	ND	0.50	ND	0.50	6.4	0.50
	11/91	ER	76[3]	50	ND	0.50	ND	0.50	ND	0.50	9.8	0.50
	12/91	ER	ND	10	ND	0.50	ND	0.50	ND	0.50	2.4	0.50
	01/09/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/27/92	ER	67[3]	40	ND	0.50	ND	0.50	ND	0.50	0.79	0.50
	02/20/92	ER	82[3]	10	ND	0.50	ND	0.50	ND	0.50	5.2	0.50
	03/18/92	ATI-P	54[3]	2.5	ND	0.5	ND	0.5	ND	0.5	3.3	0.5
	04/29/92	ATI-P	71[3]	0.5	ND	0.5	ND	0.5	ND	0.5	2.3	0.5
	10/14/92	ATI-P	82[3]	5.0	ND	0.5	ND	0.5	ND	0.5	4.7	0.5

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
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Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-01B (cont.)	12/13/94[1]	HEAL ATI-P	4.9[1]	1.0	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	06/27/95	HEAL NET	4.18[2]	0.65	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/06/95	HEAL NET	ND	0.65	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/21/95	HEAL/ NET	ND	0.065	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-02A	08/89	ER	NA	NA	ND	5.0	ND	5.0	ND	5.0	NA	NA
	12/89	ER	ND	*	ND	25	490	25	56	25	NA	NA
	01/90	ER	ND	*	42	15	210	15	24	15	NA	NA
	04/90	ABB	ND	*	48	2	150	2	32	2	290	2
5-02B	05/89	ER	ND	*	1800	200	2000	200	ND	200	NA	NA
	08/89	ER	ND	*	2500	500	4700	500	ND	500	NA	NA
	11/89	ER	ND	*	1800	250	3100	250	250	250	NA	NA
	03/90	ER	ND	*	2300	250	3800	250	ND	250	2400	250
	06/90	ER	ND	5.0	1900	250	3100	250	ND	250	2300	250
	08/90	AS	ND	0.1	1400	1	2300	1	180	1	1700	1

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
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Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-02B (cont.)	11/90	EH	ND	*	1500	100	2400	100	230	100	1900	200
	01/91	EH	ND	*	600	50	730	50	110	50	940	100
	02/91	EH	ND	*	460	50	580	50	75	50	600	100
	03/91	EH	ND	*	2400	120	3300	120	290	120	2600	25
	04/91	EH	ND	*	830	50	1200	50	110	50	920	100
	05/91	EH	ND	*	830	250	1200	250	150	25	1300	50
	06/91	EH	ND	*	5.1	0.50	7.0	0.50	0.57	0.50	4.7	1.0
	07/91	EH	ND	*	400	25	600	25	49	5.0	420	10
	09/91	EH	ND	*	510	25	750	25	57	25	530	50
	10/91	ER	ND	*	290	10	450	10	37	10	310	10
	11/91	ER	ND	1.0	740	25	1200	25	97	25	950	25
	12/91	ER	ND	1.0	330	12	580	12	31	12	320	12
	01/09/92	ER	ND	1.0	360	25	710	25	52	25	480	25
	01/28/92	ER	ND	1.0	420	12	810	12	64	12	560	12
	02/20/92	ER	ND	*	890	25	1600	25	140	25	1200	25
	03/19/92	ATI-P	ND	0.5	910	10	2100	50	170	10	1700	10
	04/29/92	ATI-P	ND	25.0	1700	125	3800	125	240	125	2200	125

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

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[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 5 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-02B (cont.)	10/14/92	ATI-P	NA	NA	800	5	700	5	74	2.5	640	2.5
	04/22/93	ATI-A	NA	NA	120	2.5	ND	0.5	11	0.5	38	0.5
	12/09/94	HEAL	NA	NA	2100	20	2600	20	220	20	1800	20
	06/26/95	HEAL	NA	NA	1200	0.5	2700	0.5	130	0.5	1200	0.5
	10/06/95	HEAL	NA	NA	490	20	1600	20	66	20	640	20
	11/21/95	HEAL	NA	NA	740	5.0	2900	5.0	160	5.0	1100	5.0
5-98*	11/21/95	HEAL	NA	NA	670	5.0	2000	5.0	120	5.0	990	5.0
5-03A	12/89	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	NA	NA
	04/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	05/90	ER	ND	**	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	08/90	AS	ND	0.1	ND	1	1.6	1	ND	1	ND	1
	11/90	EH	ND	*	1.4	0.50	0.67	0.50	ND	0.50	ND	1
	01/91	EH	ND	*	ND	1.0	ND	1.0	ND	1.0	ND	1.0
	02/91	EH	ND	*	0.76	0.50	0.79	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	1.5	0.50	0.90	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	1.2	0.50	0.74	0.50	ND	0.50	ND	1.0
	12/91	ER	ND	1.0	0.76	0.50	0.61	0.50	ND	0.50	1.0	0.50

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
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Well No.	Date	Lab[†]	Concentration (µg/L)									
			Total PCB[‡]	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-03B	05/89	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	NA	NA
	11/89	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	NA	NA
	04/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	05/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	08/90	AS	ND	0.1	ND	1	ND	1	ND	1	ND	1
	11/90	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1
	01/91	EH	ND	*	ND	0.30	ND	0.30	ND	0.30	ND	0.60
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	ND	0.50	1.4	0.50	ND	0.50	2.2	1.0
	07/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	09/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	10/91	ER	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	11/91	ER	ND	0.1	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	12/91	ER	ND	0.1	ND	0.50	ND	0.50	ND	0.50	ND	0.50

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[‡] Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 7 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-03B (cont.)	01/09/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/27/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	02/19/92	ER	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	03/17/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	04/28/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/07/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	12/09/94	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	06/26/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	.05
	10/03/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/15/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-04B	10/89	ER	NA	NA	ND	25	ND	25	ND	25	NA	NA
	12/89	ER	ND	*	18	5.0	ND	5.0	ND	5.0	NA	NA
	01/90	ER	ND	*	21	5.0	ND	5.0	ND	5.0	NA	NA
	04/90	ER	ND	*	54	5.0	ND	5.0	7.1	5.0	110	5.0
	06/90	ER	ND	*	60	50	ND	50	ND	50	64	50
	08/90	AS	ND	0.1	63	1	9.5	1	ND	1	15	1
	11/90	EH	ND	*	25	5.0	ND	5.0	ND	5.0	ND	10

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Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

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[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 8 of 27

Well No.	Date	Lab[†]	Concentration (µg/L)									
			Total PCB[‡]	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-04B (cont.)	01/91	EH	ND	*	22	0.50	1.6	0.50	0.75	0.50	5.6	1.0
	03/91	EH	ND	*	76	5.0	11	0.50	ND	0.50	5.7	1.0
	04/91	EH	ND	*	39	5.0	0.66	0.50	ND	0.50	2.9	1.0
	05/91	EH	ND	*	90	10	1.1	0.50	0.96	0.50	13	1.0
	06/91	EH	ND	*	81	5.0	21	5.0	14	5.0	87	10
	07/91	EH	ND	*	71	5.0	ND	0.5	4.5	0.50	43	1.0
	09/91	EH	ND	*	270	50	ND	1.0	6.6	1.0	54	2
	10/91	ER	ND	*	180	5.0	ND	5.0	7.8	5.0	48	5.0
	11/91	ER	ND	1.0	ND	1.2	ND	1.2	11	1.2	83	1.2
	12/91	ER	ND	1.0	100	2.5	ND	2.5	5.1	2.5	45	2.5
	01/10/92	ER	ND	1.0	53	1.2	ND	1.2	3.7	1.2	44	1.2
	01/28/92	ER	ND	1.0	48	1.2	2.8	1.2	6.5	1.2	44	1.2
	02/19/92	ER	ND	*	42	1.0	ND	1.0	3.4	1.0	39	1.0
	03/18/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	04/28/92	ATI-P	ND	0.5	86	2.5	80	2.5	60	2.5	570	2.5
	10/13/92	ATI-P	NA	NA	230	2.0	40	2.0	19	2.0	260	2.0
	04/21/93	ATI-A	NA	NA	170	5	130	5	26	5	280	25

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Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 9 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-04B (cont.)	12/12/94	HEAL	NA	NA	12	0.5	2.2	0.5	3.4	0.5	3.3	0.5
	12/20/94	HEAL	NA	NA	2.7	0.5	0.7	0.5	ND	0.5	1.3	0.5
	01/10/95	HEAL	NA	NA	9.8	0.5	2.3	0.5	ND	0.5	2.0	0.5
	03/07/95	HEAL	NA	NA	93	0.5	1.5	0.5	6.1	0.5	1.9	0.5
	06/08/95	HEAL	NA	NA	9.4	0.5	1.4	0.5	0.6	0.5	ND	0.5
	06/26/95	HEAL	NA	NA	15	0.5	ND	0.5	0.7	0.5	ND	0.5
	10/05/95	HEAL	NA	NA	44	0.5	1.7	0.5	3.1	0.5	ND	0.5
	11/17/95	HEAL	NA	NA	9.9	0.5	1.1	0.5	0.6	0.5	ND	0.5
5-05B	10/89	ER	ND	*	ND	5.0	ND	5.0	8.7	5.0	NA	NA
	11/89	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	NA	NA
	04/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	06/90	ER	ND	*	ND	5.0	ND	5.0	ND	5.0	ND	5.0
	08/90	AS	0.19[2]	0.1	2.5	1	ND	1	ND	1	4.6	1
	11/90	EH	2.4[2]	*	1.4	0.50	ND	0.50	ND	0.50	2.9	1.0
	01/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	0.56	0.50
	02/91	EH	ND	*	49	5.0	35	5.0	7.4	5.0	56	10
	03/91	EH	ND	*	12	0.50	1.2	0.50	ND	0.50	ND	1.0

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
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[2] Aroclor 1242
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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 10 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-05B (cont.)	04/91	EH	ND	*	1.3	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	4.6	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	3.8	0.50	ND	0.50	ND	0.50	ND	1.0
	07/91	EH	ND	*	0.51	0.50	ND	0.50	ND	0.50	ND	1.0
	09/91	EH	ND	*	3.0	0.50	ND	0.50	ND	0.50	ND	1.0
	10/91	ER	ND	5.0	0.90	0.50	ND	0.50	ND	0.50	ND	0.50
	11/91	ER	ND	1.0	1.2	0.50	ND	0.50	ND	0.50	ND	0.50
	12/91	ER	ND	2.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/09/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/27/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	02/19/92	ER	ND	**	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	03/17/92	ATI-P	ND	0.5	53	0.5	ND	0.5	11	0.5	84	0.5
	04/28/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/12/92	ATI-P	NA	NA	770	5.0	110	5.0	25	5.0	160	5.0
	04/21/93	ATI-A	NA	NA	38	0.5	ND	0.5	2.4	0.5	3.0	0.5
	12/12/94	HEAL	NA	NA	150	0.5	33	0.5	16	0.5	47	0.5
	06/26/95	HEAL	NA	NA	17	0.5	0.7	0.5	1.6	0.5	0.9	0.5

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 11 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-05B (cont.)	10/05/95	HEAL	NA	NA	8.2	0.5	ND	0.5	0.9	0.5	ND	0.5
	11/17/95	HEAL	NA	NA	5.0	0.5	ND	0.5	ND	0.5	ND	0.5
5-06B	10/89	ER	ND	*	15	5.0	ND	5.0	ND	5.0	NA	NA
	12/89	ER	180[3]	50	7.4	5.0	35	5.0	21	5.0	NA	NA
	01/90	ER	100[3]	20	ND	5.0	ND	5.0	8.3	5.0	NA	NA
	04/90	ER	170	*	5.3	5.0	ND	5.0	ND	5.0	120	5.0
	06/90	ER	39[2]	5.0	ND	5.0	ND	5.0	ND	5.0	19	5.0
	08/90	AS	1.1[2]	0.1	ND	1	ND	1	1.5	1	36	1
	11/90	EH	65[2]	50	1.8	0.50	ND	0.50	0.50	0.50	21	1.0
	01/91	EH	39[2]	5.0	ND	1.0	ND	1.0	ND	1.0	31	1.0
	02/91	EH	ND	*	12	0.50	2.5	0.50	ND	0.50	21	1.0
	03/91	EH	ND	*	2.0	0.50	ND	0.50	ND	0.50	5.1	1.0
	04/91	EH	ND	*	5.2	0.50	ND	0.50	ND	0.50	12	1.0
	05/91	EH	ND	*	7.7	0.50	ND	0.50	ND	0.50	18	1.0
	06/91	EH	ND	*	11	0.50	2.3	0.50	ND	0.50	25	2
	07/91	EH	ND	*	1.5	0.50	ND	0.50	ND	0.50	15	1.0

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 12 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-06B (cont.)	09/91	EH	ND	*	3.5	0.50	ND	0.50	ND	0.50	13	1.0
	10/91	ER	250[3]	50	3.1	0.50	0.62	0.50	0.77	0.50	9.3	0.50
	11/91	ER	140[3]	100	1.4	0.50	ND	0.50	ND	0.50	6.0	0.50
	11/91	ATI	210[3]	50	2.3	0.50	ND	0.50	ND	0.50	18	0.50
	12/91	ER	270[3]	100	ND	0.50	ND	0.50	ND	0.50	5.0	0.50
	01/09/92	ER	ND	1.0	2.3	0.50	ND	0.50	ND	0.50	ND	0.50
	01/27/92	ER	190[3]	100	1.3	0.50	ND	0.50	ND	0.50	2.6	0.50
	02/20/92	ER	200[3]	5.0	1.0	0.50	ND	0.50	ND	0.50	1.2	0.50
	03/18/92	ATI-P	140[3]	2.5	0.9	0.5	ND	0.5	ND	0.5	2.3	0.5
	04/29/92	ATI-P	150[3]	0.5	1.4	0.5	ND	0.5	ND	0.5	3.6	0.5
	10/14/92	ATI-P	280[3]	5.0	1.0	0.5	ND	0.5	ND	0.5	2.8	0.5
	12/14/94	HEAL	88[1]	9.7	4.3	0.5	ND	0.5	ND	0.5	0.7	0.5
	06/27/95	HEAL/ NET	26.3[2]	0.65	2.2	0.5	ND	0.5	ND	0.5	ND	0.5
	10/06/95	HEAL/ NET	30.1[2]	0.65	4.6	0.5	ND	0.5	ND	0.5	ND	0.5

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 13 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-06B (cont.)	11/21/95	HEAL/ NET**	44.4[2]	65.5	6.2	0.5	ND	0.5	ND	0.5	ND	0.5
5-99*	11/21/95	HEAL/ NET**	37.8[2]	65.5	NA	NA	NA	NA	NA	NA	NA	NA
5-12B	08/90	AS	ND	0.1	ND	1	ND	1	ND	1	ND	1
	11/90	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	01/91	EH	ND	*	1.5	0.50	4.7	0.50	0.79	0.50	3.8	1.0
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	07/91	EH	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	10/91	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/07/92	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	04/30/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/08/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5

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ATI-P = Analytical Technologies, Inc. (Phoenix)
ER = Enseco (Rocky Mountain Analytical)
EH = Enseco (Houston)
HEAL = Hall Environmental Analysis Laboratory (Albuquerque)
NET = National Environmental Testing, Inc. (Carrollton, Texas)

‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
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Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-12B (cont.)	10/03/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/16/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-13B	08/90	AS	ND	0.1	54	1	13	1	ND	1	330	1
	11/90	EH	ND	*	61	10	ND	10	ND	10	480	20
	01/91	EH	ND	*	180	5.0	17	5.0	ND	5.0	310	10
	02/91	EH	ND	*	270	10	25	10	ND	10	460	20
	03/91	EH	ND	*	240	50	ND	50	ND	50	480	100
	04/91	EH	ND	*	430	25	ND	0.50	ND	0.50	620	50
	05/91	EH	ND	*	290	10	ND	10	ND	10	450	20
	06/91	EH	ND	*	330	50	0.53	0.50	ND	0.50	600	100
	07/91	EH	NA	NA	97	25	0.72	0.50	ND	0.50	760	50
	10/91	ER	NA	NA	71	5.0	ND	5.0	ND	5.0	510	5.0
	01/08/92	ER	NA	NA	150	25	ND	25	ND	25	570	25
	05/01/92	ATI-P	NA	NA	76	0.5	8.0	0.5	ND	0.5	67	0.5
	10/13/92	ATI-P	NA	NA	88	0.5	8.7	0.5	ND	0.5	1.5	0.5
	10/05/95	HEAL	NA	NA	0.6	0.5	2.5	0.5	0.5	0.5	1.9	0.5
	11/20/95	HEAL	NA	NA	ND	0.5	ND	0.5	0.6	0.5	2.0	0.5

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‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 15 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-14B	08/90	AS	ND	0.1	ND	1	ND	1	ND	1	ND	1
	11/90	EH	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	01/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	2.8	0.50	3.2	0.50	0.53	0.50	2.0	1.0
	07/91	EH	NA	NA	0.60	0.50	ND	0.50	ND	0.50	ND	1.0
	10/91	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/06/92	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	04/30/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/08/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/04/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/16/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-15B	08/90	AS	ND	0.1	ND	1	ND	1	ND	1	ND	1
	11/90	EH	ND	*	2.1	0.50	ND	0.50	ND	0.50	ND	1.0

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Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
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Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-15B (cont.)	01/91	EH	ND	*	ND	0.30	ND	0.30	ND	0.30	1.0	0.60
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	07/91	EH	NA	NA	ND	0.50	0.59	0.50	ND	0.50	ND	1.0
	10/91	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/07/92	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	04/30/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/08/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/05/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/16/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-16B	08/90	AS	ND	0.1	19	1	25	1	50	1	320	1
	01/91	EH	ND	*	ND	0.30	ND	0.30	ND	0.30	ND	0.60
	02/91	EH	ND	*	320	20	46	20	170	20	860	20

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‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

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Aroclor 1016 = 0.50
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Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 17 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-16B (cont.)	03/91	EH	ND	*	920	50	14	0.50	1.2	0.50	130	100
	04/91	EH	ND	*	92	5.0	ND	0.50	0.68	0.50	9.2	1.0
	05/91	EH	ND	*	270	12	ND	12	230	12	1100	25
	06/91	EH	ND	*	450	120	490	120	460	120	2300	250
	07/91	EH	NA	NA	260	50	140	50	400	50	2400	100
	09/91	EH	NA	NA	460	50	320	50	550	50	3600	100
	10/91	ER	NA	NA	170	50	420	50	460	50	3200	50
	11/91	ER	NA	NA	180	50	430	50	330	50	2400	50
	12/91	ER	NA	NA	140	50	490	50	360	50	2900	50
	01/08/92	ER	NA	NA	200	120	500	120	410	120	3000	120
	02/20/92	ER	ND	*	170	25	330	25	470	25	3200	25
	03/18/92	ATI-P	ND	5.0	53	10	89	10	400	10	2400	10
	04/29/92	ATI-P	ND	10.0	23	2.5	3.3	2.5	210	2.5	1000	2.5
	10/13/92	ATI-P	NA	NA	5.1	0.5	2.3	0.5	12	0.5	63	0.5
	04/20/93	ATI-A	NA	NA	6.5	0.5	ND	0.5	14	0.5	51	0.5
	10/05/95	HEAL	NA	NA	610	100	5900	100	300	100	2600	100
	11/20/95	HEAL	NA	NA	970	5.0	7100	5.0	430	5.0	3100	5.0

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 18 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-17B	08/90	AS	ND	0.1	ND	1	ND	1	ND	1	ND	1
	11/90	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	01/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	0.72	0.50	2.9	0.50	1.8	0.50	11	1.0
	07/91	EH	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	10/91	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/08/92	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	02/19/92	ER	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	03/17/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	04/28/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/07/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

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[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 19 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-17B (cont.)	10/06/95	HEAL	ND	0.65	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/20/95	NET/ HEAL	ND	0.065	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-18B	08/90	AS	ND	0.1	1100	1	14	1	ND	1	220	1
	11/90	EH	ND	*	1900	100	ND	100	ND	100	320	200
	01/91	EH	ND	*	1300	25	ND	25	ND	25	170	25
	02/91	EH	ND	*	970	25	11	5.0	ND	5.0	170	10
	03/91	EH	ND	*	260	12	1.8	0.50	ND	0.50	23	1.0
	04/91	EH	ND	*	1000	25	ND	1.0	ND	1.0	78	2
	06/91	EH	ND	*	680	50	1.1	0.50	1.0	0.50	150	100
	07/91	EH	NA	NA	1500	25	3.0	0.50	1.5	0.50	70	1.0
	10/91	ER	NA	NA	1200	25	ND	25	ND	25	130	25
	01/08/92	ER	NA	NA	1100	25	ND	25	ND	25	88	25
	05/01/92	ATI-P	NA	NA	790	25	2.7	0.5	ND	0.5	36	0.5
	10/13/92	ATI-P	NA	NA	820	2.5	ND	0.5	1.0	0.5	36	0.5
	04/22/93	ATI-A	NA	NA	360	2.5	ND	0.5	0.5	0.5	2.6	0.5

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 20 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-18B (cont.)	10/05/95	HEAL	NA	NA	87	0.5	8.4	0.5	9.0	0.5	26	0.5
	11/17/95	HEAL	NA	NA	240	0.5	24	0.5	22	0.5	53	0.5
5-19B	08/90	AS	ND	0.1	190	1	3.5	1	5.8	1	44	1
	11/90	EH	ND	*	180	10	11	10	ND	10	ND	20
	01/91	EH	ND	*	150	0.30	ND	0.30	0.60	0.30	15	0.60
	02/91	EH	ND	*	200	10	5.8	2.5	ND	2.5	14	5.0
	03/91	EH	ND	*	200	25	30	25	180	25	880	50
	04/91	EH	ND	*	290	25	ND	25	210	25	880	50
	05/91	EH	ND	*	240	12	ND	0.50	0.71	0.50	21	1.0
	06/91	EH	ND	*	290	25	7.5	0.50	2.2	0.50	22	1.0
	07/91	EH	NA	NA	240	25	ND	0.50	0.58	0.50	14	1.0
	10/91	ER	NA	NA	140	2.5	ND	2.5	ND	2.5	12	2.5
	01/08/92	ER	NA	NA	240	5.0	ND	5.0	ND	5.0	9.0	5.0
	02/20/92	ER	ND	*	150	2.5	ND	2.5	ND	2.5	4.2	2.5
	03/19/92	ATI-P	ND	0.5	140	5	ND	0.5	ND	0.5	5.9	0.5
	04/29/92	ATI-P	ND	0.5	190	2.5	ND	0.5	ND	0.5	4.3	0.5
	10/13/92	ATI-P	NA	NA	130	1.0	ND	0.5	ND	0.5	4.4	0.5

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Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
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[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 21 of 27

Well No.	Date	Lab[†]	Concentration (µg/L)									
			Total PCB[‡]	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-19B (cont.)	10/05/95	HEAL	NA	NA	1.0	0.5	0.7	0.5	ND	0.5	ND	0.5
	11/20/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-20B	08/90	AS	ND	0.1	58	1	8	1	ND	1	51	1
	11/90	EH	ND	*	180	5.0	ND	5.0	ND	5.0	12	10
	01/91	EH	ND	*	93	1.0	14	1.0	ND	1.0	23	2
	02/91	EH	ND	*	280	10	14	10	ND	10	46	20
	02/91	EH	ND	*	110	5.0	ND	5.0	ND	5.0	ND	5.0
	03/91	EH	ND	*	200	5.0	ND	5.0	ND	5.0	ND	10
	04/91	EH	ND	*	180	12	ND	1.0	ND	1.0	19	2
	05/91	EH	ND	*	160	5.0	ND	5.0	ND	5.0	32	10
	06/91	EH	ND	*	300	25	1.1	0.50	ND	0.50	15	1.0
	07/91	EH	NA	NA	73	5.0	1.1	0.50	1.0	0.50	24	1.0
	10/91	ER	NA	NA	57	1.2	2.2	1.2	ND	1.2	11	1.2
	01/08/92	ER	NA	NA	31	1.2	ND	1.2	ND	1.2	6.7	1.2
	05/01/92	ATI-P	NA	NA	55	0.5	3.9	0.5	4.9	0.5	6.2	0.5
	10/12/92	ATI-P	NA	NA	52	0.5	2.7	0.5	4.4	0.5	11	0.5
	04/21/93	ATI-A	NA	NA	14	0.5	ND	0.5	6.1	0.5	10	0.5

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ER = Enseco (Rocky Mountain Analytical)
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HEAL = Hall Environmental Analysis Laboratory (Albuquerque)
NET = National Environmental Testing, Inc. (Carrollton, Texas)

[‡] Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 22 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-20B (cont.)	10/05/95	HEAL	NA	NA	3.2	0.5	0.7	0.5	3.5	0.5	ND	0.5
	11/17/95	HEAL	NA	NA	12	0.5	2.3	0.5	ND	0.5	2.6	0.5
5-22B	10/90	AS	2.2[2]	0.1	ND	1	ND	1	ND	1	ND	1
	01/91	EH	13[4]	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	02/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	04/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	06/91	EH	ND	*	1.9	0.50	5.5	0.50	13	0.50	58	1.0
	07/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	09/91	EH	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	1.0
	10/91	ER	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	11/91	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	12/91	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/10/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/28/92	ER	ND	1.0	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	02/19/92	ER	ND	*	ND	0.50	ND	0.50	ND	0.50	ND	0.50

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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)
NET = National Environmental Testing, Inc. (Carrollton, Texas)

‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 23 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-22B (cont.)	03/18/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	04/28/92	ATI-P	ND	0.5	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/08/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	12/12/94	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	06/26/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/03/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/15/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-23B	10/90	AS	30[5]	0.1	5.3	1	ND	1	ND	1	ND	1
	11/90	EH	ND	*	5.1	0.50	ND	0.50	ND	0.50	ND	1.0
	01/91	EH	ND	*	3.0	0.30	ND	0.30	ND	0.30	ND	0.60
	02/91	EH	ND	*	6.6	0.50	ND	0.50	ND	0.50	ND	1.0
	03/91	EH	ND	*	8.5	0.50	ND	0.50	ND	0.50	1.2	1.0
	04/91	EH	ND	*	5.0	0.50	ND	0.50	ND	0.50	ND	1.0
	05/91	EH	ND	*	120	5.0	ND	0.50	ND	0.50	7.5	1.0
	06/91	EH	ND	*	3.8	0.50	0.55	0.50	ND	0.50	5.7	1.0
	07/91	EH	NA	NA	2.0	0.50	ND	0.50	ND	0.50	1.3	1.0
	09/91	EH	NA	NA	2.1	0.50	ND	0.50	ND	0.50	1.1	1.0

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AS = Assaigai Laboratories (Albuquerque)
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ATI-P = Analytical Technologies, Inc. (Phoenix)
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HEAL = Hall Environmental Analysis Laboratory (Albuquerque)
NET = National Environmental Testing, Inc. (Carrollton, Texas)

‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-23B (cont.)	10/91	ER	NA	NA	1.6	0.50	ND	0.50	ND	0.50	ND	0.50
	11/91	ER	NA	NA	0.59	0.50	ND	0.50	ND	0.50	ND	0.50
	12/91	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	01/07/92	ER	NA	NA	0.65	0.50	ND	0.50	ND	0.50	ND	0.50
	02/18/92	ER	NA	NA	ND	0.50	ND	0.50	ND	0.50	ND	0.50
	03/17/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	04/30/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/09/92	ATI-P	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/04/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/16/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-24B	10/90	AS	ND	0.1	63	1	ND	1	2.0	1	1.6	1
	11/90	EH	ND	*	100	5.0	ND	5.0	ND	5.0	ND	10
	01/91	EH	ND	*	40	0.50	0.55	0.50	0.74	0.50	ND	1.0
	02/91	EH	ND	*	150	5.0	16	5.0	ND	5.0	21	10
	03/91	EH	ND	*	89	2.5	9.8	2.5	ND	0.50	3.5	1.0
	04/91	EH	ND	*	230	12	ND	1.0	ND	1.0	6.3	2
	05/91	EH	ND	*	4.3	0.50	ND	0.50	ND	0.50	1.3	1.0

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‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

* Standard reporting limits:
Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 25 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-24B (cont.)	06/91	EH	ND	*	280	25	0.86	0.50	0.64	0.50	13	1.0
	07/91	EH	NA	NA	130	5.0	ND	0.50	ND	0.50	8.7	1.0
	09/91	EH	NA	NA	250	12	0.54	0.50	ND	0.50	12	1.0
	10/91	ER	NA	NA	140	2.5	ND	2.5	ND	2.5	ND	2.5
	11/91	ER	NA	NA	180	5.0	ND	5.0	ND	5.0	ND	5.0
	12/91	ER	NA	NA	180	5.0	ND	5.0	ND	5.0	ND	5.0
	10/03/95	HEAL	NA	NA	ND	0.5	ND	0.5	1.0	0.5	1.0	0.5
	11/17/95	HEAL	NA	NA	1.2	0.5	0.8	0.5	0.5	0.5	1.0	0.5
5-34B	01/07/92	ER	NA	NA	120	2.5	ND	2.5	ND	2.5	ND	2.5
	02/18/92	ER	NA	NA	140	2.5	ND	2.5	ND	2.5	ND	2.5
	03/17/92	ATI-P	NA	NA	120	5	ND	0.5	0.8	0.5	1.4	0.5
	04/30/92	ATI-P	NA	NA	100	0.5	2.1	0.5	1.4	0.5	2.2	0.5
	10/13/92	ATI-P	NA	NA	1.2	0.5	ND	0.5	0.8	0.5	0.8	0.5
	04/21/93	ATI-A	NA	NA	ND	0.5	ND	0.5	0.7	0.5	1.4	0.5
	12/13/94	HEAL	NA	NA	4700	0.5	13,000	0.5	460	0.5	5,900	0.5
5-35B	04/22/93	ATI-A	NA	NA	360	12.5	1400	12.5	130	12.5	1700	12.5

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Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 26 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-36E	12/14/94	HEAL	NA	NA	620	50	2700	50	230	50	3300	50
05-41B	10/09/92	ATI-P	NA	NA	47	0.5	3.9	0.5	0.7	0.5	1.0	0.5
	04/20/93	ATI-A	NA	NA	1.4	0.5	ND	0.5	2.5	0.5	2.1	0.5
	10/04/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/16/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-47B	10/07/92	ATI-P	NA	NA	1.0	0.5	ND	0.5	ND	0.5	ND	0.5
	04/20/93	ATI-A	NA	NA	2.9	0.5	ND	0.5	ND	0.5	ND	0.5
	10/04/95	HEAL	NA	NA	7.2	0.5	2.0	0.5	0.6	0.5	4.6	0.5
	11/15/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
5-48B	10/12/92	ATI-P	NA	NA	380	2.5	1100	25	84	2.5	840	2.5
	04/21/93	ATI-A	NA	NA	99	12.5	390	12.5	34	12.5	360	12.5
	10/05/95	HEAL	NA	NA	550	12.5	940	12.5	290	12.5	1900	12.5
	11/20/95	HEAL	NA	NA	820	5.0	1700	5.0	390	5.0	2600	5.0
5-57B	04/19/93	ATI-A	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/04/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/15/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5

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Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

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Summary of Ground-Water Analytical Results
Thoreau Compressor Station
Page 27 of 27

Well No.	Date	Lab†	Concentration (µg/L)									
			Total PCB‡	Reporting Limit	Benzene	Reporting Limit	Toluene	Reporting Limit	Ethyl-benzene	Reporting Limit	Total Xylenes	Reporting Limit
5-58B	04/19/93	ATI-A	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	10/04/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5
	11/16/95	HEAL	NA	NA	ND	0.5	ND	0.5	ND	0.5	ND	0.5

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‡ Total PCB includes Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260

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Aroclor 1016 = 0.50
Aroclor 1221 = 0.50
Aroclor 1232 = 0.50
Aroclor 1242 = 0.50
Aroclor 1248 = 0.50
Aroclor 1254 = 1.0
Aroclor 1260 = 1.0

** 10 times standard reporting limits

[1] Aroclor 1016
[2] Aroclor 1242
[3] Aroclor 1221
[4] Aroclor 1248
[5] Aroclor 1254

ND = Not detected
NA = Not analyzed

Table 4 Summary of Phase I SVE Emissions Thoreau Compressor Station No. 5

Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Non-Methane Hydrocarbons	PID Readings
	(ppmv)					
12/12/94	42	49	4	16	5,379	NA
01/10/95	34	134	2	39	3,163	NA
02/02/95	4	23	3	7	4,210	934
03/07/95	7	9	<1	<1	1,300	NA
06/08/95	6	75	7	57	1,400	300[a]
09/06/95	20	94	7	44	2,300	NA
11/17/95	ND	10	ND	ND	500	695

All air samples analyzed by Core Laboratories of Houston, Texas

ppmv = Parts per million by volume
PID = Photoionization detector
NA = Not analyzed

[a] PID reading from 05/02/95

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #1

Lab Reports for the November 1995 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

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

11/29/95

Daniel B. Stephens & Associates
6020 Academy N.E., 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 11/30/95

Scott Hallenbeck, Lab Manager

Project: ENRON-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	11/15/95
Project:	ENRON-Thoreau	**Date Received**:	11/18/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-03B**	**5-57B**	**5-47B**
	Lab Code:	9511077-1	9511077-2	9511077-3
	Date Analyzed:	11/22/95	11/22/95	11/22/95
Compound	MRL	Result	Result	Result
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
BFB (Surrogate) Recovery		99	98	97
Dilution Factor		1	1	1

Hall Environmental Analysis Laboratory, Inc.

Client:	Daniel B. Stephens & Associates	**Date Collected:**	11/15,16/95
Project:	ENRON-Thoreau	**Date Received:**	11/18/95
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-22B**	**5-41B**	**5-58B**
	Lab Code:	9511077-4	9511077-5	9511077-6
	Date Analyzed:	11/22/95	11/22/95	11/22/95
Compound	MRL	Result	Result	Result
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
BFB (Surrogate) Recovery		96	93	95
Dilution Factor		1	1	1

Client :	Daniel B. Stephens & Associates	**Date Collected:**	11/16/95
Project:	ENRON-Thoreau	**Date Received:**	11/18/95
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-12B**	**5-14B**	**5-23B**
	Lab Code:	9511077-7	9511077-8	9511077-9
	Date Analyzed:	11/22/95	11/22/95	11/22/95
Compound	MRL	Result	Result	Result
Benzene	0.5	ND	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
BFB (Surrogate) Recovery		91	96	95
Dilution Factor		1	1	1

Client :	Daniel B. Stephens & Associates	**Date Collected:**	11/16,17/95
Project:	ENRON-Thoreau	**Date Received:**	11/18/95
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-15B**	**5-04B**	**5-05B**
	Lab Code:	9511077-10	9511077-11	9511077-12
	Date Analyzed:	11/22/95	11/22/95	11/22/95
Compound	MRL	Result	Result	Result
Benzene	0.5	ND	9.9	5.0
Toluene	0.5	ND	1.1	ND
Ethylbenzene	0.5	ND	0.6	ND
Total Xylenes	0.5	ND	ND	ND
BFB (Surrogate) Recovery		98	93	92
Dilution Factor		1	1	1

Client:	Daniel B. Stephens & Associates	**Date Collected:**	11/17/95
Project:	ENRON-Thoreau	**Date Received:**	11/18/95
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-20B**	**5-24B**	**5-18B**
	Lab Code:	9511077-13	9511077-14	9511077-15
	Date Analyzed:	11/22/95	11/22/95	11/22/95
Compound	MRL	Result	Result	Result
Benzene	0.5	12	1.2	240
Toluene	0.5	2.3	0.8	24
Ethylbenzene	0.5	ND	0.5	22
Total Xylenes	0.5	2.6	1.0	53
BFB (Surrogate) Recovery		110	95	99
Dilution Factor		1	1	1

Client :	Daniel B. Stephens & Associates	**Date Collected**:	11/2/95
Project:	ENRON-Thoreau	**Date Received**:	11/18/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**Reagent Blank**	**Trip Blank**
	Lab Code:		
	Date Analyzed:	11/22/95	11/22/95
Compound	MRL	Result	Result
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
BFB (Surrogate) Recovery		99	91
Dilution Factor		1	1

Client:	Daniel B. Stephens & Associates	**Date Collected:**	NA
Project:	ENRON-Thoreau	**Date Received:**	NA
Sample Matrix:	Aqueous	**Date Extracted:**	NA
		Date Analyzed:	11/22/95

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)
9511077-1 MS/MSD

Compound	Sample Result	Amount Added	Matrix Spike	MS %	MS Dup	MSD %	RPD
Benzene	<0.5	20.0	20.4	102	20.3	102	0
Toluene	<0.5	20.0	20.0	100	20.0	100	0
Ethylbenzene	<0.5	20.0	20.4	102	20.4	102	0
Total Xylenes	<0.5	60.0	60.9	102	60.2	100	1

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: DANIEL B. STEPHEN & ASSOC.

Address: 6020 ACADEMY NE SUITE 100
ALBUQUERQUE NM 87109

Phone #: (505) 822-9400

Fax #: (505) 822-8877

Project Name: ENRON THOREAU NON-CONSENT DECREE

Project #: 2105.2.2

Project Manager: BOB MARLEY

Sampler: JRL/AWP

Samples Cold? ☐ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
1-15-95	1115	H_2O	5-03B	2 @ 40 ml	X			95 11077-1
1-15-95	1415	H_2O	5-57B		X			-2
1/15/95	1500	H_2O	5-47B		X			-3
1/15/95	1655	H_2O	5-22B		X			-4
1/16/95	1010	H_2O	5-41B		X			-5
1/16/95	1100	H_2O	5-58B		X			-6
1/16/95	1250	H_2O	5-12B		X			-7
1/16/95	1440	H_2O	5-14B		X			-8
1/16/95	1520	H_2O	5-23B		X			-9
1/16/95	1615	H_2O	5-15B		X			-10
1/17/95	0940	H_2O	5-04B		X			-11
1/17/95	1300	H_2O	5-05B		X			-12

ANALYSIS REQUEST

BTEX (Method 602/8020) No 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)
/													
/													
/													
/													
/													
/													
/													
/													
/													
/													

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
1/18/95	1000	John R. Logsdon	Theresa Lowe
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BILL TO: GEORGE ROBINSON
ENRON ENVIRONMENTAL AFFAIRS
1400 SMITH ST. SUITE 3AC 3142
HOUSTON TX 77002

RE: NON-CONSENT DECREE THOREAU: 060-1070-100-247-0286-$35025-GENV

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: DANIEL B STEPHENS & ASSOC.

Address: 6020 ACADEMY NE SUITE 100
ALBUQUERQUE NM 87109

Phone #: (505) 822-9400

Fax #: (505) 822-8877

Project Name: ENRON THOREAU NON-CONSENT DECREE

Project #: 2105.2.2

Project Manager: BOB MARLEY

Sampler: JRL / AWP

Samples Cold? ☐ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					$HgCl_2$	HCl	Other	
11/17/95	1035	H_2O	5-20B	2 @ 40ml	X			9511077-13
11/17/95	1225	H_2O	5-24B	↓	X			-14
11/17/95	1420	H_2O	5-18B		X			-15
11/2/95	—	H_2O	TRIP BLANK	↓	X			-16

ANALYSIS REQUEST

BTEX (Method 602/8020) No 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)
/													
/													
/													
/													

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11/18/95	1000		Theresa Lucero
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BILL TO: GEORGE ROBINSON
ENRON ENVIRONMENTAL AFFAIRS
1400 SMITH ST SUITE 3AC 3142
HOUSTON TX 77002

RE:
NON-CONSENT
DECREE THOREAU

060-1070-100-247-0286-S35025-50510-GENV

Hall Environmental Analysis Laboratory

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

12/5/95

Daniel B. Stephens & Associates
6020 Academy N.E., 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 Hall 12/5/95

Scott Hallenbeck, Lab Manager

Project: ENRON-Thoreau

Client :	Daniel B. Stephens & Associates	**Date Collected**:	11/20/95
Project:	ENRON-Thoreau	**Date Received**:	11/22/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-13B**	**5-19B**	**5-48B**
	Lab Code:	9511089-1	9511089-2	9511089-3
	Date Analyzed:	11/28/95	11/28/95	11/28/95
Compound	MRL	Result	Result	Result
Benzene	0.5	ND	ND	820
Toluene	0.5	ND	ND	1,700
Ethylbenzene	0.5	0.6	ND	390
Total Xylenes	0.5	2.0	ND	2,600
BFB (Surrogate) Recovery		101	99	101
Dilution Factor		1	1	10

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	11/20,21/95
Project:	ENRON-Thoreau	**Date Received**:	11/22/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

		Sample Name:	**5-16B**	**5-02B**	**5-01B**
		Lab Code:	9511089-4	9511089-5	9511089-6
		Date Analyzed:	11/28/95	11/28/95	11/28/95
Compound	MRL		Result	Result	Result
Benzene	0.5		970	740	ND
Toluene	0.5		7,100	2,900	ND
Ethylbenzene	0.5		430	160	ND
Total Xylenes	0.5		3,100	1,100	ND
BFB (Surrogate) Recovery			99	104	92
Dilution Factor			10	10	1

Client :	Daniel B. Stephens & Associates	**Date Collected:**	11/20,21/95
Project:	ENRON-Thoreau	**Date Received:**	11/22/95
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-17B**	**5-98**	**Trip Blank**
	Lab Code:	9511089-7	9511089-8	9511089-9
	Date Analyzed:	11/28/95	11/28/95	11/28/95
Compound	MRL	Result	Result	Result
Benzene	0.5	ND	670	ND
Toluene	0.5	ND	2,000	ND
Ethylbenzene	0.5	ND	120	ND
Total Xylenes	0.5	ND	990	ND
BFB (Surrogate) Recovery		93	97	90
Dilution Factor		1	10	1

Client :	Daniel B. Stephens & Associates	**Date Collected**:	NA
Project:	ENRON-Thoreau	**Date Received**:	NA
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**Reagent**
	Lab Code:	**Blank**
	Date Analyzed:	11/28/95

Compound	MRL	Result
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Total Xylenes	0.5	ND
BFB (Surrogate) Recovery		98
Dilution Factor		1

Hall Environmental Analysis Laboratory, Inc.

Client:	Daniel B. Stephens & Associates	**Date Collected:**	NA
Project:	ENRON-Thoreau	**Date Received:**	NA
Sample Matrix:	Aqueous	**Date Extracted:**	NA
		Date Analyzed:	11/28/95

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)
9511087-1 MS/MSD

Compound	Sample Result	Amount Added	Matrix Spike	MS %	MS Dup	MSD %	RPD
Benzene	<0.5	20.0	22.7	114	21.4	107	6
Toluene	<0.5	20.0	21.5	108	20.6	103	4
Ethylbenzene	<0.5	20.0	20.8	104	20.0	100	4
Total Xylenes	<0.5	60.0	63.5	106	61.5	103	3

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: DANIEL B STEPHENS & ASSOC.

Address: 6020 ACADEMY NE SUITE 100
ALBUQUERQUE NM 87109

Phone #: (505) 822-9400

Fax #: (505) 822-8877

Project Name: ENRON THOREAU 2105.2.2

Project #: 2105.2.2

Project Manager: BOB MACKEY

Sampler: JAL / AWP

Samples Cold? ☐ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
~~10-95~~	(JAL)	~~H_2O~~	(JAL)					
11/20/95	1355	H_2O	~~JAL 10B~~ 5-13B	2/40ml	X			9511089-1
11/20/95	1525		5-19B		X			-2
11/20/95	1545		5-48B		X			-3
11/20/95	1700		5-16B		X			-4
11/21/95	1020		5-02B.		X			-5
11/21/95	1305		5-01B		X			-6
—	—	—	~~5-06B~~ (JAL)	—				
11/20/95	1400	H_2O	5-17B	2/40mL	X			-7
11/21/95	1025		5-9B	2/40mL	X			-8
11/18/95	—		TRIP BLANK	1/40mL	X			-9

NON CONFORMITY DETECTED THROUGH: 0960-1070-1120-2477-0286-8351-5051C

ANALYSIS REQUEST	
BTEX (Method 602/8020) NM MTBE	
BTEX + MTBE (602/8020)	~~X~~ JAL
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, Y

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11-22-95	1510		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BILL TO: GEORGE ROBINSON ENV
ENRON ENVIRONMENTAL AFFAIRS
1400 SMITH ST SUITE 3AC 3142
HOUSTON TX 77002

Hall Environmental
Analysis Laboratory

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

12/5/95

Daniel B. Stephens & Associates
6020 Academy N.E., 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 12/5/95

Scott Hallenbeck, Lab Manager

Project: ENRON-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected:**	11/21/95
Project:	ENRON-Thoreau	**Date Received:**	11/28/95
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-06B**	**Trip Blank**	**Reagent Blank**
	Lab Code:	9511098-1	9511098-2	
	Date Analyzed:	11/30/95	11/30/95	11/30/95
Compound	MRL	Result	Result	Result
Benzene	0.5	6.2	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
BFB (Surrogate) Recovery		104	96	94
Dilution Factor		1	1	1

Hall Environmental Analysis Laboratory, Inc.

Client:	Daniel B. Stephens & Associates	**Date Collected:**	NA
Project:	ENRON-Thoreau	**Date Received:**	NA
Sample Matrix:	Aqueous	**Date Extracted:**	NA
		Date Analyzed:	12/1/95

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)
9511093-3 MS/MSD

Compound	Sample Result	Amount Added	Matrix Spike	MS %	MS Dup	MSD %	RPD
Benzene	<0.5	20.0	21.8	109	19.8	99	10
Toluene	<0.5	20.0	21.3	107	19.5	98	9
Ethylbenzene	<0.5	20.0	21.0	105	19.0	95	10
Total Xylenes	<0.5	60.0	63.1	105	57.7	96	9

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: Dinner B. Stephens & Assoc.

Project Name: ENRON THOREAU

Address: 6020 Academy NE, Suite 100
Albuquerque NM 87109

Project #: 2105.2.2

Project Manager: Bob Marley

Phone #: (505) ~~822~~ 822-9400

Sampler: AWP

Fax #: (505) 822-8877

Samples Cold? ☐ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.	ANALYSIS REQUEST															
					$HgCl_2$	HCl	Other		BTEX (Method 602/8020) No 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)
11-21-95	1310	H_2O	5-06B	2 @ 40ml	X			9511098-1	X															Y
11-18-95	—	H_2O	TRIP BLANK	1 @ 40ml	X			-2	X															N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11-28-95	1515		3:10 PM 11/28
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: BILL TO: GEORGE ROBINSON
ENRON ENVIRONMENTAL AFFAIRS
1400 SMITH ST. SUITE 3AC.3142
HOUSTON TX 77002

RE: NON-CONSENT DECREE THOREAU
NM [illegible] SITE - SAMPLE

RECEIVED DEC 1 1 1995

SOIL AND WATER WEST, INC
NATURAL RESOURCE CONSULTANTS
AND TESTING LABORATORIES

1700 Southern Blvd.
Rio Rancho, NM 87124

Phone: (505) 891-9472
Fax: (505) 892-6607

NAME: Daniel B. Stephens & Associates
ADDRESS: 6020 Academy, Suite 100
Albuquerque, NM 87109
CONTACT: Bob Marley
DATE RECEIVED: 11/28/95

DATE: 12/6/95
PHONE: 822-9400
NUMBER OF SAMPLES: 24
PROJECT / PO#: 2105.2.2
TIME RECEIVED: 3:50 PM

LAB #	SAMPLE ID	Sulfate mg/L	NO3 + NO2 mg/L	Iron mg/L				
2027-1	5-03B	50.7	17.7	<0.05				
2027-2	5-57B	15.6	9.17	<0.05				
2027-3	5-47B	20.4	5.56	<0.05				
2027-4	5-22B	83.7	9.85	<0.05				
2027-5	5-41B	56.7	4.01	<0.05				
2027-6	5-58B	81.3	7.83	<0.05				
2027-7	5-12B	81.8	12.4	<0.05				
2027-8	5-14B	75.0	8.96	<0.05				
2027-9	5-23B	83.6	10.1	<0.05				
2027-10	5-15B	75.9	7.50	<0.05				
2027-11	5-20B	84.6	3.78	<0.05				
2027-12	5-05B	80.8	6.68	<0.05				
2027-13	5-24B	64.9	3.86	<0.05				
2027-14	5-04B	71.5	5.78	<0.05				
2027-15	5-18B	83.6	4.43	<0.05				
2027-16	5-13B	20.8	3.45	<0.05				
2027-17	5-17B	75.5	13.3	<0.05				
2027-18	5-19B	81.8	4.75	<0.05				
2027-19	5-16B	41.4	3.76	<0.05				
2027-20	5-48B	46.4	3.40	0.12				
2027-21	5-02B	56.3	3.09	0.26				
2027-22	5-06B	89.2	9.04	<0.05				

SOIL AND WATER WEST, INC

NATURAL RESOURCE CONSULTANTS
AND TESTING LABORATORIES

LAB #	SAMPLE ID	Sulfate mg/L	NO3 + NO2 mg/L	Iron mg/L				
2027-23	5-01B	81.8	5.58	<0.05				
2027-24	5-98	60.1	0.74	0.28				
Method #:		9038	4500, E	7380				
Method D/L:		1.0	0.01	0.05				

Comments: _____

SIGNED: _____ DATE: 12/6/95

SIGNED: _____ DATE: 12/6/95

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

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

12/01/1995

NET Job Number: 95.08833

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
285402	5-17B	11/20/1995	11/27/1995
285403	5-06B	11/21/1995	11/27/1995
285404	5-99	11/21/1995	11/27/1995
285405	5-01B	11/21/1995	11/27/1995

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

OCEAN GROUP

ANALYTICAL REPORT

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

12/01/1995
Job No.: 95.08833

Project Name: 2105.2.2 ENRON THOREAU

Date Received: 11/27/1995

285402 5-17B
Taken: 11/20/1995 14:00

PCB/PEST-AQUEOUS (8080)			
PCB-1016	<0.065		ug/L
PCB-1221	<0.065		ug/L
PCB-1232	<0.065		ug/L
PCB-1242	<0.065		ug/L
PCB-1248	<0.065		ug/L
PCB-1254	<0.065		ug/L
PCB-1260	<0.065		ug/L

285403 5-06B
Taken: 11/21/1995 13:10

PEST/PCB-AQUEOUS (8080-COMP)			
PCB-1016	<6.5	EDL	ug/L
PCB-1221	<6.5	EDL	ug/L
PCB-1232	<6.5	EDL	ug/L
PCB-1242	44.4		ug/L
PCB-1248	<6.5	EDL	ug/L
PCB-1254	<6.5	EDL	ug/L
PCB-1260	<6.5	EDL	ug/L
SURR: DCB	d	D	% Rec
SURR: TCX	d	D	% Rec

285404 5-99
Taken: 11/21/1995

PEST/PCB-AQUEOUS (8080-COMP)			
PCB-1016	<6.5	EDL	ug/L
PCB-1221	<6.5	EDL	ug/L
PCB-1232	<6.5	EDL	ug/L
PCB-1242	37.8		ug/L
PCB-1248	<6.5	EDL	ug/L
PCB-1254	<6.5	EDL	ug/L
PCB-1260	<6.5	EDL	ug/L
SURR: DCB	d	D	% Rec
SURR: TCX	d	D	% Rec

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

ANALYTICAL REPORT

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

12/01/1995
Job No.: 95.08833

Project Name: 2105.2.2 ENRON THOREAU

Date Received: 11/27/1995

285405 5-01B
Taken: 11/21/1995 13:05

PCB/PEST-AQUEOUS (8080)

PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L

QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 95.08833

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
PCB/PEST-AQUEOUS (8080)			S-8080				
PCB-1016	bgm	11/28/1995	S-8080	0.499	0.50	100	NA
PCB-1221	bgm	11/28/1995	S-8080	na	0.5	NA	NA
PCB-1232	bgm	11/28/1995	S-8080	na	0.50	NA	NA
PCB-1242	bgm	11/28/1995	S-8080	na	0.50	NA	NA
PCB-1248	bgm	11/28/1995	S-8080	na	0.50	NA	NA
PCB-1254	bgm	11/28/1995	S-8080	na	0.50	NA	NA
PCB-1260	bgm	11/28/1995	S-8080	0.502	0.50	100	NA
PCB/PEST-AQUEOUS (8080)			S-8080				
PCB-1016	bgm	11/29/1995	S-8080	0.520	0.50	104	NA
PCB-1221	bgm	11/29/1995	S-8080	na	0.5	NA	NA
PCB-1232	bgm	11/29/1995	S-8080	na	0.50	NA	NA
PCB-1242	bgm	11/29/1995	S-8080	na	0.50	NA	NA
PCB-1248	bgm	11/29/1995	S-8080	na	0.50	NA	NA
PCB-1254	bgm	11/29/1995	S-8080	na	0.50	NA	NA
PCB-1260	bgm	11/29/1995	S-8080	0.504	0.50	101	NA
PCB/PEST-AQUEOUS (8080)			S-8080				
PCB-1016	bgm	11/30/1995	S-8080	0.516	0.50	103	NA
PCB-1221	bgm	11/30/1995	S-8080	na	0.5	NA	NA
PCB-1232	bgm	11/30/1995	S-8080	na	0.50	NA	NA
PCB-1242	bgm	11/30/1995	S-8080	na	0.50	NA	NA
PCB-1248	bgm	11/30/1995	S-8080	na	0.50	NA	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 95.08833

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
PCB-1254	bgm	11/30/1995	S-8080	na	0.50	NA	NA
PCB-1260	bgm	11/30/1995	S-8080	0.505	0.50	101	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.08833

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
PCB/PEST-AQUEOUS (8080)					
PCB-1016	11/28/1995	<0.065	ug/L	0.065	NA
PCB-1221	11/28/1995	<0.065	ug/L	0.065	NA
PCB-1232	11/28/1995	<0.065	ug/L	0.065	NA
PCB-1242	11/28/1995	<0.065	ug/L	0.065	NA
PCB-1248	11/28/1995	<0.065	ug/L	0.065	NA
PCB-1254	11/28/1995	<0.065	ug/L	0.065	NA
PCB-1260	11/28/1995	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 95.08833

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
PCB/PEST-AQUEOUS (8080)				
PCB-1016	0.416	0.50	83	
PCB-1260	0.381	0.50	76	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY Daniel B. Stephens & Assoc.
ADDRESS 6020 Academy NE Suite 100
PHONE (505) 822-9400 FAX (505) 822-8877
PROJECT NAME/LOCATION ENRON THOREAU
PROJECT NUMBER 2105.2.2
PROJECT MANAGER Bob Marley

REPORT TO: Bob Marley
INVOICE TO: See "Remarks"
P.O. NO.
NET QUOTE NO.

SAMPLED BY
Nick Lawrence (PRINT NAME) — 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 ONLY
11/21/95	1400	5-17B	H_2O								1
11/21/95	1310	5-06B	H_2O								1
11/21/95	—	5-99	H_2O								1
11/21/95	1305	5-01B	H_2O								1

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
LAST DAY OF HAULING
TIME FOR PCB EXTRACTION
IS 11-27-95, NLT 1400hr,
FOR SAMPLE 5-17B.

due 12/1/95

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? ~~YES/NO~~ N/A
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? ~~YES/NO~~ N/A
TEMPERATURE UPON RECEIPT: 4C
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS Jel DATE 11-22-95

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
John Lawrence	11-22-95	1600			11/27/95	930	RS Dewitt

METHOD OF SHIPMENT: FED EX

REMARKS: BILL: GEORGIA ROBINSON, ENRON ENVIRONMENTAL AFFAIRS, 1400 SMITH ST SUITE 3AC 3142, HOUSTON TX 77002
NON CONSENT DECREE THOREAU: 060-1070-100-747-0286-S35025-S0510-GENV

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #2

Lab Reports for the October 1995 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

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

10/13/95

Daniel B. Stephens & Associates
6020 Academy N.E., Suite 100
Albuquerque, NM 87109

Dear Ms. Joanne Hilton,

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 10/13/95

Scott Hallenbeck, Lab Manager

Project: ENRON-Thoreau

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/3/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-22B**	**5-03B**	**5-12B**
	Lab Code:	9510037-1	9510037-2	9510037-3
	Date Analyzed:	10/11/95	10/11/95	10/11/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**ND**	**ND**	**ND**
Toluene	**0.5**	**ND**	**ND**	**ND**
Ethylbenzene	**0.5**	**ND**	**ND**	**ND**
Total Xylenes	**0.5**	**ND**	**ND**	**ND**
BFB (Surrogate) Recovery		89	92	89
Dilution Factor		1	1	1

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/3,495
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-24B**	**5-57B**	**5-58B**
	Lab Code:	9510037-4	9510037-5	9510037-6
	Date Analyzed:	10/12/95	10/11/95	10/11/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**ND**	**ND**	**ND**
Toluene	**0.5**	**ND**	**ND**	**ND**
Ethylbenzene	**0.5**	**1.0**	**ND**	**ND**
Total Xylenes	**0.5**	**1.0**	**ND**	**ND**
BFB (Surrogate) Recovery		73	81	80
Dilution Factor		1	1	1

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/4/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-47B**	**5-41B**	**5-23B**
	Lab Code:	9510037-7	9510037-8	9510037-9
	Date Analyzed:	10/11/95	10/12/95	10/11/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**7.2**	**ND**	**ND**
Toluene	**0.5**	**2.0**	**ND**	**ND**
Ethylbenzene	**0.5**	**0.6**	**ND**	**ND**
Total Xylenes	**0.5**	**4.6**	**ND**	**ND**
BFB (Surrogate) Recovery		101	82	93
Dilution Factor		1	1	1

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/4,5/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-14B**	**5-13B**	**5-20B**
	Lab Code:	9510037-10	9510037-11	9510037-12
	Date Analyzed:	10/11/95	10/12/95	10/12/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**ND**	**0.6**	**3.2**
Toluene	**0.5**	**ND**	**2.5**	**0.7**
Ethylbenzene	**0.5**	**ND**	**0.5**	**3.5**
Total Xylenes	**0.5**	**ND**	**1.9**	**ND**
BFB (Surrogate) Recovery		90	85	93
Dilution Factor		1	1	1

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/5/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-19B**	**5-15B**	**5-48B**
	Lab Code:	9510037-13	9510037-14	9510037-15
	Date Analyzed:	10/11/95	10/11/95	10/12/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**1.0**	**ND**	**550**
Toluene	**0.5**	**0.7**	**ND**	**940**
Ethylbenzene	**0.5**	**ND**	**ND**	**290**
Total Xylenes	**0.5**	**ND**	**ND**	**1,900**
BFB (Surrogate) Recovery		103	98	95
Dilution Factor		1	1	25

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/5/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-05B**	**5-04B**	**5-16B**
	Lab Code:	9510037-16	9510037-17	9510037-18
	Date Analyzed:	10/12/95	10/11/95	10/12/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**8.2**	**44**	**610**
Toluene	**0.5**	**ND**	**1.7**	**5,900**
Ethylbenzene	**0.5**	**0.9**	**3.1**	**300**
Total Xylenes	**0.5**	**ND**	**ND**	**2,600**
BFB (Surrogate) Recovery		95	100	93
Dilution Factor		1	1	200

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/5,6/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-18B**	**5-02B**	**5-17B**
	Lab Code:	9510037-19	9510037-20	9510037-21
	Date Analyzed:	10/11/95	10/12/95	10/11/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**87**	**490**	**ND**
Toluene	**0.5**	**8.4**	**1,600**	**ND**
Ethylbenzene	**0.5**	**9.0**	**66**	**ND**
Total Xylenes	**0.5**	**26**	**640**	**ND**
BFB (Surrogate) Recovery		101	95	95
Dilution Factor		1	40	1

Hall Environmental Analysis Laboratory, Inc.

Client :	Daniel B. Stephens & Associates	**Date Collected**:	10/6/95
Project:	ENRON-Thoreau	**Date Received**:	10/6/95
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**5-06B**	**5-01B**	**5-99**
	Lab Code:	9510037-22	9510037-23	9510037-24
	Date Analyzed:	10/11/95	10/11/95	10/11/95
Compound	MRL	Result	Result	Result
Benzene	**0.5**	**4.6**	**ND**	**730**
Toluene	**0.5**	**ND**	**ND**	**1,500**
Ethylbenzene	**0.5**	**ND**	**ND**	**290**
Total Xylenes	**0.5**	**ND**	**ND**	**2,300**
BFB (Surrogate) Recovery		95	94	101
Dilution Factor		1	1	40

Client :	Daniel B. Stephens & Associates	**Date Collected:**	NA
Project:	ENRON-Thoreau	**Date Received:**	NA
Sample Matrix:	Aqueous	**Date Extracted:**	NA

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)

	Sample Name:	**Reagent**	**Reagent**
	Lab Code:	**Blank**	**Blank**
	Date Analyzed:	10/11/95	10/11/95
Compound	MRL	Result	Result
Benzene	**0.5**	**ND**	**ND**
Toluene	**0.5**	**ND**	**ND**
Ethylbenzene	**0.5**	**ND**	**ND**
Total Xylenes	**0.5**	**ND**	**ND**
BFB (Surrogate) Recovery		97	102
Dilution Factor		1	1

Hall Environmental Analysis Laboratory, Inc.

Client:	Daniel B. Stephens & Associates	**Date Collected:**	NA
Project:	ENRON-Thoreau	**Date Received:**	NA
Sample Matrix:	Aqueous	**Date Extracted:**	NA
		Date Analyzed:	10/11/95

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)
9510037-1 MS/MSD

Compound	Sample Result	Amount Added	Matrix Spike	MS %	MS Dup	MSD %	RPD
Benzene	<0.5	20.0	21.9	110	21.0	105	4
Toluene	<0.5	20.0	22.0	110	21.0	105	5
Ethylbenzene	<0.5	20.0	20.7	104	20.0	100	3
Total Xylenes	<0.5	60.0	63.6	106	61.6	103	3

Hall Environmental Analysis Laboratory, Inc.

Client:	Daniel B. Stephens & Associates	**Date Collected:**	NA
Project:	ENRON-Thoreau	**Date Received:**	NA
Sample Matrix:	Aqueous	**Date Extracted:**	NA
		Date Analyzed:	10/12/95

Volatile Organic Compounds
EPA Method 8020
Units: PPB (µg/L)
9510037-14 MS/MSD

Compound	Sample Result	Amount Added	Matrix Spike	MS %	MS Dup	MSD %	RPD
Benzene	<0.5	20.0	19.4	97	19.5	98	1
Toluene	<0.5	20.0	19.5	98	19.7	99	1
Ethylbenzene	<0.5	20.0	19.3	97	19.3	97	0
Total Xylenes	<0.5	60.0	58.5	98	57.9	97	1

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: Daniel B. Stephens

Project Name: ENRON-THOREAU

Address: 6020 Academy NE, Suit 100
Albuquerque NM 87109

Project #: 2105

Project Manager: J Hilton

Phone #: (505) 822-9400

Sampler: C. Wolf & B. Delaney

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.
10/3/95	1230	H_2O	5-22B	2x40mL	✓			9510037-1
10/3/95	1405	H_2O	5-03B	2 x 40mL	✓			-2
10/3/95	1640	H_2O	5-12B	2x40mL	✓			-3
10/3/95	1700	H_2O	5-24B	2x40mL	✓			-4
10/4/95	1010	H_2O	5-57B	2x 40mL	✓			-5
10/4/95	1150	H_2O	5-58B	2x 40mL	✓			-6
10/4/95	1515	H_2O	5-47B	2x 40mL	✓			-7
10/4/95	1625	H_2O	5-41B	2x 40mL	✓			-8
10/4/95	1800	H_2O	5-23B	2x 40mL	✓			-9
10/4/95	1840	H_2O	5-14B	2x 40mL	✓			-10
10/5/95	1000	H_2O	5-13B	2x 40mL	✓			-11
10/5/95	1045	H_2O	5-20B	2x 40mL	✓			-12

ANALYSIS REQUEST

BTEX (Method 602/8020)	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

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
10-6-95	1855	Bruce M Delaney	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Mr TED Ryther, Enron Corp, 1400 Smith Street, 3AC 3142 Houston TX 77002 (713) 646-7247 FAX
Thoreau Non Consent Decree

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: Daniel B Stephens

Project Name: ENRON- THOREAU

Address: 6020 Academy NE
Albuquerque NM 87109

Project #: 2105

Project Manager: J. Hilton

Phone #: (505) 8229400

Sampler: Wolf / Delaney

Fax #: (505) (8227 8877

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)	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)
ANALYSIS REQUEST																						
10/5/95	1220	H_2O	5-19B	2x40mL	✓			9510037-13	✓													N
10/5/95	1240	H_2O	5-15B	2x40mL	✓			-14	✓													N
10/5/95	1535	H_2O	5-48B	2x40mL	✓			-15	✓													N
10/5/95	1540	H_2O	5-05B	2x40mL	✓			-16	✓													N
10/5/95	1630	H_2O	5-04B	2x40mL	✓			-17	✓													N
10/5/95	1810	H_2O	5-16B	2x40mL	✓			-18	✓													N
10/5/95	1818	H_2O	5-18B	2x40mL	✓			-19	✓													N
10/6/95	1020	H_2O	5-02B	1x40mL	✓			-20	✓													N
10/6/95	1135	H_2O	5-17B	1x40mL	✓			-21	✓													N
10/6/95	1330	H_2O	5-06B	1x40mL	✓			-22	✓													N
10/6/95	1500	H_2O	5-01B	2x40mL	✓			-23	✓													N
—	—	H_2O	5-99	2x40mL	✓			-24	✓													N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
10-6-95	1855	Bruce M Delaney	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Mr Ted Ryther, Enron Corp
1400 Smith Street, 3AC 3142
Houston TX 77002
Thoreau Non Consent Decree
060-1070-100-503025-50510-GENV

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

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

10/16/1995

NET Job Number: 95.07149

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
279085	5-17B	10/06/1995	10/10/1995
279086	5-06B	10/06/1995	10/10/1995
279087	5-01B	10/06/1995	10/10/1995

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

OCEAN GROUP

ANALYTICAL REPORT

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

10/16/1995
Job No.: 95.07149

Project Name: 2105.2.2 ENRON THOREAU

Date Received: 10/10/1995

279085 5-17B
Taken: 10/06/1995 11:35

EPA-8080 PCB'S			
PCB-1016	<0.065		ug/L
PCB-1221	<0.065		ug/L
PCB-1232	<0.065		ug/L
PCB-1242	<0.065		ug/L
PCB-1248	<0.065		ug/L
PCB-1254	<0.065		ug/L
PCB-1260	<0.065		ug/L
SURR: DCB	75		% Rec
SURR: TCX	80		% Rec

279086 5-06B
Taken: 10/06/1995 13:30

EPA-8080 PCB'S			
PCB-1016	<6.5		ug/L
PCB-1221	<6.5		ug/L
PCB-1232	<6.5		ug/L
PCB-1242	30.1		ug/L
PCB-1248	<6.5		ug/L
PCB-1254	<6.5		ug/L
PCB-1260	<6.5		ug/L
SURR: DCB	d	D	% Rec
SURR: TCX	d	D	% Rec

279087 5-01B
Taken: 10/06/1995 15:00

EPA-8080 PCB'S			
PCB-1016	<0.065		ug/L
PCB-1221	<0.065		ug/L
PCB-1232	<0.065		ug/L
PCB-1242	<0.065		ug/L
PCB-1248	<0.065		ug/L
PCB-1254	<0.065		ug/L
PCB-1260	<0.065		ug/L
SURR: DCB	80		% Rec
SURR: TCX	82		% Rec

D - Surrogate diluted out.

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 95.07149

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
EPA-8080 PCB'S			S-8080				
PCB-1016	bgm	10/13/1995	S-8080	0.491	0.500	98	NA
PCB-1221	bgm	10/13/1995	S-8080	na	0.500	NA	NA
PCB-1232	bgm	10/13/1995	S-8080	na	0.50	NA	NA
PCB-1242	bgm	10/13/1995	S-8080	na	0.50	NA	NA
PCB-1248	bgm	10/13/1995	S-8080	na	0.50	NA	NA
PCB-1254	bgm	10/13/1995	S-8080	na	0.50	NA	NA
PCB-1260	bgm	10/13/1995	S-8080	0.474	0.500	95	NA
EPA-8080 PCB'S			S-8080				
PCB-1016	bgm	10/16/1995	S-8080	0.486	0.500	97	NA
PCB-1221	bgm	10/16/1995	S-8080	na	0.500	NA	NA
PCB-1232	bgm	10/16/1995	S-8080	na	0.50	NA	NA
PCB-1242	bgm	10/16/1995	S-8080	na	0.50	NA	NA
PCB-1248	bgm	10/16/1995	S-8080	na	0.50	NA	NA
PCB-1254	bgm	10/16/1995	S-8080	na	0.50	NA	NA
PCB-1260	bgm	10/16/1995	S-8080	0.494	0.500	99	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.07149

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
EPA-8080 PCB'S					
PCB-1016	10/05/1995	<0.065	ug/L	0.065	NA
PCB-1221	10/05/1995	<0.065	ug/L	0.065	NA
PCB-1232	10/05/1995	<0.065	ug/L	0.065	NA
PCB-1242	10/05/1995	<0.065	ug/L	0.065	NA
PCB-1248	10/05/1995	<0.065	ug/L	0.065	NA
PCB-1254	10/05/1995	<0.065	ug/L	0.065	NA
PCB-1260	10/05/1995	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 95.07149

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
EPA-8080 PCB'S				
PCB-1016	0.448	0.50	90	
PCB-1260	0.446	0.50	89	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

CHAIN OF CUSTODY RECORD

COMPANY Daniel B Stephens & Associates, Inc.
ADDRESS 6020 Academy NE, Albuquerque NM 87109
PHONE (505) 822-9400 FAX (505) 822-8877
PROJECT NAME/LOCATION Enron Thoreau
PROJECT NUMBER 2105.2.2
PROJECT MANAGER J. Hilton

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

SAMPLED BY (PRINT NAME) Bruce M. Delaney
SIGNATURE Bruce M. Delaney
(PRINT NAME) Chris Wolf
SIGNATURE Chris Wolf

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: PCB's (8080) only										COMMENTS
10-6-95	1135	5-17B	W	X						ICE	X										
10-6-95	1330	5-06B	W	X						ICE	X										
10-6-95	1500	5-01B	W	X						ICE	X										

ANALYSES

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

dwl 10/11/6

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO N/A
VOLATILES FREE OF HEADSPACE? ~~YES~~ / NO
TEMPERATURE UPON RECEIPT: 4°
Bottles supplied by NET? YES / ~~NO~~

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS Bruce M Delaney DATE 10-6-95

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Bruce M Delaney	10-9-95				10/10/95	10:05	

METHOD OF SHIPMENT: Federal Express

REMARKS: Bill to: Mr Ted Rather, Enron Corp. 1400 Smith St., 3AC 3142, Houston, TX 77002
Enron Thoreau Non-Consent Decree, 060-1070, S35025-50510-GENV

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

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

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

10/25/1995

NET Job Number: 95.07496

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
280506	FP#2 -10/17/95	10/17/1995	10/19/1995

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

OCEAN GROUP

ANALYTICAL REPORT

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

10/25/1995
Job No.: 95.07496

Project Name:

Date Received: 10/19/1995

280506 FP#2 -10/17/95
Taken: 10/17/1995 15:55

EPA-8080 PCB'S		
PCB-1016	<0.065	ug/L
PCB-1221	<0.065	ug/L
PCB-1232	<0.065	ug/L
PCB-1242	<0.065	ug/L
PCB-1248	<0.065	ug/L
PCB-1254	<0.065	ug/L
PCB-1260	<0.065	ug/L
SURR: DCB	72	% Rec
SURR: TCX	72	% Rec

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 95.07496

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
EPA-8080 PCB'S			S-8080				
PCB-1016	bgm	10/23/1995	S-8080	0.487	0.50	97	NA
PCB-1221	bgm	10/23/1995	S-8080	na	0.5	NA	NA
PCB-1232	bgm	10/23/1995	S-8080	na	0.50	NA	NA
PCB-1242	bgm	10/23/1995	S-8080	na	0.50	NA	NA
PCB-1248	bgm	10/23/1995	S-8080	na	0.50	NA	NA
PCB-1254	bgm	10/23/1995	S-8080	na	0.50	NA	NA
PCB-1260	bgm	10/23/1995	S-8080	0.481	0.50	96	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.07496

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
EPA-8080 PCB'S					
PCB-1016	10/23/1995	<0.065	ug/L	0.065	NA
PCB-1221	10/23/1995	<0.065	ug/L	0.065	NA
PCB-1232	10/23/1995	<0.065	ug/L	0.065	NA
PCB-1242	10/23/1995	<0.065	ug/L	0.065	NA
PCB-1248	10/23/1995	<0.065	ug/L	0.065	NA
PCB-1254	10/23/1995	<0.065	ug/L	0.065	NA
PCB-1260	10/23/1995	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Matrix Spike / Matrix Spike Duplicate
(MS / MSD)

JOB NUMBER: 95.07496

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
EPA-8080 PCB'S								
PCB-1016	<0.065	0.439	0.442	0.50	88	88	0.7	
PCB-1260	<0.065	0.459	0.453	0.50	92	91	1.3	

Advisory Control Limits for MS/MSDs

Inorganic Parameters - The spike recovery should be 75-125% if the spike amount value is greater than or equal to one fourth of the sample result value. The RPD for the MS/MSD should be less than 20.

NOTE: Matrix Spike Samples may not be samples from this job.

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

CHAIN OF CUSTODY RECORD

COMPANY Daniel B. Stephens & Associates
ADDRESS 6020 Academy, NE., Albuquerque NM, 87109
PHONE 505/822-9400 FAX 505/822-8877
PROJECT NAME/LOCATION ENRON - THOREAU
PROJECT NUMBER 2105.20.01
PROJECT MANAGER Joanne Hilton

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

10/17/95

SAMPLED BY
Chris Wolf
(PRINT NAME) Chris Wolf SIGNATURE

(PRINT NAME) SIGNATURE

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

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO3	H_2SO_4	OTHER	ANALYSES: BTEX (8020) ✓	COMMENTS
10/17	1555	FP#2 - 10/17/95	GW	X						FED		1x 1 liter

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: 8.1°C
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 10/17/95

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
	10/18	0853	FED EX				10/19/95

METHOD OF SHIPMENT
FED EX

REMARKS: Bill to: Mr. George Robinson Enron Corp., 1400 Smith Street 3AC1442, Houston, TX 77002, Thoreau Non-Consent Decree, 060-1070-100-535025-5051O-GEN

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 #3

Lab Reports for the June 1995 Groundwater Sampling Event

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
2403 San Mateo NE, Suite P-13
Albuquerque, NM 87110
(505) 880-1803

7/5/95

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

Scott Hallenbeck, Lab Manager

Project: ENRON - Thoreau

Results for sample: 5-03B

Date collected: 6/26/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-1
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 93 %

Dilution Factor = 1

Results for sample: 5-22B

Date collected: 6/26/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-2
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Results for sample: 5-02B

Date collected: 6/26/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-3
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	1,200	0.5	PPB (µg/L)
Toluene	2,700	0.5	PPB (µg/L)
Ethylbenzene	130	0.5	PPB (µg/L)
Total Xylenes	1,200	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Results for sample: 5-04B

Date collected: 6/26/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/30/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-4
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	15	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	0.7	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Results for sample: 5-05B

Date collected: 6/26/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-5
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	17	0.5	PPB (µg/L)
Toluene	0.7	0.5	PPB (µg/L)
Ethylbenzene	1.6	0.5	PPB (µg/L)
Total Xylenes	0.9	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 91 %

Dilution Factor = 1

Results for sample: 5-06B

Date collected: 6/27/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-6
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	2.2	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 90 %

Dilution Factor = 1

Results for sample: 5-01B

Date collected: 6/27/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-7
Project Manager: Bob Marley	Sampled by: C. Pigman / B. Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 86 %

Dilution Factor = 1

Results for sample: Trip Blank

Date collected: 6/21/95	Date received: 6/27/95
Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506084-8
Project Manager: Bob Marley	
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 88 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 6/29/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: RB 6/29
Project Manager: Bob Marley	
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 85 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup

Date extracted: NA	Date analyzed: 6/30/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506082-4 MS/MSD
Project Manager: Bob Marley	
Matrix: Aqueous	Units: PPB (µg/L)

Test: EPA 602

Compound	Sample Result	Amount Added	Matrix Recov.	MS %	MSD Recov.	MSD %	RPD
Benzene	<0.5	20.0	18.8	94	19.3	97	3
Toluene	<0.5	20.0	18.6	93	18.8	94	1
Ethylbenzene	<0.5	20.0	18.3	92	19.4	97	6
Total Xylenes	<0.5	60.0	54.9	93	57.8	96	5

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: MR. TED RYTHER ENRON CORP	Project Name: ENRON THOREAU
Address: 1400 SMITH ST 3AC 3142 HOUSTON, TX 77002	Project #: 2105.2.2
THOREAU / NON-CONSENT DECREE 060-1070-100-535025-50510-GENV	Project Manager: BOB MARLEY
Phone #: C/O DBS&A 505-822-9400	Sampler: C. PIGMAN, B. DELANEY
Fax #:	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)	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)
6/26/95	1510	H_2O	5-03B	3/40ml	X			9506084-1	X												N
6/26/95	1255	H_2O	5-22B	3/40ml	X			-2	X												
6/26/95	1610	H_2O	5-02B	3/40ml	X			-3	X												
6/26/95	1720	H_2O	5-04B	3/40ml	X			-4	X												
6/26/95	1500	H_2O	5-05B	3/40ml	X			-5	X												
6/27/95	1110	H_2O	5-06B	3/40ml	X			-6	X												
6/27/95	1110	H_2O	5-01B	3/40ml	X			-7	X												
6/21/95	1415	H_2O	TRIP BLANK	1/40ml	X			-8	X												

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
6/27/95	1525	Clarence Pigman		15:25
		Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

NATIONAL ENVIRONMENTAL TESTING, INC.

Dallas Division
1548 Valwood Parkway
Suite 118
Carrollton, TX 75006
Tel: (214) 406-8100
Fax: (214) 484-2969

ANALYTICAL AND QUALITY CONTROL REPORT

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

07/06/1995

NET Job Number: 95.04205

Enclosed is the Analytical and Quality Control report for the following samples submitted to the Dallas Division of NET, Inc. for analysis. Reproduction of this analytical report is permitted only in its entirety.

Sample Number	Sample Description	Date Taken	Date Received
266134	5-06B	06/27/1995	06/28/1995
266135	5-01B	06/27/1995	06/28/1995

National Environmental Testing, Inc. certifies that the analytical results contained herein apply only to the specific samples analyzed.

Holding Times: All holding times were within method criteria.

Method Blanks: All method blanks were within quality control criteria.

Instrument calibration: All calibrations were within method quality control criteria.

Analysis Comments: No Unusual Comments

Beth Freeman
Project Coordinator

OCEAN GROUP

ANALYTICAL REPORT

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

07/06/1995
Job No.: 95.04205

Project Name: ENRON THROEAU 2105.2.2

Date Received: 06/28/1995

266134 5-06B
Taken: 06/27/1995 11:10

EPA-8080 PCB'S			
PCB-1016	<0.65		ug/L
PCB-1221	<0.65		ug/L
PCB-1232	<0.65		ug/L
PCB-1242	26.3		ug/L
PCB-1248	<0.65		ug/L
PCB-1254	<0.65		ug/L
PCB-1260	<0.65		ug/L
SURR: DCB	d	D	% Rec
SURR: TCX	d	D	% Rec

266135 5-01B
Taken: 06/27/1995 11:10

EPA-8080 PCB'S			
PCB-1016	<0.65		ug/L
PCB-1221	<0.65		ug/L
PCB-1232	<0.65		ug/L
PCB-1242	4.18		ug/L
PCB-1248	<0.65		ug/L
PCB-1254	<0.65		ug/L
PCB-1260	<0.65		ug/L
SURR: DCB	d	D	% Rec
SURR: TCX	d	D	% Rec

D - Surrogate diluted out.

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 95.04205

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
EPA-8080 PCB'S			S-8080				
PCB-1016	rwh	07/06/1995	S-8080	0.509	0.50	102	NA
PCB-1221	rwh	07/06/1995	S-8080	na	0.5	NA	NA
PCB-1232	rwh	07/06/1995	S-8080	na	0.50	NA	NA
PCB-1242	rwh	07/06/1995	S-8080	na	0.50	NA	NA
PCB-1248	rwh	07/06/1995	S-8080	na	0.50	NA	NA
PCB-1254	rwh	07/06/1995	S-8080	na	0.50	NA	NA
PCB-1260	rwh	07/06/1995	S-8080	0.529	0.50	106	NA

Method References and Codes

The 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.

E-100 through 493: "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

E-601 through 625: "Guidelines Establishing Test Procedures for the Analysis of Pollutants", U.S. EPA, 40CFR, Part 136, rev. 1990.

S-1000 through 9999: "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd Edition, 1986.

A: "Standard Methods for the Examination of Water and Wastewater", 16th Edition, APHA, 1985.

SM: "Standard Methods for the Examination of Water and Wastewater", 18th Edition, APHA, 1992.

D: ASTM Method

M: Method has been modified

*: Other Reference

NET®

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.04205

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
EPA-8080 PCB'S					
PCB-1016	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1221	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1232	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1242	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1248	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1254	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1260	06/26/1995	<0.065	ug/L	0.065	NA
EPA-8080 PCB'S					
PCB-1016	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1221	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1232	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1242	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1248	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1254	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1260	06/26/1995	<0.065	ug/L	0.065	NA
EPA-8080 PCB'S					
PCB-1016	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1221	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1232	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1242	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1248	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1254	06/26/1995	<0.065	ug/L	0.065	NA
PCB-1260	06/26/1995	<0.065	ug/L	0.065	NA
EPA-8080 PCB'S					
PCB-1016	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1221	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1232	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1242	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1248	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1254	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1260	07/05/1995	<0.065	ug/L	0.065	NA
EPA-8080 PCB'S					
PCB-1016	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1221	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1232	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1242	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1248	07/05/1995	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.04205

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
PCB-1254	07/05/1995	<0.065	ug/L	0.065	NA
PCB-1260	07/05/1995	<0.065	ug/L	0.065	NA

Advisory Control Limits for Blanks

Metals/Wet Chemistry/Conventionals/GC - All compounds should be less than the Reporting Limit.

GC/MS Semi-Volatiles - All compounds should be less than the Reporting Limit except for phthalates which should be less than 5 times the Reporting Limit.

GC/MS Volatiles - Toluene, Methylene chloride, Acetone and Chloroform should be less than 5 times the Reporting Limit. All other volatile compounds should be less than the Reporting Limit.

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 95.04205

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
EPA-8080 PCB'S				
PCB-1016	0.50	0.50	100	
PCB-1221	0.5	0.5	100	
PCB-1232	0.5	0.5	100	
PCB-1242	0.5	0.5	100	
PCB-1248	0.5	0.5	100	
PCB-1254	0.5	0.5	100	
PCB-1260	0.50	0.50	100	
EPA-8080 PCB'S				
PCB-1016	0.50	0.50	100	
PCB-1260	0.50	0.50	100	
EPA-8080 PCB'S				
PCB-1016	0.31	0.50	62	
PCB-1260	0.39	0.50	78	
EPA-8080 PCB'S				
PCB-1016	0.532	0.50	106	
PCB-1221	na	0.5	NA	
PCB-1232	na	0.5	NA	
PCB-1242	na	0.5	NA	
PCB-1248	na	0.5	NA	
PCB-1254	na	0.5	NA	
PCB-1260	0.521	0.50	104	
EPA-8080 PCB'S				
PCB-1016	0.487	0.50	97	
PCB-1260	0.532	0.50	106	

Advisory Control Limits for LCS

Inorganic Parameters - The LCS recovery should be 80-120%.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY DANIEL B, STEPHENS & ASSOC,
ADDRESS 6020 ACADEMY NE #100 ALBUQUERQUE NM 87109
PHONE 505-822-9400 FAX 505-822-7788
PROJECT NAME/LOCATION ENRON THOREAU
PROJECT NUMBER 2105.2.2
PROJECT MANAGER BOB MARLEY

REPORT TO: TED RYTHER
INVOICE TO: ENRON CORP
P.O. NO. 060-1070-100-535025-50510-GENU
NET QUOTE NO.

C. PIGMAN/B. DELANEY

SAMPLED BY

(PRINT NAME) Bruce M Delaney
SIGNATURE Clarence Pigman

(PRINT NAME) Bruce M Delaney
SIGNATURE Bruce M Delaney

					# and Type of Containers					ANALYSES	
											COMMENTS
6/27/95	1110	5-06B	H2O					NONE	NONE	X PCBs (8080)	
6/27/95	1110	5-01B	H2O					NONE	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: 4°
Bottles supplied by NET? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS Clarence Pigman DATE 6/27/95

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
Bruce M Delaney	6-27-95 1700			6/28/95 9:30AM	BRENT

METHOD OF SHIPMENT: FED EX

REMARKS: BILL TO MR TED RYTHER, ENRON CORP, 1400 SMITH ST, 3AC 3142 HOUSTON TX, 77002 (NOTE ENRON THOREAU NON-CONSENT DECREE 060-1070-100-535025-50510-GENU)

OCEAN

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 #4

Lab Reports for the Phase I System Groundwater Sampling Events (Monitor Well 5-4B)

Hall Environmental Analysis Laboratory

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

9/14/95

ENRON Environmental Affairs
Attn: Mr. George Robinson
1400 Smith St.
Suite 3AC-3142
Houston, Texas 77002

Dear Mr. George Robinson, PE,

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: Enron Thoreau

Results for sample: Trip Blank

Date collected: 8/30/95	Date received: 9/6/95
Date extracted: NA	Date analyzed: 9/7/95
Client: ENRON Environmental Affairs	
Project Name: Enron Thoreau	HEAL #: 9509012-1
Project Manager: Joanne Hilton	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	<0.5	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 99 %

Dilution Factor = 1

Test: EPA 8015 Modified

Compound	Result	Units
Gasoline	<0.05	PPM (mg/L)

BFB (Surrogate) Recovery = 93 %

Dilution Factor = 1

Results for sample: 5-04B

Date collected: 9/6/95	Date received: 9/6/95
Date extracted: NA	Date analyzed: 9/7/95
Client: ENRON Environmental Affairs	
Project Name: Enron Thoreau	HEAL #: 9509012-2
Project Manager: Joanne Hilton	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Units
Benzene	9.7	PPB (µg/L)
Toluene	1.1	PPB (µg/L)
Ethylbenzene	0.7	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Test: EPA 8015 Modified

Compound	Result	Units
Gasoline	0.08	PPM (mg/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Results for QC: Reagent Blank

Client: ENRON Environmental Affairs	
Project Name: Enron Thoreau	Date analyzed: 9/7/95
Project Manager: Joanne Hilton	
Matrix: Aqueous	HEAL #: RB 9/7

Test: EPA 8020

Compound	Result	Units
Benzene	<0.5	PPB (µg/L)
Toluene	<0.5	PPB (µg/L)
Ethylbenzene	<0.5	PPB (µg/L)
Total Xylenes	<0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Test: EPA 8015 Modified

Compound	Result	Units
Gasoline	<0.05	PPM (mg/L)

BFB (Surrogate) Recovery = 95 %

Dilution Factor = 1

Results for QC: Blank Spike / Blank Spike Dup

Date extracted: NA	Date analyzed: 9/5/95
Client: ENRON Environmental Affairs	
Project Name: ENRON-Laguna	HEAL #: 959012-1 BS/BSD
Project Manager: Joanne Hilton	
Matrix: Aqueous	Units: PPB (µg/L) PPM (mg/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
MTBE	<2.5	40.0	39.7	99	38.5	96	3
Benzene	<0.5	20.0	18.3	92	17.7	89	3
Toluene	<0.5	20.0	18.7	94	17.9	90	4
Ethylbenzne	<0.5	20.0	19.4	97	18.6	93	4
Total Xylenes	<0.5	60.0	57.1	95	54.5	91	5

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Gasoline	<0.05	0.50	0.53	106	0.51	102	4

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

INVOICE

ENRON Environmental Affairs
c/o Accounts Payable
Attn: Mr. George Robinson
1400 Smith St.
Suite 3AC-3142
Houston, Texas 77002

Job No. 9509012
Date: 9/14/95
Inv. 9509012-A

Project: Thoreau Non Consent Decree 060-1070-100-535025-50510GENV
Project Manager: Joanne Hilton
Sample: 5-04B

Description:

Analytical Services - 1aqueous sample		1 x
Method 8020 for BTEX/MTBE	$	90.00
Method 8015 for Gas		
Subtotal:	$	90.00
ENRON Discount (10%):	$	-9.00
Tax:	$	4.71
Total:	$	85.71

Payment due under Net 30 terms.

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: Mr. George Robinson
Enron Corp.

Address: 1400 Smith Street
3AC 3142
Houston Tx 77002
THOREAU NON CONSENT DECREE
060-1070-100-535025-50510GENV

Phone #: C/o DBS&A 505-822-9400

Project Name: Enron Thoreau

Project #: 2105.2.2

Project Manager: J. Hilton

Sampler: B. Delaney

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)	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)	BTEX (8020)	TPH (gas only 8015 mod)		Air Bubbles or Headspace (Y or N)
8-30-95	1030	H_2O	Trip Blank	1/40	X			9509012-1											X	X		N
9-6-95	1500	H_2O	5-04B	2/40	X			-2											X	X		N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
9/6/95	7:25 P.M.	Bruce Delaney	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
2403 San Mateo NE, Suite P-13
Albuquerque, NM 87110
(505) 880-1803

6/15/95

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

Dear Mr. Joanne Hilton,

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

Scott Hallenbeck, Lab Manager

Project: ENRON - Thoreau

Results for sample: 5-04B

Date collected: 6/8/95	Date received: 6/8/95
Date extracted: NA	Date analyzed: 6/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506020-1
Project Manager: Joanne Hilton	Sampled by: Eichenberger/ Delaney
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	9.4	0.5	PPB (µg/L)
Toluene	1.4	0.5	PPB (µg/L)
Ethylbenzene	0.6	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 95 %

Dilution Factor = 1

Test: EPA 8015 Modified

Compound	Result	Detection Limit	Units
Gasoline	0.12	0.05	PPM (mg/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Results for sample: Trip Blank

Date collected: 5/31/95	Date received: 6/8/95
Date extracted: NA	Date analyzed: 6/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9506020-2
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 96 %

Dilution Factor = 1

Test: EPA 8015 Modified

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (mg/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 6/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: RB 6/12
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 602

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (µg/L)
Toluene	nd	0.5	PPB (µg/L)
Ethylbenzene	nd	0.5	PPB (µg/L)
Total Xylenes	nd	0.5	PPB (µg/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Test: EPA 8015 Modified

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (mg/L)

BFB (Surrogate) Recovery = 93 %

Dilution Factor = 1

Results for QC: Blank Spike / Blank Spike Dup

Date extracted: NA	Date analyzed: 6/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: BS/BSD 6/12
Project Manager: Joanne Hilton	
Matrix: Aqueous	Units: PPB (µg/L) PPM (mg/L)

Test: EPA 602

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Benzene	<0.5	20.0	20.0	100	19.2	96	4
Toluene	<0.5	20.0	19.8	99	19.2	96	3
Ethylbenzene	<0.5	20.0	19.4	97	18.6	93	4
Total Xylenes	<0.5	60.0	60.6	101	60.5	101	0

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Matrix Recov.	MS %	MSD Recov.	MSD %	RPD
Gasoline	<0.05	0.50	0.48	96	0.48	96	0

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
2403 San Mateo NE, Suite P-13
Albuquerque, NM 87110
(505) 880-1803

3/14/95

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

Dear Ms. Joanne Hilton,

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. Unless noted on sample page, all criteria for QA/QC acceptance levels fall within established parameters. These parameters are modeled from the EPA-600 14-79 019, March 1979, "Handbook for Analytical Quality Control in Water and Waste Water."

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

Sincerely,

Scott Hallenbeck 3/15/95

Scott Hallenbeck, Lab Manager

Project: ENRON - Thoreau

Results for sample: 5-04B

Date collected: 3/7/95	Date received: 3/8/95
Date extracted: 3/9/95	Date analyzed: 3/8,9/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9503021-1
Project Manager: Joanne Hilton	Sampled by: J. Eichenberger
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	93	0.5	PPB (UG/L)
Toluene	1.5	0.5	PPB (UG/L)
Ethylbenzene	6.1	0.5	PPB (UG/L)
Total Xylenes	1.9	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 93 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	0.24	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 99 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	0.5	PPM (MG/L)

DNOP (Surrogate) Recovery = 116 %

Dilution Factor = 1

Results for sample: Filtered Purge Cat II

Date collected: 3/7/95	Date received: 3/7/95
Date extracted: NA	Date analyzed: 3/8/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9503021-2
Project Manager: Joanne Hilton	Sampled by: J. Eichenberger
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 87 %

Dilution Factor = 1

Results for sample: Trip Blank

Date collected: NA	Date received: 3/8/95
Date extracted: 3/9/95	Date analyzed: 3/8,9/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9503021-3
Project Manager: Joanne Hilton	Sampled by: NA
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	0.5	PPM (MG/L)

DNOP (Surrogate) Recovery = 95 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 3/9/95	Date analyzed: 3/8,9/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: RB 3/8,9
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 100 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	1.0	PPM (MG/L)

DNOP (Surrogate) Recovery = 116 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup
Blank Spike / Blank Spike Dup

Date extracted: 3/9/95	Date analyzed: 3/8,9/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9503021-1 MS/MSD
Project Manager: Joanne Hilton	BS/BSD 3/8,9
Matrix: Aqueous	Units: PPB (UG/L), PPM (MG/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Benzene	<0.5	20.0	19.7	99	19.2	96	3
Toluene	<0.5	20.0	19.8	99	18.9	95	5
Ethylbenzene	<0.5	20.0	19.4	97	18.6	93	4
Total Xylenes	<0.5	60.0	64.1	107	61.6	103	4

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Matrix Recov.	MS %	MSD Recov.	MSD %	RPD
Gasoline	0.24	0.50	0.76	104	0.73	98	4

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Diesel	<0.5	5.1	5.3	102	4.8	92	10

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: DANIEL B STEPHENS & ASSOCIATES
Address: 6020 ACADEMY NE ALBUQUERQUE NM 87109
Phone #: 822-9400
Fax #: 822-9377

Project Name: ENRON THOREAU
Project #: 2105 2.1
Project Manager: J HILTON
Sampler: J EICHENBERGER
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)	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)
3/7/95	1200	H_2O	5-04B	3/40ml	X			1503021-1	X		X										N
3/7/95	1215	H_2O	FILTERED PURGE CAT II	2/40ml	X			-2	X												N
3/2/95	1839	H_2O	Trip Blank	2/40ml	X			-3	X		X										N

ANALYSIS REQUEST

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/8/95	1245		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
2403 San Mateo NE, Suite P-13
Albuquerque, NM 87110
(505) 880-1803

1/17/95

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

Dear Ms. Joanne Hilton,

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. Unless noted on sample page, all criteria for QA/QC acceptance levels fall within established parameters. These parameters are modeled from the EPA-600 14-79 019, March 1979, "Handbook for Analytical Quality Control in Water and Waste Water."

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

Sincerely,

Scott Hallenbeck, Lab Manager

Project: ENRON - Thoreau

Results for sample: 5-04B 1220

Date collected: 1/10/95	Date received: 1/10/95
Date extracted: NA	Date analyzed: 1/13/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9501022-1
Project Manager: Joanne Hilton	Sampled by: John Eichenberger
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	9.8	0.5	PPB (UG/L)
Toluene	2.3	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	2.0	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 93 %

Dilution Factor = 1

Results for sample: 5-04B 1225

Date collected: 1/10/95	Date received: 1/10/95
Date extracted: 1/11/95	Date analyzed: 1/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9501022-2
Project Manager: Joanne Hilton	Sampled by: John Eichenberger
Matrix: Aqueous	

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	0.14	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 97 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	1.0	PPM (MG/L)

DNOP (Surrogate) Recovery = 128 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 1/11/95	Date analyzed: 1/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: RB 1/11,12
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 92 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	1.0	PPM (MG/L)

DNOP (Surrogate) Recovery = 126 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: NA	Date analyzed: 1/13/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: RB 1/13
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 101 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup
Blank Spike / Blank Spike Dup

Date extracted: 1/11/95	Date analyzed: 1/12/95
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9501019-1 MS/MSD
Project Manager: Joanne Hilton	BS/BSD 1/11
Matrix: Aqueous	Units: PPB (UG/L), PPM (MG/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Recov.	MS %	MSD Recov.	MSD %	RPD
Benzene	<0.5	20.0	20.6	103	21.3	107	3
Toluene	<0.5	20.0	19.8	99	20.9	104	5
Ethylbenzene	<0.5	20.0	19.4	97	19.9	100	3
Total Xylenes	<0.5	60.0	58.7	98	61.1	102	4

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Gasoline	<0.05	0.50	0.48	96	0.48	96	0

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Diesel	<1.0	5.1	5.1	100	5.4	106	6

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: DANIEL B. STEPHENS & ASSOCIATES

Address: 6020 ACADEMY NE
ALBUQUERQUE NM 87109

Phone #: 505 822 9400

Fax #:

Project Name: ENRON - TIJEREDO
WE ~~2105 2.1~~

Project #: 2105 2.1

Project Manager: JOANNE HILTON

Sampler: J. LICHENBERGER

Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	Preservative: Other	HEAL No.
10/95	1220	H_2O	5-04B	2/40ml	X			9501022-1
~~1225~~								
10/95	1225	H_2O	5-04B	2/40ml	X			-2
3/95	1130	H_2O	TRIP BLANK	1/40ml				-3

ANALYSIS REQUEST

BTEX (Method 602/8020)	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)	TPH 8015	8020 (No MTBE		Air Bubbles or Headspace (Y or N)
											X		N
										X			N

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
10/95	1600		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: ADD ON WORK ORDER NUMBER: 060-1070-100-247-0286-53411-5051C-GLNV
BILL: TED RUTTER
ENRON ENVIRONMENTAL AFFAIR
1400 SMITH ST, SUITE 3AC-3137
HOUSTON, TX, 77002

Hall Environmental Analysis Laboratory

Hall Environmental Analysis Laboratory
2403 San Mateo NE, Suite P-13
Albuquerque, NM 87110
(505) 880-1803

1/3/95

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

Dear Ms. Joanne Hilton,

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. Unless noted on sample page, all criteria for QA/QC acceptance levels fall within established parameters. These parameters are modeled from the EPA-600 14-79 019, March 1979, "Handbook for Analytical Quality Control in Water and Waste Water."

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

Sincerely,

Scott Hallenbeck, Lab Manager

Project: ENRON - Thoreau

Results for sample: 5-04B

Date collected: 12/20/94	Date received: 12/21/94
Date extracted: 12/29/94	Date analyzed: 12/30/94
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9412076-1
Project Manager: Joanne Hilton	Sampled by: Terry Deeds
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	2.7	0.5	PPB (UG/L)
Toluene	0.7	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	1.3	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 94 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	0.09	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 101 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	1.0	PPM (MG/L)

DNOP (Surrogate) Recovery = 123 %

Dilution Factor = 1

Results for sample: Trip Blank

Date collected: NA	Date received: 12/21/94
Date extracted: NA	Date analyzed: 12/29/94
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: 9412076-2
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 89 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 93 %

Dilution Factor = 1

Results for QC: Reagent Blank

Date extracted: 12/29/94	Date analyzed: 12/30/94
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	Heal #: RB 12/29,30
Project Manager: Joanne Hilton	
Matrix: Aqueous	

Test: EPA 8020

Compound	Result	Detection Limit	Units
Benzene	nd	0.5	PPB (UG/L)
Toluene	nd	0.5	PPB (UG/L)
Ethylbenzene	nd	0.5	PPB (UG/L)
Total Xylenes	nd	0.5	PPB (UG/L)

BFB (Surrogate) Recovery = 98 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Gasoline	nd	0.05	PPM (MG/L)

BFB (Surrogate) Recovery = 99 %

Dilution Factor = 1

Test: EPA 8015

Compound	Result	Detection Limit	Units
Diesel	nd	1.0	PPM (MG/L)

DNOP (Surrogate) Recovery = 129 %

Dilution Factor = 1

Results for QC: Matrix Spike / Matrix Spike Dup

Date extracted: 12/29/94	Date analyzed: 12/29,30/94
Client: Daniel B. Stephens and Associates, Inc.	
Project Name: ENRON - Thoreau	HEAL #: 9412073-7 MS/MSD
Project Manager: Joanne Hilton	BS/BSD 12/29
Matrix: Aqueous	Units: PPB (UG/L), PPM (MG/L)

Test: EPA 8020

Compound	Sample Result	Amount Added	Matrix Recov.	MS %	MSD Recov.	MSD %	RPD
Benzene	<0.5	20.0	19.0	95	19.5	97	3
Toluene	<0.5	20.0	18.2	91	18.1	91	1
Ethylbenzene	<0.5	20.0	17.9	90	17.4	87	3
Total Xylenes	<0.5	60.0	55.6	93	55.2	92	1

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Gasoline	<0.05	0.50	0.50	100	0.50	100	0

Test: EPA 8015 Modified

Compound	Sample Result	Amount Added	Blank Recov.	BS %	BSD Recov.	BSD %	RPD
Diesel	<1.0	5.1	4.6	90	5.0	98	8

CHAIN-OF-CUSTODY RECORD

HALL ENVIRONMENTAL ANALYSIS LABORATORY
2403 San Mateo NE, Suite P-13
Albuquerque, New Mexico 87110
505.880.1803

Client: [illegible]	Project Name: EXXON - Terminal
Address: [illegible]	Project #: [illegible] 2
	Project Manager: Jaime Hilton
Phone #: 505 [illegible] 1400	Sampler: Terry Dee
Fax #: 505 [illegible] 8277	Samples Cold? ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HCl	Preservative Other	HEAL No.
1/20/94	1530	H2O	5-045	7-40ml	X			941207101
			Trip Blank	1-40ml	X			-2

ANALYSIS REQUEST

BTEX (Method 602/8020)	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)
X		X											N
X		X											Y

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
1/21/94	1300	Bob Marley	Scott Hall
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

Semi-annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Thoreau Compressor Station

Attachment #5

Lab Reports for the Phase I System
Air Emission Sampling Events

RECEIVED DEC 2 0 1995

CORE LAB

CORE LABORATORIES

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

Job Number: 956129
Prepared For:

DANIEL B. STEPHENS & ASSOCIATES
BOB MARLEY
6020 ACADEMY NE
ALBUQUERQUE, NM 87109

Date: 12/13/95

Signature M. Jean Waits

Date: 12/13/95

Name: M. Jean Waits

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

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/13/95

JOB NUMBER: 956129 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: Enron Thoreau
DATE SAMPLED.....: 11/17/95
TIME SAMPLED.....: 12:30
WORK DESCRIPTION...: 5-35B SVE Exhaust Gas

LABORATORY I.D...: 956129-0001
DATE RECEIVED....: 12/05/95
TIME RECEIVED....: 13:03
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Natural Gas Analysis		*1			12/13/95	AH
Oxygen	19.19	0.01	Mol %	GPA 2261-90		
Nitrogen	78.53	0.01	Mol %	GPA 2261-90		
Carbon Dioxide	2.23	0.01	Mol %	GPA 2261-90		
Methane	<0.01	0.01	Mol %	GPA 2261-90		
Ethane	<0.01	0.01	Mol %	GPA 2261-90		
Propane	<0.01	0.01	Mol %	GPA 2261-90		
Isobutane	<0.01	0.01	Mol %	GPA 2261-90		
n-Butane	<0.01	0.01	Mol %	GPA 2261-90		
Isopentane	<0.01	0.01	Mol %	GPA 2261-90		
n-Pentane	<0.01	0.01	Mol %	GPA 2261-90		
Hexanes Plus	0.05	0.01	Mol %	GPA 2261-90		
Total	100.00	0.01	Mol %			
Relative Density	1.00729	0		GPA 2172-86		
Compressibility Factor	0.99958	0		GPA 2172-86		
Gross Heating Value (Dry/Real)	2.9	0	BTU/CF 14.696			
---Analysis of Hexanes Plus	0.05	0.001	Mol %			
2,2-Dimethylbutane	<0.001	0.001	Mol %	GPA 2286-86		
2-Methyl Pentane	0.002	0.001	Mol %	GPA 2286-86		
3-Methyl Pentane	0.001	0.001	Mol %	GPA 2286-86		
n-Hexane	0.003	0.001	Mol %	GPA 2286-86		
Methylcyclopentane	0.003	0.001	Mol %	GPA 2286-86		
Benzene	<0.001	0.001	Mol %	GPA 2286-86		
Cyclohexane	0.005	0.001	Mol %	GPA 2286-86		
2-Methyl Hexane	0.005	0.001	Mol %	GPA 2286-86		
3-Methylhexane	0.005	0.001	Mol %	GPA 2286-86		
Dimethylcyclopentanes	0.005	0.001	Mol %	GPA 2286-86		
n-Heptane	0.007	0.001	Mol %	GPA 2286-86		
Methylcyclohexane	0.010	0.001	Mol %	GPA 2286-86		
Trimethylcyclopentanes	0.002	0.001	Mol %	GPA 2286-86		
Toluene	0.001	0.001	Mol %	GPA 2286-86		
2-Methylheptane	0.002	0.001	Mol %	GPA 2286-86		
3-Methylheptane	0.002	0.001	Mol %	GPA 2286-86		
Dimethylcyclohexanes	0.001	0.001	Mol %	GPA 2286-86		
n-Octane	0.001	0.001	Mol %	GPA 2286-86		
C8 Aromatics	<0.001	0.001	Mol %	GPA 2286-86		
C9 Naphthenes	<0.001	0.001	Mol %	GPA 2286-86		
C9 Paraffins	<0.001	0.001	Mol %	GPA 2286-86		
n-Nonane	<0.001	0.001	Mol %	GPA 2286-86		
Decanes Plus	<0.001	0.001	Mol %	GPA 2286-86		
Hexanes Plus Mol WT	98.1	0.1	#/#-mol	GPA 2286-86		
Hexanes Plus Relative Density	0.72359	0.0001	60/60	GPA 2286-86		
Hexanes Plus Heating Value	5297.9	0.1	BTU/CF (Ideal)	GPA 2286-86		
Hexanes Plus Vapor Equivalent	23.336	0.001	CF/gal	GPA 2286-86		

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

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The interpretations or opinions expressed represent the best judgement of Core Laboratories. Core Laboratories, however, assumes no responsibility and makes no warranty or representations, express or implied, as to the productivity, proper operations, or profitableness of any oil, gas, coal or other mineral, property, well or sand in connection with which such report is used or relied upon for any reason whatsoever. This report shall not be reproduced except in its entirety, without the written approval of Core Laboratories.

CORE LABORATORIES

LABORATORY TESTS RESULTS
12/13/95

JOB NUMBER: 956129 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: Enron Thoreau
DATE SAMPLED.....: 11/22/95
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: 5-34B SVE Exhaust

LABORATORY I.D...: 956129-0002
DATE RECEIVED....: 12/05/95
TIME RECEIVED....: 13:03
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Extended Natural Gas Analysis		*1			12/13/95	AH
Oxygen	21.60	0.01	Mol %	GPA 2261-90		
Nitrogen	78.36	0.01	Mol %	GPA 2261-90		
Carbon Dioxide	0.04	0.01	Mol %	GPA 2261-90		
Methane	<0.01	0.01	Mol %	GPA 2261-90		
Ethane	<0.01	0.01	Mol %	GPA 2261-90		
Propane	<0.01	0.01	Mol %	GPA 2261-90		
Isobutane	<0.01	0.01	Mol %	GPA 2261-90		
n-Butane	<0.01	0.01	Mol %	GPA 2261-90		
Isopentane	<0.01	0.01	Mol %	GPA 2261-90		
n-Pentane	<0.01	0.01	Mol %	GPA 2261-90		
Hexanes Plus	<0.01	0.01	Mol %	GPA 2261-90		
Total	100.00	0.01	Mol %			
Relative Density	0.99714	0		GPA 2172-86		
Compressibility Factor	0.99963	0		GPA 2172-86		
Gross Heating Value (Dry/Real)	0.0	0	BTU/CF 14.696			
---Analysis of Hexanes Plus	<0.001	0.001	Mol %			
2,2-Dimethylbutane	<0.001	0.001	Mol %	GPA 2286-86		
2-Methyl Pentane	<0.001	0.001	Mol %	GPA 2286-86		
3-Methyl Pentane	<0.001	0.001	Mol %	GPA 2286-86		
n-Hexane	<0.001	0.001	Mol %	GPA 2286-86		
Methylcyclopentane	<0.001	0.001	Mol %	GPA 2286-86		
Benzene	<0.001	0.001	Mol %	GPA 2286-86		
Cyclohexane	<0.001	0.001	Mol %	GPA 2286-86		
2-Methyl Hexane	<0.001	0.001	Mol %	GPA 2286-86		
3-Methylhexane	<0.001	0.001	Mol %	GPA 2286-86		
Dimethylcyclopentanes	<0.001	0.001	Mol %	GPA 2286-86		
n-Heptane	<0.001	0.001	Mol %	GPA 2286-86		
Methylcyclohexane	<0.001	0.001	Mol %	GPA 2286-86		
Trimethylcyclopentanes	<0.001	0.001	Mol %	GPA 2286-86		
Toluene	<0.001	0.001	Mol %	GPA 2286-86		
2-Methylheptane	<0.001	0.001	Mol %	GPA 2286-86		
3-Methylheptane	<0.001	0.001	Mol %	GPA 2286-86		
Dimethylcyclohexanes	<0.001	0.001	Mol %	GPA 2286-86		
n-Octane	<0.001	0.001	Mol %	GPA 2286-86		
C8 Aromatics	<0.001	0.001	Mol %	GPA 2286-86		
C9 Naphthenes	<0.001	0.001	Mol %	GPA 2286-86		
C9 Paraffins	<0.001	0.001	Mol %	GPA 2286-86		
n-Nonane	<0.001	0.001	Mol %	GPA 2286-86		
Decanes Plus	<0.001	0.001	Mol %	GPA 2286-86		
Hexanes Plus Mol WT	<0.1	0.1	#/#-mol	GPA 2286-86		
Hexanes Plus Relative Density	<0.0001	0.0001	60/60	GPA 2286-86		
Hexanes Plus Heating Value	<0.1	0.1	BTU/CF (Ideal)	GPA 2286-86		
Hexanes Plus Vapor Equivalent	<0.001	0.001	CF/gal	GPA 2286-86		

P O BOX 34766
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(713) 943-9776

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CORELAB

CORE LABORATORIES, INC.

No. 21104

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: DANIEL B. STEPHENS & ASSOC	PROJECT NAME/NUMBER: ENRON THOREAU
SEND REPORT TO: BOB MARLEY	**BILLING INFORMATION**
ADDRESS: 6020 ACADEMY NE, SUITE 100	BILL TO: GEORGE ROBINSON
ALBUQUERQUE NM 87109	ADDRESS: ENRON ENVIRONMENTAL AFFAIRS 1400 SMITH ST, SUITE 3AC3142 HOUSTON TX 77002
PHONE: (505) 822-9400	PHONE: ~~50~~ RE: NON-CONSENT DECREE THOREAU
FAX: (505) 822-8877	FAX No. 060-1070-100 PO NO. 247-0286-S35025-SD510-GENV

SAMPLE NO.	SAMPLE ID/DESCRIPTION	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRESERV.	NUMBER OF CONTAINERS	ANALYSIS / METHOD REQUEST: BTEX	ANALYSIS / METHOD REQUEST: EXTENDED REFINERY GASES	REMARKS / PRECAUTIONS
5-35B		11-17-95	1230	GAS	STEEL CYLINDER	N/A		X	X	
5-34B		11-22-95	—	GAS	STEEL CYLINDER	N/A		X	X	

LAB JOB NO.

SAMPLER: SHIPMENT METHOD: AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY: SIGNATURE:	DATE: 11-29-95	2. RELINQUISHED BY: SIGNATURE:	DATE: 12/1/95	3. RELINQUISHED BY: SIGNATURE:	DATE
PRINTED NAME/COMPANY: RICK LAWRENCE DBS&A	TIME: 1200	PRINTED NAME/COMPANY: CORE	TIME: 1600	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY: SIGNATURE:	DATE: 11/30/95	2. RECEIVED BY: SIGNATURE:	DATE: 12-5-95	3. RECEIVED BY: SIGNATURE:	DATE
PRINTED NAME/COMPANY: CORE	TIME: 1000	PRINTED NAME/COMPANY:	TIME: 1530	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673

☐ **Long Beach, California** 3700 Cherry Avenue, Long Beach, California 90807, (310) 595-8401, (800) 814-3433

☐ **Denver (Aurora), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673

☐ **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235-5741, (800) 666-0306

☐ **Houston, Texas** 8210 Mosley Road, Houston, Texas 77075, (713) 943-9776, (800) 734-2673

☐ **Corpus Christi, Texas** 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, (800) 548-8228

☐ **Lake Charles, Louisiana** 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583-4926, (800) 259-4926

CORE LABORATORIES

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

Job Number: 954654
Prepared For:

DANIEL B STEPHENS & ASSOCIATES
JOANNE HILTON
6020 ACADEMY STREET NE
ALBUQUERQUE, NM 87109

Date: 09/22/95

Signature M. Jean Waits Date: 9/22/95

Name: M. Jean Waits

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

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS
09/22/95

JOB NUMBER: 954654 CUSTOMER: DANIEL B STEPHENS & ASSOCIATES ATTN: JOANNE HILTON

CLIENT I.D.....: 2105.2.2 Enron Thureau
DATE SAMPLED.....: 09/06/95
TIME SAMPLED.....: 15:30
WORK DESCRIPTION...: SVE Exhaust

LABORATORY I.D...: 954654-0001
DATE RECEIVED....: 09/08/95
TIME RECEIVED....: 14:30
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			09/22/95	AH
Benzene	20	1	ppm v/v			
Toluene	94	1	ppm v/v			
Ethyl Benzene	7	1	ppm v/v			
meta-Xylene	27	1	ppm v/v			
para-Xylene	6	1	ppm v/v			
ortho-Xylene	11	1	ppm v/v			
Refinery Gas Analysis		*1		UOP-539	09/22/95	AH
Hydrogen	<0.01	0.01	Mol %			
Oxygen	19.23	0.01	Mol %			
Nitrogen	78.49	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	2.05	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 %			
Isobutylene	<0.01	0.01	Mol %			
1-Butene	<0.01	0.01	Mol %			
n-Butane	<0.01	0.01	Mol %			
trans-2-Butene	<0.01	0.01	Mol %			
cis-2-Butene	<0.01	0.01	Mol %			
Isopentane	<0.01	0.01	Mol %			
n-Pentane	<0.01	0.01	Mol %			
Hexanes Plus	0.23	0.01	Mol %			
Total	100.00	0.01	Mol %			
Molar Mass Ratio	1.0097	0				
Gross Heating Value (Dry)	11.1	0	BTU/CF (Ideal)			
Pressure Base	14.696	0	psia			

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No. 11598

WESTERN ATLAS **CORE LABORATORIES**

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: Daniel B Stephens & Associates	PROJECT NAME/NUMBER: 2105.2.2 ENRON - THOREAU
SEND REPORT TO: Joanne Hilton	**BILLING INFORMATION**
ADDRESS: 6020 Academy NE, Suite 100	BILL TO: George Robinson, Enron Corp
Albuquerque, NM 87109	ADDRESS: Environmental Affairs 1400 Smith St
	Suite 3AC-3142, Houston, Tx 77002
PHONE: (505) 822-9400	PHONE: Non consent decree D60-1070-100-247
FAX: (505) 822-8877	FAX: PO NO.: 0286 535025-50510-Genv

SAMPLE NO.	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.	NUMBER OF CONTAINERS	ANALYSIS / METHOD REQUEST: BTEX	Extended Refinery Gases						REMARKS / PRECAUTIONS
1	SVE exhaust (Enron-Thoreau)	9-6-95	1530	Air	Canister		1	X	X						

LAB JOB NO.

SAMPLER: B. Delaney

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY:	DATE	2. RELINQUISHED BY:	DATE	3. RELINQUISHED BY:	DATE
SIGNATURE: Bruce M Delaney	9-7-95	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: Bruce M Delaney / DBS&A	TIME 0900	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY:	DATE	2. RECEIVED BY:	DATE	3. RECEIVED BY:	DATE
SIGNATURE:	9-7-95	SIGNATURE:		SIGNATURE:	
PRINTED NAME/COMPANY: Roy Baldwin / Lone	TIME 1200	PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673

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☐ **Denver (Aurora), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673

☐ **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235-5741, (800) 666-0306

☒ **Houston, Texas** 8210 Mosely Road, Houston, Texas 77075, (713) 943-9776, (800) 734-2673

☐ **Corpus Christi, Texas** 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, (800) 548-8228

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ORIGINAL

CORE LABORATORIES

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

Job Number: 953015
Prepared For:

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

Date: 06/26/95

Signature M. Jean Waits

Date: 6/27/95

Name: M. Jean Waits

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

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS

06/27/95

JOB NUMBER: 953015 CUSTOMER: ENRON OPERATIONS CORPORATION ATTN: GEORGE ROBINSON

CLIENT I.D.....:
DATE SAMPLED.....: 06/08/95
TIME SAMPLED.....: 11:35
WORK DESCRIPTION...: SVE Exhaust Enron-Thoreau

LABORATORY I.D...: 953015-0001
DATE RECEIVED....: 06/12/95
TIME RECEIVED....: 13:45
REMARKS.....: Corrected Report

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			06/26/95	AH
Benzene	6	1	ppm v/v			
Toluene	75	1	ppm v/v			
Ethyl Benzene	7	1	ppm v/v			
meta-Xylene	32	1	ppm v/v			
para-Xylene	11	1	ppm v/v			
ortho-Xylene	14	1	ppm v/v			
Refinery Gas Analysis, Extended		*1			06/26/95	AH
Hydrogen	<0.01	0.01	Mol %	ASTM D-1945		
Oxygen	20.08	0.01	Mol %	ASTM D-1945		
Nitrogen	78.20	0.01	Mol %	ASTM D-1945		
Carbon Monoxide	<0.01	0.01	Mol %	ASTM D-1946		
Carbon Dioxide	1.58	0.01	Mol %	ASTM D-1945		
Hydrogen Sulfide	<0.01	0.01	Mol %			
Methane	<0.01	0.01	Mol %	ASTM D-1945		
Ethylene	<0.01	0.01	Mol %	ASTM D-1946		
Ethane	<0.01	0.01	Mol %	ASTM D-1945		
Propylene	<0.01	0.01	Mol %	ASTM D-2163		
Propane	<0.01	0.01	Mol %	ASTM D-1945		
Isobutane	<0.01	0.01	Mol %	ASTM D-1945		
Isobutylene	<0.01	0.01	Mol %	ASTM D-2163		
1-Butene	<0.01	0.01	Mol %	ASTM D-2163		
n-Butane	<0.01	0.01	Mol %	ASTM D-1945		
trans-2-Butene	<0.01	0.01	Mol %	ASTM D-2163		
cis-2-Butene	<0.01	0.01	Mol %	ASTM D-2163		
Pentanes Plus	0.14	0.01	Mol %	ASTM D-2163		
Total	100.00	0.01	Mol %			
Ethylene	<0.001	0.001	GPM	ASTM D-3588		
Ethane	<0.001	0.001	GPM	ASTM D-3588		
Propylene	<0.001	0.001	GPM	ASTM D-3588		
Propane	<0.001	0.001	GPM	ASTM D-3588		
Isobutane	<0.001	0.001	GPM	ASTM D-3588		
n-Butane	<0.001	0.001	GPM	ASTM D-3588		
Butenes	<0.001	0.001	GPM	ASTM D-3588		
Pentanes Plus	0.066	0.001	GPM	ASTM D-3588		
Total	0.066	0.001	GPM Ethyln Pls			
Specific Gravity	1.0074	0	(Air = 1.0000)			
Compressibility Factor	0.9996	0		ASTM D-3588		
Gross Heating Value	8	0	BTU/ft real gs	ASTM D-3588		
Pressure Base	14.65	0	psia			
Properties of Pentanes Plus	---------	0				
Average Molecular Weight	104.81	0	g/mol			

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CORE LABORATORIES

LABORATORY TESTS RESULTS
06/27/95

JOB NUMBER: 953015 CUSTOMER: ENRON OPERATIONS CORPORATION ATTN: GEORGE ROBINSON

CLIENT I.D.....:
DATE SAMPLED.....: 06/08/95
TIME SAMPLED.....: 11:35
WORK DESCRIPTION...: SVE Exhaust Enron-Thoreau

LABORATORY I.D...: 953015-0001
DATE RECEIVED....: 06/12/95
TIME RECEIVED....: 13:45
REMARKS.....: Corrected Report

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Density	5.968	0	#/gal (wt vac)			
Gross Heating Value	121990	0	BTU/Gal			
Vapor Equivalent	21.67	0	cu ft/gal			

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No. 11609

WESTERN ATLAS **CORE LABORATORIES**

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: DANIEL B. STEPHENS & ASSOCIATES	PROJECT NAME/NUMBER:
SEND REPORT TO: DB3&A ATTN: JOANNE HILTON	**BILLING INFORMATION**
ADDRESS: 6020 ACADEMY NE SUITE 100	BILL TO: GEORGE ROBINSON ENRON ENVIRONMENTAL
ALBUQUERQUE NM 87109	ADDRESS: AFFAIRS 1400 SMITH ST
	SUITE 3AC-3142 HOUSTON TX 77002
PHONE: (505) 822-9400	~~PHONE:~~ NON CONSENT DEGREE 060-1070-100-247
FAX: (505) 822 8877	FAX: 0286-S35025 PO NO.: 50510-GENV

NUMBER OF CONTAINERS

ANALYSIS / METHOD REQUEST: BTEX; EXTENDED REFINERY GASES

LAB JOB NO.

SAMPLE NO.	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.	REMARKS / PRECAUTIONS
1	SVE EXHAUST (ENRON-THOREAU)	6/8/95	1135	AIR	CANISTER		

SAMPLER:

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

1. RELINQUISHED BY: SIGNATURE: D JOHN EICHENBERGER	DATE: 6/8/95 TIME: 1635	2. RELINQUISHED BY: SIGNATURE: Melinda McFadden	DATE: 6/9/95 TIME: 16:00	3. RELINQUISHED BY: SIGNATURE:	DATE: TIME:
1. RECEIVED BY: SIGNATURE: Melinda McFadden	DATE: 6/8/95 TIME: 16:35	2. RECEIVED BY: SIGNATURE: [illegible]	DATE: 6-12-95 TIME: 1030	3. RECEIVED BY: SIGNATURE:	DATE: TIME:
PRINTED NAME/COMPANY: Melinda McFadden		PRINTED NAME/COMPANY: TOM BALDWIN/Core		PRINTED NAME/COMPANY:	

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673

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☐ **Denver (Aurora), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673

☐ **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235-5741, (800) 666-0306

☐ **Houston, Texas** 8210 Mosely Road, Houston, Texas 77075, (713) 943-9776, (800) 734-2673

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☐ **Lake Charles, Louisiana** 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583-4926, (800) 259-4926

ORIGINAL

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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: 951273
Prepared For:

DANIEL B STEPHENS & ASSOCIATES
JOANNE HILTON
6020 ACADEMY STREET NE
ALBUQUERQUE, NM 87109

Date: 03/23/95

Signature M. Jean Waits

Date: 3/23/95

Name: M. Jean Waits

Title: Supervising Chemist

CORE LABORATORIES
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CORE LABORATORIES

LABORATORY TESTS RESULTS
03/23/95

JOB NUMBER: 951273 CUSTOMER: DANIEL B STEPHENS & ASSOCIATES ATTN: JOANNE HILTON

CLIENT I.D.....: Enron Thoreau 2105 2.1
DATE SAMPLED.....: 03/07/95
TIME SAMPLED.....: 10:55
WORK DESCRIPTION...: SVE Exhaust Sample #1

LABORATORY I.D...: 951273-0001
DATE RECEIVED....: 03/09/95
TIME RECEIVED....: 13:38
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			03/23/95	AH
Benzene	7	1	ppm v/v			
Toluene	9	1	ppm v/v			
Ethyl Benzene	<1	1	ppm v/v			
meta-Xylene	<1	1	ppm v/v			
para-Xylene	<1	1	ppm v/v			
ortho-Xylene	<1	1	ppm v/v			
Natural Gas Analysis (inc O2)		*1		GPA 2261-90	03/23/95	AH
Oxygen	19.69	0.01	Mol %	GPA 2261-90		
Nitrogen	77.95	0.01	Mol %	GPA 2261-90		
Carbon Dioxide	2.23	0.01	Mol %	GPA 2261-90		
Methane	<0.01	0.01	Mol %	GPA 2261-90		
Ethane	<0.01	0.01	Mol %	GPA 2261-90		
Propane	<0.01	0.01	Mol %	GPA 2261-90		
Isobutane	<0.01	0.01	Mol %	GPA 2261-90		
n-Butane	<0.01	0.01	Mol %	GPA 2261-90		
Isopentane	<0.01	0.01	Mol %	GPA 2261-90		
n-Pentane	<0.01	0.01	Mol %	GPA 2261-90		
Hexanes Plus	0.13	0.01	Mol %	GPA 2261-90		
Total	100.00	0.01	Mol %			
Molar Mass Ratio	1.00958	0		GPA 2172-86		
Relative Density	1.00960	0		GPA 2172-86		
Compressibility Factor	0.99957	0		GPA 2172-86		
Gross Heating Value (Dry)	6.8	0	BTU/CF (Ideal)	GPA 2172-86		
Gross Heating Value (Dry)	6.8	0	BTU/CF (Real)	GPA 2172-86		
Gross Heating Value (Wet)	7.5	0	BTU/CF (Ideal)	GPA 2172-86		
Pressure Base	14.696	0	psia			
Ethane	<0.001	0.001	GPM	GPA 2145-91		
Propane	<0.001	0.001	GPM	GPA 2145-91		
Isobutane	<0.001	0.001	GPM	GPA 2145-91		
N-Butane	<0.001	0.001	GPM	GPA 2145-91		
Isopentane	<0.001	0.001	GPM	GPA 2145-91		
n-Pentane	<0.001	0.001	GPM	GPA 2145-91		
Hexanes Plus	0.057	0.001	GPM	GPA 2145-91		
Total	0.057	0.001	GPM	GPA 2145-91		

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WESTERN ATLAS

CORE LABORATORIES

No. 11603

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION

COMPANY: DANIEL B. STEPHENS & ASSOCIATES
SEND REPORT TO: DBS&A: JOANNE HILTON
ADDRESS: 6020 ACADEMY NE
ALBUQUERQUE NM 87109
PHONE: 505-822-9400
FAX: 505 822-8877

PROJECT INFORMATION

PROJECT NAME/NUMBER: ENRON - THOREAU / 2105.2.1

BILLING INFORMATION

BILL TO: TED RYTHER - ENRON ENVIRONMENTAL
ADDRESS: AFFAIRS - 1400 SMITH ST.
SUITE 3AC-3137 HOUSTON TX 77002
PHONE: NON CONSENT DECREE 060-1070-100
FAX: 247-0286 - 534117-50510-6ENV
P.O. NO.:

LAB JOB NO.:

ITEM NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	TYPE/CONTAINER	PRESERVATIVE	BTEX & TPH 602	NITRATE 300	ANIONS	REMARKS/SPECIAL CONDITIONS
1	SVE EXHAUST	3/7/95	1055	AIR	CANISTER		X	X		

SAMPLER: JOHN EICHENBERGER
SHIPMENT METHOD: FED EX
AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER:

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME	RELINQUISHED BY	DATE
SIGNATURE:	3/8/95		SIGNATURE:	3-9-95		SIGNATURE:	
PRINTED NAME/COMPANY: JOHN EICHENBERGER DBS&A			PRINTED NAME/COMPANY: Roy Baldwin/Core		1400	PRINTED NAME/COMPANY:	
SIGNATURE:	3-9-95		SIGNATURE:	3/9/95		SIGNATURE:	
PRINTED NAME/COMPANY: Roy Baldwin/Core		1030	PRINTED NAME/COMPANY: MJ Watts/Core		150	PRINTED NAME/COMPANY:	

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

ORIGINAL

☐ Anaheim, California — 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673
☐ Long Beach, California — 3700 Cherry Avenue, Long Beach, California 90807, (310) 595-8401, (800) 814-3433
☒ Denver (Aurora), Colorado — 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673
☐ Casper, Wyoming — 420 West 1st Street, Casper, Wyoming 82601, (307) 235-6741, (800) 666-0308
☒ Houston, Texas — 8210 Mosely Road, Houston, Texas 77075, (713) 943-9776, (800) 734-2673
☐ Corpus Christi, Texas — 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, (800) 949-8228
☐ Lake Charles, Louisiana — 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583-4926, (800) 259-4926

CORE LAB

PETROLEUM TESTING SERVICES

Revision No: 02 Date: 12/14/94 AUTH:

ANALYTICAL REQUEST FORM

TO FACILITATE PROCESSING YOUR WORK, PLEASE COMPLETE THIS FORM AND SUBMIT WITH THE SAMPLE. THANK YOU

COMPANY NAME/ADDRESS	BILLING ADDRESS (IF DIFFERENT)

PERSON TO CONTACT	P.O. NUMBER
NAME: PHONE:	

REQUESTED DATE OF COMPLETION

/ /

SAMPLE DESCRIPTION AND ID	REQUESTED ANALYSIS	OVERTIME AUTHORIZED? Y	OVERTIME AUTHORIZED? N	RETURN SAMPLE? Y	RETURN SAMPLE? N

Ganalrf

Core Laboratories, Inc.
8210 Mosley Road, Houston, Texas 77075-1110, P.O. Box 34766, Houston, Texas 77234-4766, (713) 943-9776, Fax (713) 943-3846

RECEIVED MAR 1 3 1995

CORE LAB

CORE LABORATORIES

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

Job Number: 950754
Prepared For:

DANIEL B. STEPHENS & ASSOCIATES
BOB MARLEY
6020 ACADEMY NE
ALBUQUERQUE, NM 87109

Date: 03/02/95

Enron - Thoreau

Signature M. Jean Waits

3/2/95
Date:

Name: M. Jean Waits

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

Title: Supervising Chemist

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CORE LAB

CORE LABORATORIES

LABORATORY TESTS RESULTS
03/02/95

JOB NUMBER: 950754 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....: 21052.2
DATE SAMPLED.....: 02/07/95
TIME SAMPLED.....: 12:10
WORK DESCRIPTION...: Air Enron Thoreau Sample #5-35B

LABORATORY I.D...: 950754-0001
DATE RECEIVED....: 02/09/95
TIME RECEIVED....: 14:04
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			02/21/95	AH
Benzene	4	1	ppm v/v			
Toluene	23	1	ppm v/v			
Ethyl Benzene	3	1	ppm v/v			
m+p-Xylenes	6	1	ppm v/v	GC		
ortho-Xylene	1	1	ppm v/v			

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

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CORE LABORATORIES

March 1, 1995

Daniel B. Stevens & Associates
6020 Academy NE
Suite 100
Albuquergue, NM 87109
ATTN: Bob Marley

Sample ID:	Air Enron Thoreau Sample #5-35B
Sample Date	02/07/95 1210
Laboratory ID No.	950754-1

	Mol %	WT %
Hydrogen	0.000	0.000
Oxygen	17.173	18.564
Nitrogen	78.248	74.048
Carbon Monoxide	0.000	0.000
Carbon Dioxide	4.159	6.183
Hydrogen Sulfide	0.000	0.000
Methane	0.000	0.000
Ethylene	0.000	0.000
Ethane	0.000	0.000
Propylene	0.000	0.000
Propane	0.002	0.002
Isobutane	0.008	0.015
Isobutylene	0.000	0.000
1-Butene	0.000	0.000
N-Butane	0.003	0.005
Trans 2 butene	0.000	0.000
Cis 2 butene	0.000	0.000
Isopentane	0.004	0.009
N-Pentane	0.001	0.002
Hexanes Plus	0.403	1.171
Total	100.000	100.000

Ideal Gas Gravity	1.0221
Gross Heating Value	19.7 BTU/cu ft ideal
Pressure Base	14.696 psia

NMHC 0.421
4,210 ppm

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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: 950200
Prepared For:

DANIEL B STEPHENS & ASSOCIATES
JOANNE HILTON
6020 ACADEMY STREET NE
ALBUQUERQUE, NM 87109

Date: 01/20/95

Signature M. Jean Waits

1-20-95
Date:

Name: M. Jean Waits

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

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS
01/20/95

JOB NUMBER: 950200 CUSTOMER: DANIEL B STEPHENS & ASSOCIATES ATTN: JOANNE HILTON

CLIENT I.D.....:
DATE SAMPLED.....: 01/10/95
TIME SAMPLED.....: 09:10
WORK DESCRIPTION...: Thoreau Sve Exhaust

LABORATORY I.D...: 950200-0001
DATE RECEIVED....: 01/12/95
TIME RECEIVED....: 11:25
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			01/13/95	MJW
Benzene	34	1	ppm v/v			
Toluene	134	1	ppm v/v			
Ethyl Benzene	2	1	ppm v/v			
meta-Xylene	23	1	ppm v/v			
para-Xylene	11	1	ppm v/v			
ortho-Xylene	5	1	ppm v/v			

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CORE LABORATORIES

January 20, 1995

Daniel B. Stevens & Associates
6020 Academy Street NE, Suite 100
Albuquerque, NM 87109

ATTN: Joanne Hilton

Sample ID: Thoreau SVE Exhaust
Sample Date 01/10/95 0910
Laboratory ID No. 950200-1

	Mol %	WT %
Hydrogen	0.0000	0.0000
Oxygen	16.8608	18.3165
Nitrogen	79.1523	75.2768
Carbon Monoxide	0.0000	0.0000
Carbon Dioxide	3.6699	5.4832
Hydrogen Sulfide	0.0000	0.0000
Methane	0.0006	0.0003
Ethylene	0.0000	0.0000
Ethane	0.0000	0.0000
Propylene	0.0000	0.0000
Propane	0.0000	0.0000
Isobutane	0.0000	0.0000
Isobutylene	0.0000	0.0000
1-Butene	0.0000	0.0000
N-Butane	0.0000	0.0000
Ethanol	0.0000	0.0000
Trans 2 butene	0.0000	0.0000
Cis 2 butene	0.0000	0.0000
Isopentane	0.0003	0.0007
N-Pentane	0.0007	0.0017
Hexanes Plus	0.3153	0.9207
Total	100.0000	100.0000

Ideal Gas Gravity 1.0170
Gross Heating Value 15.0 BTU/cu ft ideal
Pressure Base 14.696 psia

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WESTERN ATLAS

CORE LABORATORIES

No. 10731

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: DANIEL B. STEPHENS & ASSOCIATES	PROJECT NAME/NUMBER: ENRON - THOREAU / 2105 2.1
SEND REPORT TO: DBS&A - JOANNE HILTON	BILLING INFORMATION
ADDRESS: 6020 ACADEMY NE	BILL TO: TED RYTHER - ENRON ENVIRONMENTAL
ALBUQUERQUE NM 87109	ADDRESS: AFFAIRS - 1400 SMITH ST
	SUITE 3AC-3137 HOUSTON TX 77002
PHONE: 505 - 822 9400	PHONE: NON CONSENT DECREE 060-1070-100
FAX: 505 822 8877	FAX: -247-0286 - PO NO: 534117-50510-GENV

SAMPLE NO.	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES	NUMBER OF CONTAINERS	ANALYSIS METHOD REQUESTED: BTEX IN GAS; NATURAL GAS ANALYSIS	REMARKS / PRECAUTIONS
1	THOREAU SVE EXHAUST	1/10/95	0910	AIR	CANISTER			X X	

LAB JOB NO.

SAMPLER: JOHN EICHENBERGER

SHIPMENT METHOD:

AIRBILL NO.

REQUIRED TURNAROUND: ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

	DATE		DATE		DATE
1. RELINQUISHED BY: SIGNATURE:	1/11/95	2. RELINQUISHED BY: SIGNATURE:	1-12-95	3. RELINQUISHED BY: SIGNATURE:	
PRINTED NAME/COMPANY: JOHN EICHENBERGER	TIME 1130	PRINTED NAME/COMPANY: ROY BALDWIN / CORE	TIME 1130	PRINTED NAME/COMPANY:	TIME
1. RECEIVED BY: SIGNATURE:	DATE 1-12-95	2. RECEIVED BY: SIGNATURE:	DATE 1-17-95	3. RECEIVED BY: SIGNATURE:	DATE
PRINTED NAME/COMPANY: ROY BALDWIN / CORE	TIME 1030	PRINTED NAME/COMPANY: MARIE HRUSKA	TIME 12 30	PRINTED NAME/COMPANY:	TIME

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ Anaheim, California 1250 E. Gene Autry Way Anaheim, California 92805 (714) 937-4094 (800) 444-2673

☐ Long Beach, California 3700 Cherry Avenue Long Beach, California 90807 (310) 595-8401 (800) 814-3433

☐ Denver (Aurora), Colorado 16703 E. Bethany Drive Aurora, Colorado 80014 (303) 751-1789 (800) 872-2673

☐ Casper, Wyoming 420 West 1st Street Casper, Wyoming 82601 (307) 235-6741 (800) 888-8803

☒ Houston, Texas 8310 Mosely Road Houston, Texas 77075 (713) 943-9275 (800) 734-2673

☐ Corpus Christi, Texas 1733 North Padre Island Drive Corpus Christi, Texas 78408 (512) 289-2673 (806) 548-8218

☐ Lake Charles, Louisiana 3816 Bagley Parkway Sulphur, Louisiana 70663 (318) 583-4826 (800) 256-4826

ORIGINAL

SENT BY:CORE LABORATORIES ; 1-11-95 ; 11:42 ; HOUSTON PETROLEUM→ ;# 2/ 2

CORE LABORATORIES

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

Job Number: 946472
Prepared For:

DANIEL B. STEPHENS & ASSOCIATES
BOB MARLEY
6020 ACADEMY NE
ALBUQUERQUE, NM 87109

Date: 01/09/95

Signature M. Jean Waits

1/9/95
Date:

Name: M. Jean Waits

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

Title: Supervising Chemist

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CORE LABORATORIES

LABORATORY TESTS RESULTS
01/09/95

JOB NUMBER: 946472 CUSTOMER: DANIEL B. STEPHENS & ASSOCIATES ATTN: BOB MARLEY

CLIENT I.D.....:
DATE SAMPLED.....: 12/20/94
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: Air/Vapor Enron Thoreau Well: 5-35B

LABORATORY I.D...: 946472-0001
DATE RECEIVED....: 12/22/94
TIME RECEIVED....: 14:04
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			01/06/95	MJW
Benzene	17	1	ppm v/v			
Toluene	24	1	ppm v/v			
Ethyl Benzene	<1	1	ppm v/v			
meta-Xylene	<1	1	ppm v/v			
para-Xylene	<1	1	ppm v/v			
ortho-Xylene	<1	1	ppm v/v			
Refinery Gas Analysis		*1		UOP-539	01/03/95	AH
Hydrogen	<0.01	0.01	Mol %			
Oxygen	15.00	0.01	Mol %			
Nitrogen	79.95	0.01	Mol %			
Carbon Monoxide	<0.01	0.01	Mol %			
Carbon Dioxide	5.05	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 %			
Isobutylene	<0.01	0.01	Mol %			
1-Butene	<0.01	0.01	Mol %			
n-Butane	<0.01	0.01	Mol %			
trans-2-Butene	<0.01	0.01	Mol %			
cis-2-Butene	<0.01	0.01	Mol %			
Isopentane	<0.01	0.01	Mol %			
n-Pentane	<0.01	0.01	Mol %			
Hexanes Plus	<0.01	0.01	Mol %			
Total	100.00	0.01	Mol %			
Molar Mass Ratio	1.0157	0				
Gross Heating Value (Dry)	0	0	BTU/CF (Ideal)			
Pressure Base	14.696	0	psia			

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(713) 943-9776

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CORE LABORATORIES

December 29, 1994

Daniel B Stevens
6020 Academy Street NE, Suite 100
Albuquerque, NM 87109

ATTN: Joanne Hilton

Sample ID: SVE Emissions Thoreau
Sample Date 12-24-94
Laboratory ID No. 946314-1

	Mol %	WT %
Hydrogen	0.0000	0.0000
Oxygen	13.0743	14.0331
Nitrogen	79.9963	75.1689
Carbon Monoxide	0.0000	0.0000
Carbon Dioxide	6.3901	9.4332
Hydrogen Sulfide	0.0000	0.0000
Methane	0.0015	0.0008
Ethylene	0.0000	0.0000
Ethane	0.0000	0.0000
Propylene	0.0000	0.0000
Propane	0.0035	0.0051
Isobutane	0.0000	0.0000
Isobutylene	0.0000	0.0000
1-Butene	0.0000	0.0000
N-Butane	0.0000	0.0000
Ethanol	0.1359	0.2101
Trans 2 butene	0.0000	0.0000
Cis 2 butene	0.0000	0.0000
Isopentane	0.0007	0.0017
N-Pentane	0.0009	0.0021
Hexanes Plus	0.3969	1.1450
Total	100.0000	100.0000

Ideal Gas Gravity 1.0293
Gross Heating Value 21.2 BTU/cu ft ideal
Pressure Base 14.696 psia

The analyses, opinions or interpretations contained in this report are based upon observations and material supplied by the client for whose exclusive and confidential use this report has been made. The

RECEIVED JAN 0 9 1995

CORELAB

CORE LABORATORIES

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

Job Number: 946314
Prepared For:

DANIEL B STEPHENS & ASSOCIATES
JOANNE HILTON
6020 ACADEMY STREET NE
ALBUQUERQUE, NM 87109

Date: 12/30/94

Signature M. J. Waits

12/30/94
Date:

Name: M. Jean Waits

Title: Supervising Chemist

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

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CORE LABORATORIES

LABORATORY TESTS RESULTS
12/30/94

JOB NUMBER: 946314 CUSTOMER: DANIEL B STEPHENS & ASSOCIATES ATTN: JOANNE HILTON

CLIENT I.D.....: Enron Thoreau 21052.1
DATE SAMPLED.....: 12/24/94
TIME SAMPLED.....: 00:00
WORK DESCRIPTION...: SVE Emmissions Thoreau

LABORATORY I.D...: 946314-0001
DATE RECEIVED....: 12/14/94
TIME RECEIVED....: 12:29
REMARKS.....:

TEST DESCRIPTION	FINAL RESULT	LIMITS/*DILUTION	UNITS OF MEASURE	TEST METHOD	DATE	TECHN
Benzene, Toluene, Xylenes in Gas		*1			12/28/94	MJW
Benzene	42	1	ppm v/v			
Toluene	49	1	ppm v/v			
Ethyl Benzene	4	1	ppm v/v			
m+p-Xylenes	9	1	ppm v/v	GC		
ortho-Xylene	7	1	ppm v/v			

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

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CORE LABORATORIES

December 29, 1994

Daniel B Stevens
6020 Academy Street NE, Suite 100
Albuquerque, NM 87109

ATTN: Joanne Hilton

Sample ID:	SVE Emissions Thoreau
Sample Date	12-24-94
Laboratory ID No.	946314-1

	Mol %	WT %
Hydrogen	0.0000	0.0000
Oxygen	13.0743	14.0331
Nitrogen	79.9963	75.1689
Carbon Monoxide	0.0000	0.0000
Carbon Dioxide	6.3901	9.4332
Hydrogen Sulfide	0.0000	0.0000
Methane	0.0015	0.0008
Ethylene	0.0000	0.0000
Ethane	0.0000	0.0000
Propylene	0.0000	0.0000
Propane	0.0035	0.0051
Isobutane	0.0000	0.0000
Isobutylene	0.0000	0.0000
1-Butene	0.0000	0.0000
N-Butane	0.0000	0.0000
Ethanol	0.1359	0.2101
Trans 2 butene	0.0000	0.0000
Cis 2 butene	0.0000	0.0000
Isopentane	0.0007	0.0017
N-Pentane	0.0009	0.0021
Hexanes Plus	0.3969	1.1450
Total	100.0000	100.0000

Ideal Gas Gravity	1.0293
Gross Heating Value	21.2 BTU/cu ft ideal
Pressure Base	14.696 psia

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No. 13528

WESTERN ATLAS **CORE LABORATORIES**

CHAIN OF CUSTODY RECORD

CUSTOMER INFORMATION	PROJECT INFORMATION
COMPANY: DANIEL B STEPHENS & ASSOC	PROJECT NAME/NUMBER: ENRON - THOREAU 21052.1
SEND REPORT TO: DBS&A - JOANNE HILTON	**BILLING INFORMATION**
ADDRESS: 6020 ACADEMY ST NE	BILL TO: TED RYTHER - ENRON ENVIRONMENTAL
ALBUQUERQUE NM 87109	ADDRESS: AFFAIRS - 1400 SMITH ST SUITE 3AC-3137, HOUSTON TX 77002
PHONE: 505 822 9400	PHONE: NON CONSENT DECREE 060-1070-
FAX: 505 822 8877	FAX: 100-247-0286 POND: 534117-50510-GENV

NUMBER OF CONTAINERS

ANALYSIS / METHOD REQUEST: BTEX IN GAS; NATURAL GAS ANALYSIS

LAB JOB NO.

SAMPLE NO.	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	SAMPLE MATRIX	CONTAINER TYPE	PRES.	REMARKS / PRECAUTIONS
1	SVE EMISSION 12/12/94	12/12/94	1640	AIR	CANISTER		

SAMPLER: [signature]

SHIPMENT METHOD:

AIRBILL NO.:

REQUIRED TURNAROUND:* ☐ SAME DAY ☐ 24 HOURS ☐ 48 HOURS ☐ 72 HOURS ☐ 5 DAYS ☐ 10 DAYS ☒ ROUTINE OTHER

	DATE		DATE		DATE
1. RELINQUISHED BY: SIGNATURE: [signature]	12/13/94	2. RELINQUISHED BY: SIGNATURE: Joanne Hilton	12/14	3. RELINQUISHED BY: SIGNATURE: [signature]	12/14/94
PRINTED NAME/COMPANY: JOHN EICHENBERGER - DBS&A	TIME 0645	PRINTED NAME/COMPANY: Joanne Hilton DBS&A	TIME 9:00am	PRINTED NAME/COMPANY: ROY BALDWIN / Enron	TIME 1245
1. RECEIVED BY: SIGNATURE:	DATE	2. RECEIVED BY: SIGNATURE: [signature]	DATE 12/14/94	3. RECEIVED BY: SIGNATURE: Pam Thonsgard	DATE 12/14/94
PRINTED NAME/COMPANY:	TIME	PRINTED NAME/COMPANY: Roy Baldwin / Enron	TIME 1050	PRINTED NAME/COMPANY: PAM THONSGARD	TIME 12:47

* RUSH TURNAROUND MAY REQUIRE SURCHARGE

☐ **Anaheim, California** 1250 E. Gene Autry Way, Anaheim, California 92805, (714) 937-1094, (800) 404-2673

☐ **Long Beach, California** 3700 Cherry Avenue, Long Beach, California 90807, (310) 595-8401, (800) 814-3433

☐ **Denver (Aurora), Colorado** 10703 E. Bethany Drive, Aurora, Colorado 80014, (303) 751-1780, (800) 972-2673

☐ **Casper, Wyoming** 420 West 1st Street, Casper, Wyoming 82601, (307) 235-5741, (800) 666-0306

☒ **Houston, Texas** 8210 Mosely Road, Houston, Texas 77075, (713) 943-9776, (800) 734-2673

☐ **Corpus Christi, Texas** 1733 North Padre Island Drive, Corpus Christi, Texas 78408, (512) 289-2673, (800) 548-8228

☐ **Lake Charles, Louisiana** 3645 Beglis Parkway, Sulphur, Louisiana 70663, (318) 583-4926, (800) 259-4926

ORIGINAL