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REPORTS

DATE:

Aug. 10, 1998

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station
Eddy County, New Mexico

Submitted to:
New Mexico Oil Conservation Division

August 10, 1998

Prepared For:
Transwestern Pipeline Company
6381 North Main Street
Roswell, NM 88201

Prepared by:
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10235 West Little York, Suite 256
Houston, Texas 77040-3229

Report of Ground Water Remediation Activities

Transwestern Pipeline Company

Atoka-1 Compressor Station

I. Ground Water Monitoring Activities

Ground Water Sampling Events

Transwestern Pipeline Company (TW) has completed three sampling events since the last report of ground water remediation activities. These events were completed in February 1997, August 1997, and February 1998.

Prior to sampling, the depth to water, and the depth to hydrocarbon where phase separated hydrocarbon (PSH) was present, was determined for each monitor well. The measured depths and the corresponding water table elevation for each monitor well is presented in Table 1.

Ground water samples were collected from seven of the eight monitor wells at the site. Samples were not collected from monitor well MW-1 during the February 1997 and August 1997 sampling events due to the presence of PSH in the well casing. Provisions had not been made to collect samples from MW-1 during the February 1998 event due to the presence of PSH measured in the well casing in the course of previous sampling events. Samples were not collected from monitor well MW-2 during the February 1997 and February 1998 sampling events due to the presence of PSH in the well casing. Ground water samples were delivered to a laboratory for analysis by EPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). A summary of the laboratory results is presented in Table 2.

Approximately 109 gallons of purge water were generated during the sampling events. The purge water has been contained on-site in an approved DOT drum.

Results/Conclusions from Ground Water Sampling Events

Occurrence and Direction of Ground Water Flow

A ground water surface elevation map for the February 1998 sampling event is included as Figure 2. The elevation of shallow ground water measured in the monitor wells do not define a consistent ground water table. This observation is consistent with previous sampling events and is likely because there is very little shallow ground water present.

The apparent direction of ground water flow, based on elevations measured in monitor wells MW-3, MW-5, MW-6, and MW-7, is toward to south-southwest. This is consistent with what would be expected based upon ground surface topography.

Lateral Extent of Phase Separated Hydrocarbon

The lateral extent of PSH is currently defined by the occurrence of PSH at the water table in monitor wells MW-1 and MW-2 and the absence of PSH in all other monitor wells. Prior sampling events identified the presence of PSH in monitor well MW-1, however, no PSH was detected in monitor well MW-1 during the February 1998 sampling event. Only a sheen was present in monitor well MW-2 during the February 1998 sampling event. Based on the information currently available, the volume and lateral extent of PSH in the area appears to be relatively limited.

At this time, the presence of PSH does not appear to require a modification of the existing remediation plan due to the relatively limited lateral extent of PSH and the current operation of a soil vapor extraction system.

Condition of Affected Ground water

A BTEX distribution map for the February 1998 sampling event is included as Figure 3. The condition of affected ground water, based on recent sampling events, has not changed significantly from previous sampling events as evidenced by the information presented in Table 2. Elevated concentrations of benzene continues to be the primary concern.

II. Planned Changes to the Ground Water Monitoring Program

Disposal of Monitor Well Purge Water

Transwestern proposes to continue with the approved method for disposal of monitor well purge water. The purge water generated from all eight monitor wells will be stored on-site in one or more 55-gallon drums. A water sample will be collected from each drum containing purge water prior to a determination regarding disposal. Purge water samples will be delivered to a laboratory for analysis for BTEX compounds (Method 8021). In the event analytical results indicate the concentration of all BTEX compounds to be below WQCC standards, the contents of the associated drum will be emptied to the ground surface on-site. In the event analytical results indicate the concentration of any BTEX compound to be above WQCC Standards, the contents of the associated drum will be placed into the on-site condensate AST.

Frequency of Ground Water Monitoring

Transwestern proposes to continue with semi-annual sampling events. The next sampling event will occur in August 1998.

Routine Reporting of Monitoring Activities

Transwestern proposes to continue with annual reporting. The next annual report will be submitted to the OCD by September 1, 1999.

III. Status of Remediation Activities

Remediation Activities Completed

The following remediation activities were completed through July 1998:

1) Transwestern obtained approval from the NMED APCB to relocate the SVE remediation system operating under Permit No. 1777;
2) Transwestern completed installation and startup of the SVE remediation system in September 1997;
3) Transwestern completed three ground water sampling events; and
4) Transwestern has continued routine O&M of the remediation system to ensure efficient and effective operation.

Current Status of Remediation Activities

Routine operation and maintenance of the SVE system is ongoing.

The apparent thickness of PSH measured in monitor wells MW-1 and MW-2 well casings have decreased significantly as indicated in Table 1.

Transwestern is in the process of evaluating whether the SVE blower/incinerator equipment can be replaced with an SVE blower without an emission control component. This modification would substantially reduce operation and maintenance requirements of the system.

Remediation Activities Planned

Transwestern anticipates that the SVE system will be in operation at least through mid-1999 in order to achieve its cleanup objectives. In addition, Transwestern plans to continue the ground water sampling program as outlined above.

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Figures

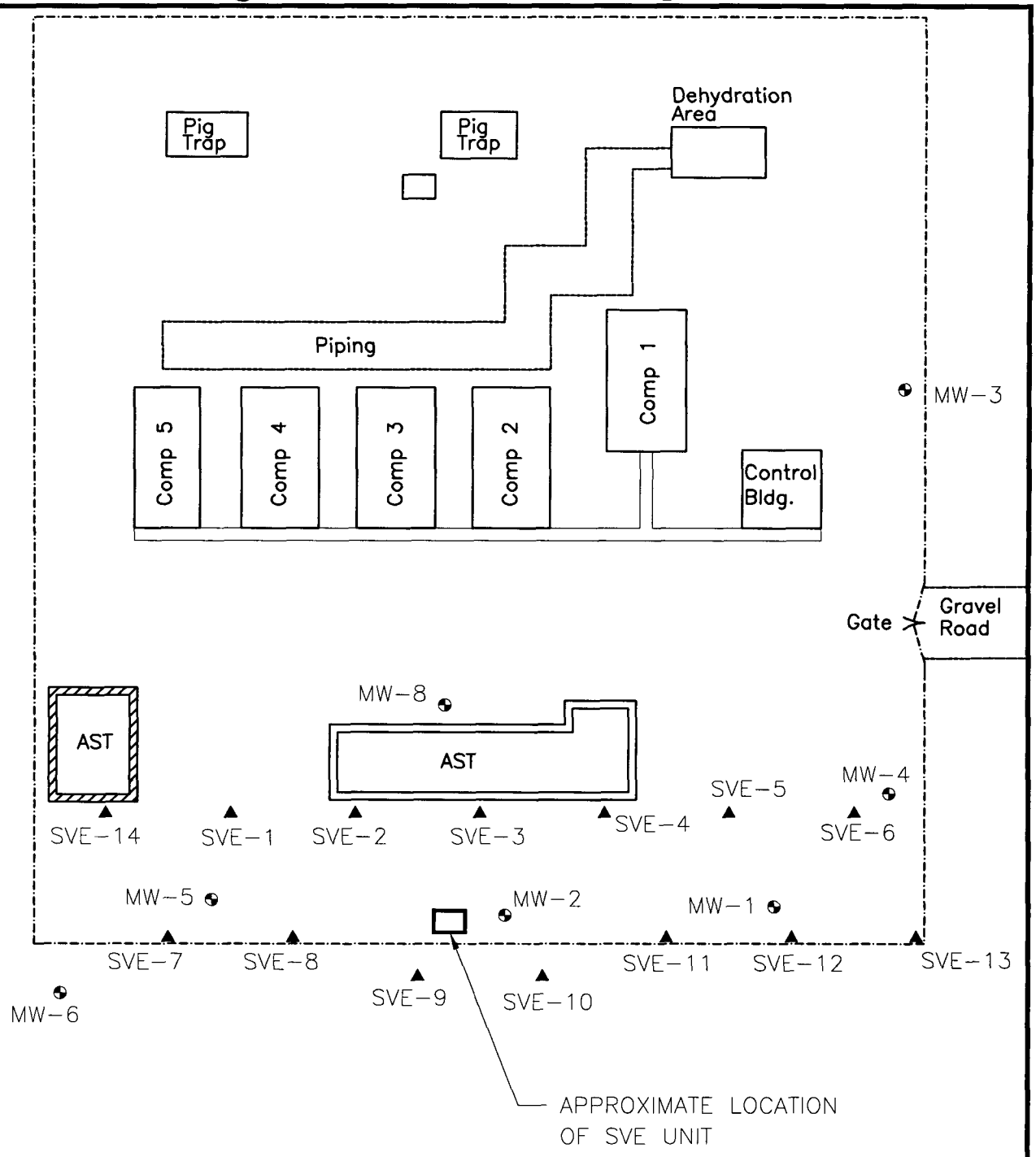

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FIGURE 1

SITE MAP

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

CYPRESS ENGINEERING SERVICES, INC.
8-98

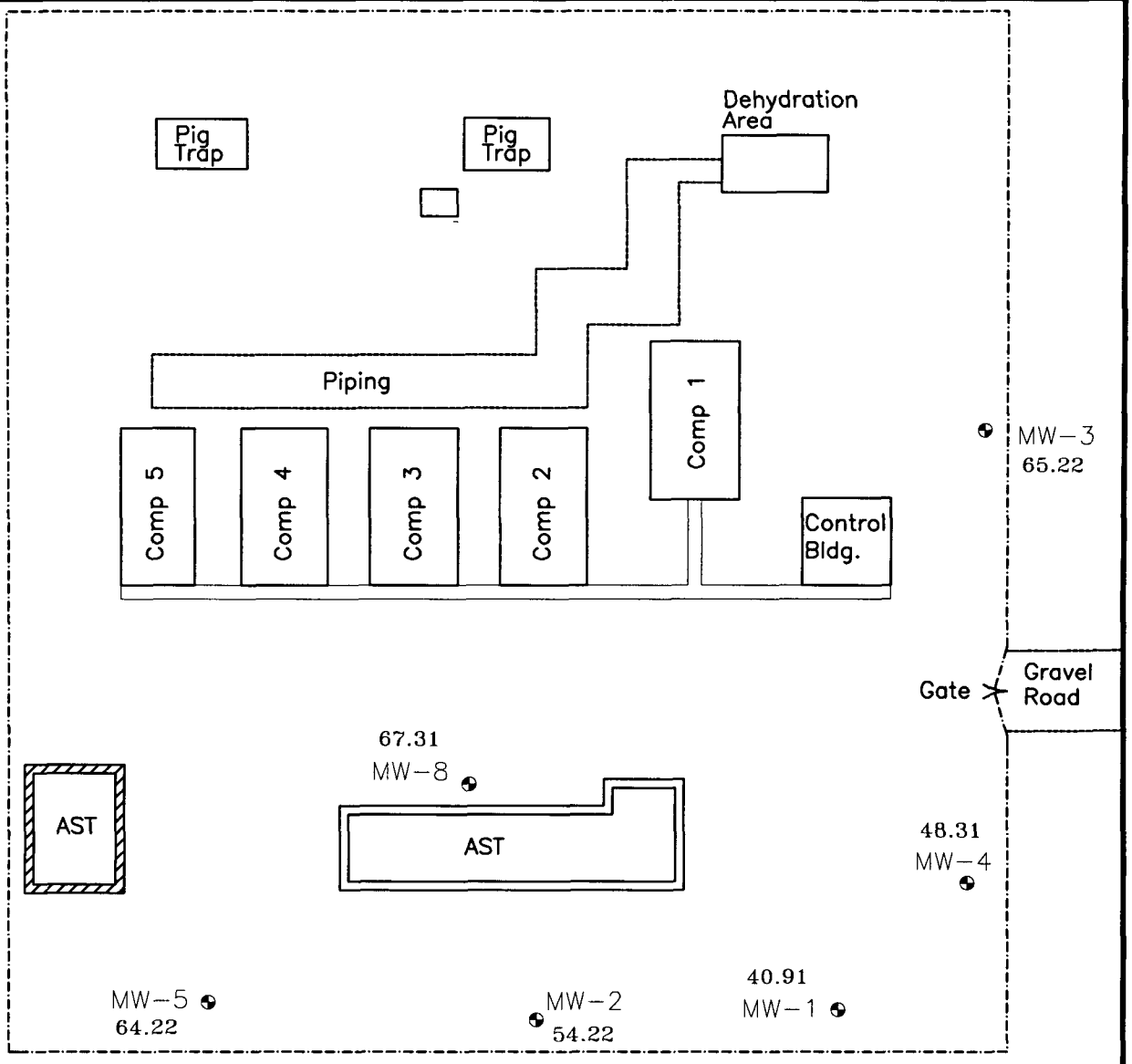

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FIGURE 2

GROUND WATER ELEVATIONS
(February 1998)

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

CYPRESS ENGINEERING SERVICES, INC.
8-98

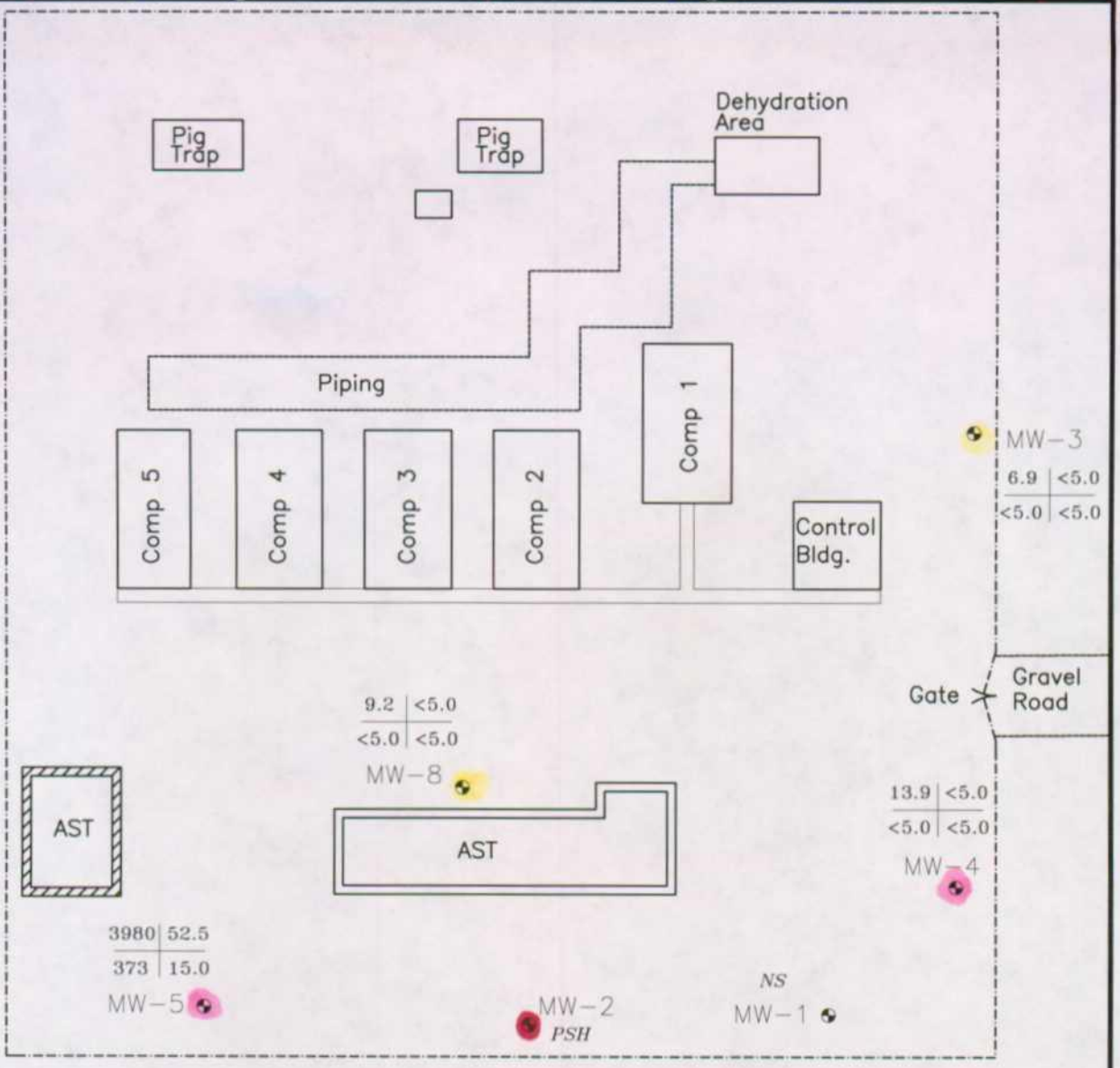

FIGURE 3

BTEX DISTRIBUTION
(February 1998)

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

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8-98

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Tables

Table 1. Summary of Ground Water Surface Elevations
TW Atoka-1 Station

Well	Sampling Date	Top of Casing (ft)	Depth to Hydorcarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	PSH Thickness (ft)	Surface Elevation (ft)
MW-1	07/21/93	94.65	(b)	(b)	(b)	(b)
	12/02/94		56.12	56.82	0.70	38.36
	10/30/95		(b)	56.83	(b)	(b)
	02/23/96	95.66	57.52	57.89	0.37	38.05
	05/14/96		57.50	57.83	0.33	38.08
	08/12/96		57.61	57.98	0.37	37.96
	11/11/96		56.11	56.25	0.14	39.52
	02/03/97		56.67	56.82	0.15	38.95
	08/04/97		57.41	57.75	0.34	38.17
	02/23/98		(a)	54.75	(a)	40.91
MW-2	07/21/93	96.45	(a)	42.38	(a)	54.07
	12/02/94		42.31	42.35	0.04	54.13
	10/30/95		(b)	42.54	(b)	(b)
	02/23/96	97.29	43.34	43.36	0.02	53.95
	05/14/96		43.33	43.34	0.01	53.96
	08/12/96		43.32	43.33	0.01	53.97
	11/11/96		(a)	43.11	(a)	54.18
	02/03/97		(a)	43.12	(a)	54.17
	08/04/97		(a)	43.15	(a)	54.14
	02/23/98		(a)	43.07	Sheen	54.22
MW-3	07/21/93	95	(a)	36.55	(a)	58.45
	12/02/94		(a)	32.23	(a)	62.77
	10/30/95		(a)	31.80	(a)	63.20
	02/23/96		(a)	31.22	(a)	63.78
	05/14/96		(a)	31.28	(a)	63.72
	08/12/96		(a)	31.28	(a)	63.72
	11/11/96		(a)	30.50	(a)	64.50
	02/03/97		(a)	30.20	(a)	64.80
	08/04/97		(a)	30.41	(a)	64.59
	02/23/98		(a)	29.78	(a)	65.22
MW-4	07/21/93	94.02	(a)	49.92	(a)	44.10
	12/02/94		(a)	46.38	(a)	47.64
	10/30/95		(a)	46.05	(a)	47.97
	02/23/96	95.21	(a)	47.64	(a)	47.57
	05/14/96		(a)	47.58	(a)	47.63
	08/12/96		(a)	47.05	(a)	48.16
	11/11/96		(a)	46.72	(a)	48.49
	02/03/97		(a)	47.10	(a)	48.11
	08/04/97		(a)	46.85	(a)	48.36
	02/23/98		(a)	46.90	(a)	48.31

Table 1. Summary of Ground Water Surface Elevations
TW Atoka-1 Station

Well	Sampling Date	Top of Casing (ft)	Depth to Hydorcarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	PSH Thickness (ft)	Surface Elevation (ft)
MW-5	12/02/94	98.22	(a)	34.40	(a)	63.82
	10/30/95		(a)	34.80	(a)	63.42
	02/23/96		(a)	34.88	(a)	63.34
	05/14/96		(a)	34.88	(a)	63.34
	08/12/96		(a)	34.61	(a)	63.61
	11/11/96		(a)	34.37	(a)	63.85
	02/03/97		(a)	34.25	(a)	63.97
	08/04/97		(a)	34.21	(a)	64.01
	02/23/98		(a)	34.00	(a)	64.22
MW-6	12/02/94	99.62	(a)	36.00	(a)	63.62
	10/30/95		(a)	36.34	(a)	63.28
	02/23/96		(a)	36.46	(a)	63.16
	05/14/96		(a)	36.38	(a)	63.24
	08/12/96		(a)	36.22	(a)	63.40
	11/11/96		(a)	36.03	(a)	63.59
	02/03/97		(a)	35.90	(a)	63.72
	08/04/97		(a)	35.86	(a)	63.76
	02/23/98		(a)	35.71	(a)	63.91
MW-7	12/02/94	99.14	(a)	45.58	(a)	53.56
	10/30/95		(a)	35.87	(a)	63.27
	02/23/96		(a)	35.86	(a)	63.28
	05/14/96		(a)	35.91	(a)	63.23
	08/12/96		(a)	35.76	(a)	63.38
	11/11/96		(a)	35.59	(a)	63.55
	02/03/97		(a)	35.46	(a)	63.68
	08/04/97		(a)	35.42	(a)	63.72
	02/23/98		(a)	35.28	(a)	63.86
MW-8	12/02/94	95.98	(a)	28.70	(a)	67.28
	10/30/95		(a)	29.16	(a)	66.82
	02/23/96		(a)	29.19	(a)	66.79
	05/14/96		(a)	29.30	(a)	66.68
	08/12/96		(a)	29.39	(a)	66.59
	11/11/96		(a)	29.07	(a)	66.91
	02/03/97		(a)	28.73	(a)	67.25
	08/04/97		(a)	28.75	(a)	67.23
	02/23/98		(a)	28.67	(a)	67.31

Notes:

(a) Not applicable since no measurable thickness of hydrocarbon is present

(b) Information not available

(c) Corrections to ground water surface elevation for presence of hydrocarbon is calculated assuming a specific gravity of 0.76

(d) 2/23/96 onward - values reflect corrections made to TOC elevations for MW-1(+1.01'), MW-2 (+0.84') and MW-4 (+1.19').

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	Field Measured Parameters				BTEX Concentration - (ug/L)			
		DO (mg/l)	pH (Units)	Temperature (C)	Conductivity (µs/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard		none	6-9	none	none	10	750	750	620
MW-1	07/21/93	-	-	-	-	(a)	(a)	(a)	(a)
	12/02/94	-	-	-	-	(a)	(a)	(a)	(a)
	10/30/95	-	-	-	-	(a)	(a)	(a)	(a)
	02/23/96	-	-	-	-	(a)	(a)	(a)	(a)
	05/14/96	-	-	-	-	(a)	(a)	(a)	(a)
	08/12/96	-	-	-	-	(a)	(a)	(a)	(a)
	11/11/96	-	-	-	-	(a)	(a)	(a)	(a)
	02/03/97	-	-	-	-	(a)	(a)	(a)	(a)
	08/04/97	-	-	-	-	(a)	(a)	(a)	(a)
	02/23/98	-	-	-	-	(b)	(b)	(b)	(b)
MW-2	07/21/93	-	-	-	-	**3,600**	400	**9,800**	**3,170**
	12/02/94	-	-	-	-	(a)	(a)	(a)	(a)
	10/30/95	-	-	-	-	(a)	(a)	(a)	(a)
	02/23/96	-	-	-	-	(a)	(a)	(a)	(a)
	05/14/96	-	-	-	-	(a)	(a)	(a)	(a)
	08/12/96	-	-	-	-	(a)	(a)	(a)	(a)
	11/11/96	-	-	-	-	(a)	(a)	(a)	(a)
	02/03/97	-	-	-	-	(b)	(b)	(b)	(b)
	08/04/97	0.0	6.95	22.2	3760	**3,700**	**4,900**	620	**1,600**
	02/23/98	-	-	-	-	(a)	(a)	(a)	(a)
MW-3	07/21/93	-	-	-	-	7	<2	6	<2
	12/02/94	-	-	-	-	**14**	<2	<2	<4
	10/30/95	-	-	-	-	8.8	<0.5	<0.5	<0.5
	02/23/96	-	7.58	19.9	4800	6	3	<2	<2
	05/14/96	-	7.27	25.7	5380	6	<2	<2	<2
	08/12/96	-	7.25	27.1	5070	8	<2	<2	<2
	11/11/96	-	7.17	18.8	-	<2	<2	<2	<2
	02/03/97	-	-	-	-	<2	<2	<2	<2
	08/04/97	-	7.22	23.2	6130	7.4	<2	<2	<2
	02/23/98	3.5	7.32	19.6	5770	6.93	< 5.00	< 5.00	< 5.00

a - No sample, phase separated hydrocarbon present
b - No sample collected

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	Field Measured Parameters				BTEX Concentration - (ug/L)			
		DO (mg/l)	pH (Units)	Temperature (C)	Conductivity (µs/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard		none	6-9	none	none	10	750	750	620
MW-4	07/21/93	-	-	-	-	**61**	4	20	68
	12/02/94	-	-	-	-	**230**	<2	60	130
	10/30/95	-	-	-	-	**240**	2.1	<0.5	92
	02/23/96	-	6.61	20.2	3500	**83**	5	<2	36
	05/14/96	-	6.75	27.4	4140	**171**	17	<2	54
	08/12/96	-	6.6	26.9	3790	**170**	11	7	43
	11/11/96	-	6.66	19.1	-	**180**	10	<2	120
	02/03/97	-	-	-	-	**170**	<2	<2	<2
	08/04/97	-	6.68	24.0	4470	**130**	3.3	<2	4.7
	02/23/98	2.0	6.74	20.8	3930	**13.9**	< 5.00	< 5.00	< 5.00
MW-5	12/02/94	-	-	-	-	**6,200**	**1,100**	**13,000**	**7,400**
	11/02/95	-	-	-	-	**6,800**	**4,500**	**930**	**3,500**
	02/23/96	-	6.92	21.8	4110	**4,490**	**1,820**	388	**1,235**
	05/14/96	-	7.02	26.6	5380	**4,630**	573	**775**	**1,600**
	08/12/96	-	7.04	25.3	3630	**4,000**	<82	500	99
	11/11/96	-	7.12	19.6	-	**6,100**	<200	430	<200
	02/03/97	-	-	-	-	**3,200**	<100	590	550
	08/04/97	3.5	7.05	23.5	4580	**4,000**	**1,100**	420	250
	02/23/98	1.6	7.12	19.8	5110	**3,980**	52.5	373	15.0
MW-6	12/02/94	-	-	-	-	**360**	50	<10	<20
	10/30/95	-	-	-	-	**4,600**	<5.0	190	<5.0
	02/23/96	-	7.34	21.1	3330	**1,000**	9	222	9
	05/14/96	-	7.01	25.2	2660	**3,700**	56	234	88
	08/12/96	-	6.67	26.4	4650	**2,300**	8	250	<15
	11/11/96	-	7.38	18.9	-	**3,700**	<10	220	<10
	02/03/97	-	-	-	-	**2,900**	<100	250	230
	08/04/97	3.9	6.99	24.2	2720	**2,100**	<100	390	<100
	02/23/98	3.1	7.2	20.2	2980	**2,080**	< 5.00	320	5.71
MW-7	12/02/94	-	-	-	-	**620**	170	**1,100**	**1,100**
	10/30/95	-	-	-	-	**2,200**	440	460	270
	02/23/96	-	-	-	-	**832**	463	318	422
	05/14/96	-	6.76	25.8	2890	**1,610**	**2,880**	649	**3,030**
	08/12/96	-	6.83	27.6	3150	**850**	**850**	360	**720**
	11/11/96	-	7.07	19.6	-	**720**	**970**	170	390
	02/03/97	-	-	-	-	**620**	**870**	300	**1000**
	08/04/97	0.8	6.81	24.1	2830	**1,200**	710	330	490
	02/23/98	0.9	6.91	21.2	2510	**860**	**770**	312	**748**

a - No sample, phase separated hydrocarbon present
b - No sample collected

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	Field Measured Parameters				BTEX Concentration - (ug/L)			
		DO (mg/l)	pH (Units)	Temperature (C)	Conductivity (µs/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard		none	6-9	none	none	10	750	750	620
MW-8	01/01/95	-	-	-	-	<2	<2	<2	<4
	10/30/95	-	-	-	-	**110**	1.3	<0.5	130
	02/23/96	-	7.15	20.9	4810	6	<2	<2	<2
	05/14/96	-	6.96	23.3	5260	2	<2	<2	3
	08/12/96	-	7.17	26.7	5370	<2	<2	<2	<2
	11/11/96	-	6.93	18.8	-	**11**	<2	<2	19
	02/03/97	-	-	-	-	6	<2	<2	<2
	08/04/97	-	7.14	25.6	5920	<2	<2	<2	<2
	02/23/98	3.8	7.14	20.5	5960	9.25	< 5.00	< 5.00	< 5.00

a - No sample, phase separated hydrocarbon present
b - No sample collected

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Attachment #1

Laboratory Reports for the February 1997 Ground Water Sampling Event

Pace Analytical

Pace Analytical Services, Inc.
1000 Riverbend Blvd, Suite F
St. Rose, LA 70087
Tel: 504-469-0333
Fax: 504-469-0555

Larry Campbell
Transwestern Pipeline
6381 N. Main Street
Roswell, NM 88201

Project: TWP-ATOKA-1
Site:
Episode: LBO

To: Larry Campbell

Enclosed please find the analytical results for sample(s) received by Pace Analytical Services, Inc. - New Orleans.

This report contains a summary of the quality control data associated with the analyses as well as copies of the chain-of-custody documents.

You may direct any inquires concerning this report to your Project Manager, or any one of the Project Managers listed below:

Ms. Karen H. Brown, Manager, Ext. 325
Mr. William R. Shackelford, Ext. 326
Ms. Cindy Olavesen, Ext. 327

Sincerely,

Cindy Olavesen
Project Manager

3/4/98
Date

Enclosures

Pace Analytical Services, Inc. - New Orleans
Sample Cross Reference Summary

Episode: LBO Client: Transwestern Pipeline

Project: TWP-ATOKA-1

Site:

Lab ID	Client ID	Description	Matrix	Collected	Received
LBO-001	MW-8		Water	02/23/98	02/26/98
LBO-002	MW-3		Water	02/23/98	02/26/98
LBO-003	MW-4		Water	02/23/98	02/26/98
LBO-004	MW-7		Water	02/23/98	02/26/98
LBO-005	MW-6		Water	02/23/98	02/26/98
LBO-006	MW-5		Water	02/23/98	02/26/98
LBO-007	DRUM 8/97		Water	02/23/98	02/26/98
LBO-008	TRIP BLANK		Water	02/23/98	02/26/98

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-8	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-001	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 27-Feb-98 13:03 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	9.25		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	ND		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-3	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-002	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 27-Feb-98 13:30 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	6.93		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	ND		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-4	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-003	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 27-Feb-98 13:56 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	13.9		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	ND		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-7	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-004	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 27-Feb-98 14:23 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	5	860	DI	25.0	
100-41-4	Ethylbenzene	5	312	DI	25.0	
108-88-3	Toluene	5	770	DI	25.0	
1330-20-7	m-p-Xylene	5	563	DI	25.0	
1330-20-7	o-Xylene	5	185	DI	25.0	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID: MW-6 **Client:** TRANSWESTERN PIPELINE

Project: TWP-ATOKA-1 **Site:** None

Lab ID: LBO-005 **Episode:** LBO **Sample Qu:**

Description: None **Matrix:** Water **% Moisture:** n/a

Method: Water SW 8020 BTEX **Batch:** 25391 **Units:** ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 03-Mar-98 13:49 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	20	2080	D1	100	
100-41-4	Ethylbenzene	1	320		5.00	
108-88-3	Toluene	1	ND		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	5.71		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-5	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-006	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 03-Mar-98 14:15 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	20	3980	D1	100	
100-41-4	Ethylbenzene	1	373		5.00	
108-88-3	Toluene	1	52.5		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	15.0		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	DRUM 8/97	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-007	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 03-Mar-98 13:23 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	30.9		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	12.1		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	TRIP BLANK	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP-ATOKA-1	**Site:**	None
Lab ID:	LBO-008	**Episode:**	LBO
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25391

Sample Qu:
% Moisture: n/a
Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 03-Mar-98 12:56 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	ND		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	ND		5.00	
1330-20-7	m-p-Xylene	1	ND		5.00	
1330-20-7	o-Xylene	1	ND		5.00	

5 compound(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of extract. The Prep Factor accounts for a non-routine sample size.
Reporting Limit is corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
For moisture results, wet denotes result is not corrected for moisture and n/a denotes not applicable.

Pace Analytical Services, Inc. - New Orleans
Laboratory Quality Control Definitions

Our laboratory employs quality control (QC) measures to ensure the quality of our analytical data by defining its accuracy and precision. Presentation of the QC data with the report allows the data user the opportunity to evaluate these results and to gauge the method performance. In order to assist the understanding of these data, routine components of our QC program are defined below.

BATCH - A batch is a group of 20 samples or less of a given matrix and analysis by a specific protocol or analytical method.

BLANK - A method blank is a "clean" laboratory sample carried through the entire analytical process. One or more method blanks are prepared with each batch of samples. The analysis of method blanks demonstrates that method interferences caused by contaminants, reagents and glassware are known and minimized. A method blank should not contain any analytes of interest above the reporting limit. There are method allowances for common laboratory artifacts such as methylene chloride, acetone and bis-2-ethylhexyl phthalate.

LABORATORY CONTROL SPIKE - A laboratory control spike (LCS or blank spike) is a blank which has been spiked with known concentrations of target analytes. The LCS is carried through the entire analytical process. One or more LCS are prepared with each batch of samples. The percent recovery of the spiked analytes provides a measure of the accuracy of the analytical process in the absence of matrix effects.

MATRIX SPIKE - A matrix spike (MS) is a client sample which is spiked with known concentrations of target analytes. The MS is carried through the entire analytical process. One or more matrix spikes are prepared with every batch of samples. For organic methods, a matrix spike duplicate (MSD) is also prepared. The percent recovery of the spiked analytes provides a measure of the method accuracy in the selected sample and matrix.

DUPLICATE - A duplicate is a sample for which replicate aliquouts are carried through the entire analytical process. Comparison of the original results to those of the duplicate results provides a measure of the method precision in the sample and matrix. By convention, precision is measured for inorganic analyses using a sample and a sample duplicate, whereas for organics analyses, an MS/MSD are used.

SURROGATE - A surrogate is a non-target analyte which is added to all samples and QC samples prior to extraction or analysis. The percent recovery of the surrogate provides a measure of the method accuracy in each sample tested. Surrogates are used for organics methods only.

QC LIMITS - QC limits specify the expected percent recovery range for a spiked compound. QC limits may be set by method criteria or calculated from laboratory generated data. For many methods, these limits are advisory and do not require corrective action if exceeded.

Report of Quality Control

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: LBO

Method: Water GC Aromatic/TPH Volatile Organics Batch: 25391 Units: ug/l

Parameter Name	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	RPD %	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Benzene	20.0	70		20.0	65	70	7	39-150	39-150	25	
Ethylbenzene	20.0	99		20.0	90	92	2	32-160	32-160	25	
Methyl tert-butyl ether (MTBE)	20.0	77		20.0	73	48	41 *	40-150	40-150	25	
Toluene	20.0	92		20.0	87	93	7	46-148	46-148	25	
m-p-Xylene	40.0	104		40.0	99	106	7	40-150	40-150	25	
o-Xylene	20.0	111		20.0	103	110	7	40-150	40-150	25	

6 compound(s) reported

* denotes recovery outside of QC limits.
MS spike concentrations are not corrected for moisture content of the spiked sample.

Report of Batch Surrogate Recovery

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Episode: LBO

Method: Water GC Aromatic/TPH Volatile Organics **Batch:** 25391

Lab ID	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
25391B1	100	94						
25391B2	95	93						
25391B3	94	92						
25391B4	92	90						
25391MS	96	95						
25391MSD	96	92						
25391S1	97	92						
LAV-001	101	99						
LAV-002	94	96						
LBJ-001	93	90						
LBJ-002	101	97						
LBO-001	97	95						
LBO-002	96	94						
LBO-003	96	97						
LBO-004	81	86						
LBO-005	115	108						
LBO-006	158 *	204 *						
LBO-007	103	98						
LBO-008	100	95						
LC0-001	90	89						
LC0-002	92	90						
LCH-001	99	96						
LCH-002	96	94						
QC limits:	**38 - 144**	**38 - 144**						

Sur 1: SS 4-Bromofluorobenzene (PID)
Sur 2: SS 4-Bromofluorobenzene (PID confirmation)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an excursion.
A Lab ID consisting of a batch number with a B suffix is a method blank.
A Lab ID consisting of a batch number with a S suffix is an LCS.
A Lab ID with a MS suffix is a matrix spike.
A Lab ID with a MSD suffix is a matrix spike duplicate.

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 25391B1

Description: Water Method Blank **Episode:** LBO **% Moisture:** n/a

Method: Water GC Aromatic/TPH Volatile Organics **Batch:** 25391 **Units:** ug/l

Prep Factor: 1 **Leached:** n/a **Prepared:** **Analyzed:** 26-Feb-98 11:48 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit
71-43-2	Benzene	1	ND		0.500
100-41-4	Ethylbenzene	1	ND		0.500
108-88-3	Toluene	1	ND		0.500
1330-20-7	m-p-Xylene	1	ND		0.500
1330-20-7	o-Xylene	1	ND		0.500

5 compound(s) reported

ND denotes Not Detected at or above the reporting limit.
DF denotes Dilution Factor.
RL denotes sample Reporting Limit.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.

Report Qualifiers

Pace Analytical Services, Inc. - New Orleans

Single Episode

Episode: LBO

Qualifier	Qualifier Description
D1	The analysis was performed at a dilution due to the high analyte concentration.

Pace Analytical

388941

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Transwestern Pipeline % George Robinson	Report To: George Robinson	Turn around Time: ☐ 24 Hours ☐ 48 Hours ☐ 3-5 Days ☐ 1 Week 2 Weeks ☒ Normal 14 Days	Pace Client No.
Address: 10355 West Little York Road, Suite 250	Bill To:		Pace Project Manager: [illegible] Olafson
Houston, TX 77040	P.O. # / Billing Reference		Pace Project No.
Phone: (713) [illegible] 7327	Project Name / No. [illegible]		*Requested Due Date:

Sampled By (PRINT): [illegible]

Sampler Signature: [illegible] Date Sampled: 2/23/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA (HCL)	NaOH	$Na_2S_2O_3$	ANALYSES REQUEST	REMARKS
1	MW-8	1145	H_2O		2				2			X	
2	MW-3	1230	H_2O		(				(			(	
3	MW-4	1310	H_2O										
4	MW-7	1345	H_2O										
5	MW-6	1430	H_2O										
6	MW-5	1535	H_2O										
7	[illegible]	[illegible]	H_2O										
8	[illegible]		H_2O		)				)			)	

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT/DATE	RETURNED/DATE

Additional Comments

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	[illegible] / CES	2/25/98	0830	FEDEX		
	FEDEX			[illegible]	2/26/98	10:45

SAMPLE CONDITION

Temp: ___ °C | Received on Ice: Y / N | Sealed Cooler: Y / N | Samples Intact: Y / N | pH

SEE REVERSE SIDE FOR INSTRUCTIONS

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Attachment #2

Laboratory Reports for the August 1997 Ground Water Sampling Event

EPIC LABORATORIES, INC.

ANALYTICAL AND QUALITY CONTROL REPORT

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

08/11/1997

EPIC Job Number: 97.03298

Project Description:
Job Description: TWP Atoka-1

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

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
337489	MW-2	08/04/1997	15:45	08/06/1997
337490	MW-3	08/04/1997	12:20	08/06/1997
337491	MW-4	08/04/1997	13:45	08/06/1997
337492	MW-5	08/04/1997	15:25	08/06/1997
337493	MW-6	08/04/1997	14:55	08/06/1997
337494	MW-7	08/04/1997	14:40	08/06/1997
337495	MW-8	08/04/1997	12:50	08/06/1997
337496	Purge H2O Drum 2/97	08/04/1997	15:55	08/06/1997
337497	Trip Blank	08/04/1997		08/06/1997

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

Debby Skogen

Debby Skogen
Project Coordinator

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

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337489

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-2

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		710	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		2600	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		3700	ug/L	S-8020M		08/08/1997	zst		2838	100
Ethylbenzene		620	ug/L	S-8020M		08/08/1997	zst		2838	100
Toluene		4900	ug/L	S-8020M		08/08/1997	zst		2838	100
Xylenes, Total		1600	ug/L	S-8020M		08/08/1997	zst		2838	100
SURR: a,a,a-TFT		106	% Rec	S-8020M		08/08/1997	zst		2838	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337490

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		520	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		6180	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		7.4	ug/L	S-8020M		08/08/1997	zst		2838	2
Ethylbenzene		<2	ug/L	S-8020M		08/08/1997	zst		2838	2
Toluene		<2	ug/L	S-8020M		08/08/1997	zst		2838	2
Xylenes, Total		<2	ug/L	S-8020M		08/08/1997	zst		2838	2
SURR: a,a,a-TFT		102	% Rec	S-8020M		08/08/1997	zst		2838	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337491

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-4

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		220	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		4610	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		130	ug/L	S-8020M		08/07/1997	zst		2837	2
Ethylbenzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Toluene		3.3	ug/L	S-8020M		08/07/1997	zst		2837	2
Xylenes, Total		4.7	ug/L	S-8020M		08/07/1997	zst		2837	2
SURR: a,a,a-TFT		103	% Rec	S-8020M		08/07/1997	zst		2837	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337492

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		685	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		3850	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		4000	ug/L	S-8020M		08/08/1997	zst		2838	100
Ethylbenzene		420	ug/L	S-8020M		08/08/1997	zst		2838	100
Toluene		1100	ug/L	S-8020M		08/08/1997	zst		2838	100
Xylenes, Total		250	ug/L	S-8020M		08/08/1997	zst		2838	100
SURR: a,a,a-TFT		114	% Rec	S-8020M		08/08/1997	zst		2838	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337493

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		470	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		1800	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		2100	ug/L	S-8020M		08/08/1997	zst		2838	100
Ethylbenzene		390	ug/L	S-8020M		08/08/1997	zst		2838	100
Toluene		<100	ug/L	S-8020M		08/08/1997	zst		2838	100
Xylenes, Total		<100	ug/L	S-8020M		08/08/1997	zst		2838	100
SURR: a,a,a-TFT		105	% Rec	S-8020M		08/08/1997	zst		2838	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337494

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		405	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		2490	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		1200	ug/L	S-8020M		08/07/1997	zst		2837	10
Ethylbenzene		330	ug/L	S-8020M		08/07/1997	zst		2837	10
Toluene		710	ug/L	S-8020M		08/07/1997	zst		2837	10
Xylenes, Total		490	ug/L	S-8020M		08/07/1997	zst		2837	10
SURR: a,a,a-TFT		109	% Rec	S-8020M		08/07/1997	zst		2837	0

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337495

Project Description:
Job Description: TWP Atoka-1

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		620	mg/L	S-9252		08/08/1997	cgl		771	5.0
Total Dissolved Solids		5820	mg/L	E-160.1		08/07/1997	cgl		744	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Ethylbenzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Toluene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Xylenes, Total		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
SURR: a,a,a-TFT		97	% Rec	S-8020M		08/07/1997	zst		2837	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337496

Project Description:
Job Description: TWP Atoka-1

Sample Description: Purge H2O Drum 2/97

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Ethylbenzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Toluene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Xylenes, Total		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
SURR: a,a,a-TFT		78	% Rec	S-8020M		08/07/1997	zst		2837	60-125

ANALYTICAL RESULTS REPORT

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

08/11/1997

EPIC Job Number: 97.03298
Sample Number: 337497

Project Description:
Job Description: TWP Atoka-1

Sample Description: Trip Blank

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Ethylbenzene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Toluene		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
Xylenes, Total		<2	ug/L	S-8020M		08/07/1997	zst		2837	2
SURR: a,a,a-TFT		98	% Rec	S-8020M		08/07/1997	zst		2837	60-125

QUALITY CONTROL REPORT
BLANKS

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

08/11/1997

EPIC Job Number: 97.03298

Project Description:
Job Description: TWP Atoka-1

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Chloride		<5.0	mg/L	5.0	08/08/1997		771
Total Dissolved Solids		<5	mg/L	5	08/07/1997		744
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/07/1997		2837
Ethylbenzene		<2	ug/L	2	08/07/1997		2837
Toluene		<2	ug/L	2	08/07/1997		2837
Xylenes, Total		<2	ug/L	2	08/07/1997		2837
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/08/1997		2838
Ethylbenzene		<2	ug/L	2	08/08/1997		2838
Toluene		<2	ug/L	2	08/08/1997		2838
Xylenes, Total		<2	ug/L	2	08/08/1997		2838

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

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

08/11/1997

EPIC Job Number: 97.03298

Project Description:
Job Description: TWP Atoka-1

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	21	105.0	08/07/1997	2837
Ethylbenzene		20	ug/L	18	90.0	08/07/1997	2837
Toluene		20	ug/L	24	120.0	08/07/1997	2837
Xylenes, Total		60	ug/L	50	83.3	08/07/1997	2837
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	21	105.0	08/08/1997	2838
Ethylbenzene		20	ug/L	18	90.0	08/08/1997	2838
Toluene		20	ug/L	23	115.0	08/08/1997	2838
Xylenes, Total		60	ug/L	50	83.3	08/08/1997	2838

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

08/11/1997

EPIC Job Number: 97.03298

Project Description:
Job Description: TWP Atoka-1

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Chloride		mg/L	18	40	58	100.0	40	58	100.0	0.0	08/08/1997		771
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	21	105.0	20	19	95.0	9.9	08/07/1997		2837
Ethylbenzene		ug/L	<2	20	20	100.0	20	21	105.0	4.9	08/07/1997		2837
Toluene		ug/L	<2	20	22	110.0	20	22	110.0	0.0	08/07/1997		2837
Xylenes, Total		ug/L	<2	60	57	95.0	60	57	95.0	0.0	08/07/1997		2837
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	18	90.0	20	21	105.0	15.3	08/08/1997		2838
Ethylbenzene		ug/L	<2	20	19	95.0	20	21	105.0	9.9	08/08/1997		2838
Toluene		ug/L	<2	20	21	105.0	20	24	120.0	13.3	08/08/1997		2838
Xylenes, Total		ug/L	<2	60	51	85.0	60	58	96.7	12.9	08/08/1997		2838

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

QUALITY CONTROL REPORT
DUPLICATES

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

08/11/1997

EPIC Job Number: 97.03298

Project Description:
Job Description: TWP Atoka-1

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	1010	1030	2.0	08/07/1997		744
Total Dissolved Solids		mg/L	994	1020	2.5	08/07/1997		744

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

08/11/1997

EPIC Job Number: 97.03298

Project Description:
Job Description: TWP Atoka-1

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
Chloride		771	1000	mg/L	1000	100.0					08/08/1997
Total Dissolved Solids		744	2000	mg/L	2010	100.5					08/07/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2837	20	ug/L	24	120.0					08/07/1997
Ethylbenzene		2837	20	ug/L	22	110.0					08/07/1997
Toluene		2837	20	ug/L	26	130.0					08/07/1997
Xylenes, Total		2837	60	ug/L	61	101.7					08/07/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2838	20	ug/L	21	105.0	20	100.0	4.9		08/08/1997
Ethylbenzene		2838	20	ug/L	22	110.0	22	110.0	0.0		08/08/1997
Toluene		2838	20	ug/L	24	120.0	23	115.0	4.3		08/08/1997
Xylenes, Total		2838	60	ug/L	61	101.7	57	95.0	6.7		08/08/1997

LCS - Laboratory Control Standard

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

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

CHAIN OF CUSTODY RECORD

COMPANY ENRON
ADDRESS P.O. BOX 1188 HOUSTON, TX 77251
PHONE (713) 646-7327 FAX (713) 646-7867
PROJECT NAME/LOCATION TWP ACOKA-1
PROJECT NUMBER
PROJECT MANAGER

REPORT TO: GEORGE ROBINSON C/O ENRON OPERATIONS CORP
INVOICE TO: P.O. BOX 1188
P.O. NO. HOUSTON, TX 77251
EPIC QUOTE NO.

SAMPLED BY SANDY SHARP (PRINT NAME) Sandy Sharp 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: BTEX 8020	TDS, Chloride
8/4/97	1545	MW-2	A	X		2/G				1/P	X	X
	1220	MW-3										
	1345	MW-4										
	1525	MW-5										
	1455	MW-6										
	1440	MW-7										
	1250	MW-8										
	1555	PURGE H2O DRUM 2/97										
		TRIP BLANK										

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

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 5°C
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS
DATE 8/5/97

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Sandy Sharp	8/5/97	0630			8/6/97	1130	B. Walker

METHOD OF SHIPMENT
REMARKS:

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

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Attachment #3

Laboratory Reports for the February 1998 Ground Water Sampling Event

EPIC LABORATORIES, INC.

ANALYTICAL AND QUALITY CONTROL REPORT

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

02/14/1997

EPIC Job Number: 97.00328

Project Description:
Job Description: TWP - Atoka-1

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

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
328153	MW-3	02/03/1997	15:30	02/06/1997
328154	MW-4	02/03/1997	15:45	02/06/1997
328155	MW-5	02/03/1997	16:35	02/06/1997
328156	MW-6	02/03/1997	17:15	02/06/1997
328157	MW-7	02/03/1997	17:00	02/06/1997
328158	MW-8	02/03/1997	16:20	02/06/1997
328159	1196 Drum	02/03/1997	16:45	02/06/1997

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

Debby Skogen
Debby Skogen
Project Coordinator

1548 Valwood Parkway, Suite 118, Carrollton, Texas 75006 (972) 406-8100 Fax: (972) 484-2969
2621 Ridgepoint Drive, Suite 135, Austin, Texas 78754 (512) 928-8905 Fax: (512) 928-3208
13802 Placid Brook Court, Houston, Texas 77059 (281) 286-1400 Fax: (281) 256-2424

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328153

Project Description:
Job Description: TWP - Atoka-1

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
Ethylbenzene		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
Toluene		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
Xylenes, Total		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
SURR: a,a,a-TFT		89	% Rec	S-8020M		02/06/1997	zst		2705	60-125

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328154

Project Description:
Job Description: TWP - Atoka-1

Sample Description: MW-4

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		170	ug/L	S-8020M		02/11/1997	zst		2708	2
Ethylbenzene		<2	ug/L	S-8020M		02/11/1997	zst		2708	2
Toluene		<2	ug/L	S-8020M		02/11/1997	zst		2708	2
Xylenes, Total		<2	ug/L	S-8020M		02/11/1997	zst		2708	2
SURR: a,a,a-TFT		120	% Rec	S-8020M		02/11/1997	zst		2708	60-125

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328155

Project Description:
Job Description: TWP - Atoka-1

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		3200	ug/L	S-8020M		02/07/1997	zst		2706	500
Ethylbenzene		590	ug/L	S-8020M		02/07/1997	zst		2706	100
Toluene	EDL	<100	ug/L	S-8020M		02/07/1997	zst		2711	100
Xylenes, Total		550	ug/L	S-8020M		02/07/1997	zst		2706	100
SURR: a,a,a-TFT		80	% Rec	S-8020M		02/07/1997	zst		2706	60-125

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328156

Project Description:
Job Description: TWP - Atoka-1

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		2900	ug/L	S-8020M		02/07/1997	zst		2706	500
Ethylbenzene		250	ug/L	S-8020M		02/07/1997	zst		2706	100
Toluene	EDL	<100	ug/L	S-8020M		02/07/1997	zst		2711	100
Xylenes, Total		230	ug/L	S-8020M		02/07/1997	zst		2706	100
SURR: a,a,a-TFT		85	% Rec	S-8020M		02/07/1997	zst		2706	60-125

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328157

Project Description:
Job Description: TWP - Atoka-1

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		620	ug/L	S-8020M		02/06/1997	zst		2705	20
Ethylbenzene		300	ug/L	S-8020M		02/06/1997	zst		2705	20
Toluene		870	ug/L	S-8020M		02/06/1997	zst		2705	20
Xylenes, Total		1000	ug/L	S-8020M		02/06/1997	zst		2705	20
SURR: a,a,a-TFT		82	% Rec	S-8020M		02/06/1997	zst		2705	60-125

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328158

Project Description:
Job Description: TWP - Atoka-1

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		6	ug/L	S-8020M		02/07/1997	zst		2706	2
Ethylbenzene		<2	ug/L	S-8020M		02/07/1997	zst		2706	2
Toluene		<2	ug/L	S-8020M		02/07/1997	zst		2706	2
Xylenes, Total		<2	ug/L	S-8020M		02/07/1997	zst		2706	2
SURR: a,a,a-TFT		65	% Rec	S-8020M		02/07/1997	zst		2706	60-125

ANALYTICAL RESULTS REPORT

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

02/14/1997

EPIC Job Number: 97.00328
Sample Number: 328159

Project Description:
Job Description: TWP - Atoka-1

Sample Description: 1196 Drum

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
Ethylbenzene		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
Toluene		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
Xylenes, Total		<2	ug/L	S-8020M		02/06/1997	zst		2705	2
SURR: a,a,a-TFT		89	% Rec	S-8020M		02/06/1997	zst		2705	60-125

QUALITY CONTROL REPORT
BLANKS

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

02/14/1997

EPIC Job Number: 97.00328

Project Description:
Job Description: TWP - Atoka-1

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	02/06/1997		2705
Ethylbenzene		<2	ug/L	2	02/06/1997		2705
Toluene		<2	ug/L	2	02/06/1997		2705
Xylenes, Total		<2	ug/L	2	02/06/1997		2705
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	02/07/1997		2706
Ethylbenzene		<2	ug/L	2	02/07/1997		2706
Toluene		<2	ug/L	2	02/07/1997		2706
Xylenes, Total		<2	ug/L	2	02/07/1997		2706
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	02/11/1997		2708
Ethylbenzene		<2	ug/L	2	02/11/1997		2708
Toluene		<2	ug/L	2	02/11/1997		2708
Xylenes, Total		<2	ug/L	2	02/11/1997		2708

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

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

02/14/1997

EPIC Job Number: 97.00328

Project Description:
Job Description: TWP - Atoka-1

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	17	85.0	02/06/1997	2705
Ethylbenzene		20	ug/L	18	90.0	02/06/1997	2705
Toluene		20	ug/L	19	95.0	02/06/1997	2705
Xylenes, Total		60	ug/L	52	86.7	02/06/1997	2705
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	17	85.0	02/07/1997	2706
Ethylbenzene		20	ug/L	24	120.0	02/07/1997	2706
Toluene		20	ug/L	17	85.0	02/07/1997	2706
Xylenes, Total		60	ug/L	65	108.3	02/07/1997	2706
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	16	80.0	02/11/1997	2708
Ethylbenzene		20	ug/L	13	65.0	02/11/1997	2708
Toluene		20	ug/L	17	85.0	02/11/1997	2708
Xylenes, Total		60	ug/L	48	80.0	02/11/1997	2708

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

02/14/1997

EPIC Job Number: 97.00328

Project Description:
Job Description: TWP - Atoka-1

Parameter	Flag	Units	Sample Result	Spike Amount Added	Matrix Spike Result	MS Percent Recovery	Duplicate Spike Amount Added	MSD Result	MSD Percent Recovery	MS/MSD RPD	Date Analyzed	Prep Batch Number	Run Batch Number
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	17	85.0	20	18	90.0	5.7	02/06/1997		2705
Ethylbenzene		ug/L	<2	20	25	125.0	20	23	115.0	8.3	02/06/1997		2705
Toluene		ug/L	<2	20	19	95.0	20	20	100.0	5.0	02/06/1997		2705
Xylenes, Total		ug/L	<2	40	49	122.5	40	46	115.0	6.3	02/06/1997		2705
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	5.9	20	20	70.5	20	23	85.5	19.2	02/07/1997		2706
Ethylbenzene		ug/L	<2	20	21	105.0	20	25	125.0	17.4	02/07/1997		2706
Toluene		ug/L	<2	20	16	80.0	20	20	100.0	22.1	02/07/1997		2706
Xylenes, Total		ug/L	<2	40	42	105.0	40	50	125.0	17.4	02/07/1997		2706
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	28	140.0	20	30	150.0	6.9	02/11/1997		2708
Ethylbenzene		ug/L	<2	20	23	115.0	20	25	125.0	8.3	02/11/1997		2708
Toluene		ug/L	<2	20	27	135.0	20	30	150.0	10.5	02/11/1997		2708
Xylenes, Total		ug/L	<2	40	45	112.5	40	48	120.0	6.5	02/11/1997		2708

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

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

02/14/1997

EPIC Job Number: 97.00328

Project Description:
Job Description: TWP - Atoka-1

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
EPA-8020 AQ (PRESERVED)											
Benzene		2705	20	ug/L	20	100.0					02/06/1997
Ethylbenzene		2705	20	ug/L	23	115.0					02/06/1997
Toluene		2705	20	ug/L	22	110.0					02/06/1997
Xylenes, Total		2705	40	ug/L	43	107.5					02/06/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2706	20	ug/L	17	85.0					02/07/1997
Ethylbenzene		2706	20	ug/L	24	120.0					02/07/1997
Toluene		2706	20	ug/L	19	95.0					02/07/1997
Xylenes, Total		2706	40	ug/L	48	120.0					02/07/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2708	20	ug/L	29	145.0					02/11/1997
Ethylbenzene		2708	20	ug/L	22	110.0					02/11/1997
Toluene		2708	20	ug/L	28	140.0					02/11/1997
Xylenes, Total		2708	40	ug/L	43	107.5					02/11/1997

LCS - Laboratory Control Standard

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

EPIC LABORATORIES, INC.

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

CHAIN OF CUSTODY RECORD

COMPANY ENRON OPERATIONS CORP.
ADDRESS P.O. BOX 1188 HOUSTON, TX 77251
PHONE (713) 646-7252 FAX (713) 646-7869
PROJECT NAME/LOCATION TWP - ATOKA-1
PROJECT NUMBER
PROJECT MANAGER

ENRON OPERATIONS CORP
ATTN: 3AC 3122
REPORT TO: P.O. BOX 1188
INVOICE TO: HOUSTON TX 77251
P.O. NO.
EPIC QUOTE NO.

SAMPLED BY
SANDY SHARP (PRINT NAME) Sandy Sharp (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: BTEX-8020
2/3/97	1630	MW-3	A	X		3/G					X
	1545	MW-4									
	1635	MW-5									
	1715	MW-6									
	1700	MW-7									
	1620	MW-8									
	1645	1196 DRUM									

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes X No
Is this work being conducted for regulatory enforcement action? Yes No X
Which regulations apply: RCRA UST Other X NPDES Wastewater Drinking Water None

COMMENTS

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

TEMPERATURE UPON RECEIPT: 0.1°C
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS

DATE 2/4/97

RELINQUISHED BY	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Sandy Sharp	2/5/97	0630			2/6/97	945	Barbara Walker

METHOD OF SHIPMENT FED EX

REMARKS:

2R - 34

REPORTS

DATE:

Oct 4, 1996

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station
Eddy County, New Mexico

Submitted to:
New Mexico Oil Conservation Division

October 4, 1996

Prepared For:
Transwestern Pipeline Company
6381 North Main Street
Roswell, NM 88201

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

ENRON
Transwestern Pipeline Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

October 4, 1996

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

RE: Semi-Annual Report of Ground Water Remediation Activities
Transwestern Pipeline Company Atoka-1 Compressor Station
Eddy County, New Mexico

Dear Bill,

The attached report is submitted pursuant to the NMOCD's requirements for semi-annual reporting of ground water remediation activities at the subject facility.

If you have any questions or comments regarding this report, please contact me at (505) 625-8022 or George Robinson at (713) 646-7327.

Sincerely,

Larry Campbell

Larry Campbell
Division Environmental Specialist

LC/sls

xc w/attachments: Mark Ashley NMOCD Artesia District Office
George Robinson Cypress Engineering Services

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company

Atoka-1 Compressor Station

I. Ground Water Assessment & Monitoring Activities

2nd and 3rd Quarter 1996 Ground Water Sampling Events

Transwestern has completed two quarterly sampling events since the last semi-annual report submitted on May 2, 1996. The 2nd quarter 1996 sampling event was completed on May 14, 1996 and the 3rd quarter 1996 sampling event was completed on August 12, 1996.

Prior to sampling, the depth to water, and the depth to hydrocarbon where phase separated hydrocarbon (PSH) was present, was determined for each monitor well. Table 1 presents a summary of ground water and PSH surface elevation information. A ground water surface elevation map for the August, 1996, sampling event is included as Figure 2.

Ground water samples were collected from the six monitor wells which did not contain PSH. Ground water samples were delivered to a lab for analysis by EPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). Table 2 presents a summary of BTEX results. A BTEX distribution map for the August, 1996, sampling event is included as Figure 3.

Approximately 30 gallons of purge water were generated during the 2nd quarter 1996 sampling event and approximately 34 gallons were generated during the 3rd quarter 1996 sampling event. The purge water from both sampling events was placed inside the secondary containment of the condensate tank so that the water could evaporate.

Results/Conclusions from Ground Water Sampling Events

Occurrence and Direction of Ground Water Flow

Water table elevations measured during the 3rd quarter 1996 sampling event are indicated on Figure 2, attached. Consistent with previous sampling events, the elevation of shallow ground water measured in monitor wells at the site do not define a consistent ground water table. This is likely because there is very little shallow ground water present.

The apparent direction of ground water flow, based on elevations measured in monitor wells MW-3, MW-6, and MW-7, is toward to south. This is consistent with what would be expected based upon ground surface topography.

Lateral Extent of Phase Separated Hydrocarbon

The lateral extent of PSH is currently defined by the occurrence of PSH at the water table in monitor wells MW-1 and MW-2 and the absence of PSH in all other monitor wells. The thickness of accumulated PSH in the monitor well MW-1 and MW-2 well casings was measured in August, 1996, at 0.37 ft. and 0.01 ft., respectively. The SVE wells which were installed in August, 1995, were checked for the presence of PSH during the May, 1996, sampling event. PSH was not detected in any of the SVE wells at this time. Based on the information currently available, the volume and lateral extent of PSH in the area appears to be relatively limited. The lack of PSH in any of the SVE wells supports this and would also indicate that the PSH does not appear to be migrating.

At this time, the presence of PSH does not appear to require a modification of the existing remediation plan due to the relatively limited lateral extent of PSH and the existing plan for soil vapor extraction from the fourteen SVE wells.

Condition of Affected Ground water

The condition of affected ground water at previously existing monitor wells has not changed significantly from previous sampling events as evidenced by the information presented in Table 2.

II. Summary of Remediation Activities

Remediation Activities Completed During 1996

Three quarterly ground water sampling events have been completed this year.

Current Status of Remediation Activities

Remediation activities, other than ground water monitoring, are currently on hold pending completion of SVE activities at TW's Bell Lake Plant. The SVE blower/incinerator equipment currently located at the Bell Lake facility will be transferred to the Atoka-1 facility upon completion of SVE activities at the Bell Lake facility.

Initially, TW anticipated activities at the Bell Lake facility would be complete within approximately six months of system start-up. However, information obtained from more recent assessment activities indicate that the duration of SVE activities at the Bell Lake facility will likely take on the order of 12 months to complete. In August, 1996, the remediation system at the Bell Lake facility was placed in service. Assuming an operating duration of 12 months at the Bell Lake facility, TW anticipates the start-up of SVE activities at the Atoka-1 facility during mid-1997.

Remediation Activities Planned for the Remainder of 1996

As described in the previous section, no additional remediation activities other than ground water monitoring are planned for the remainder of 1996.

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Figures

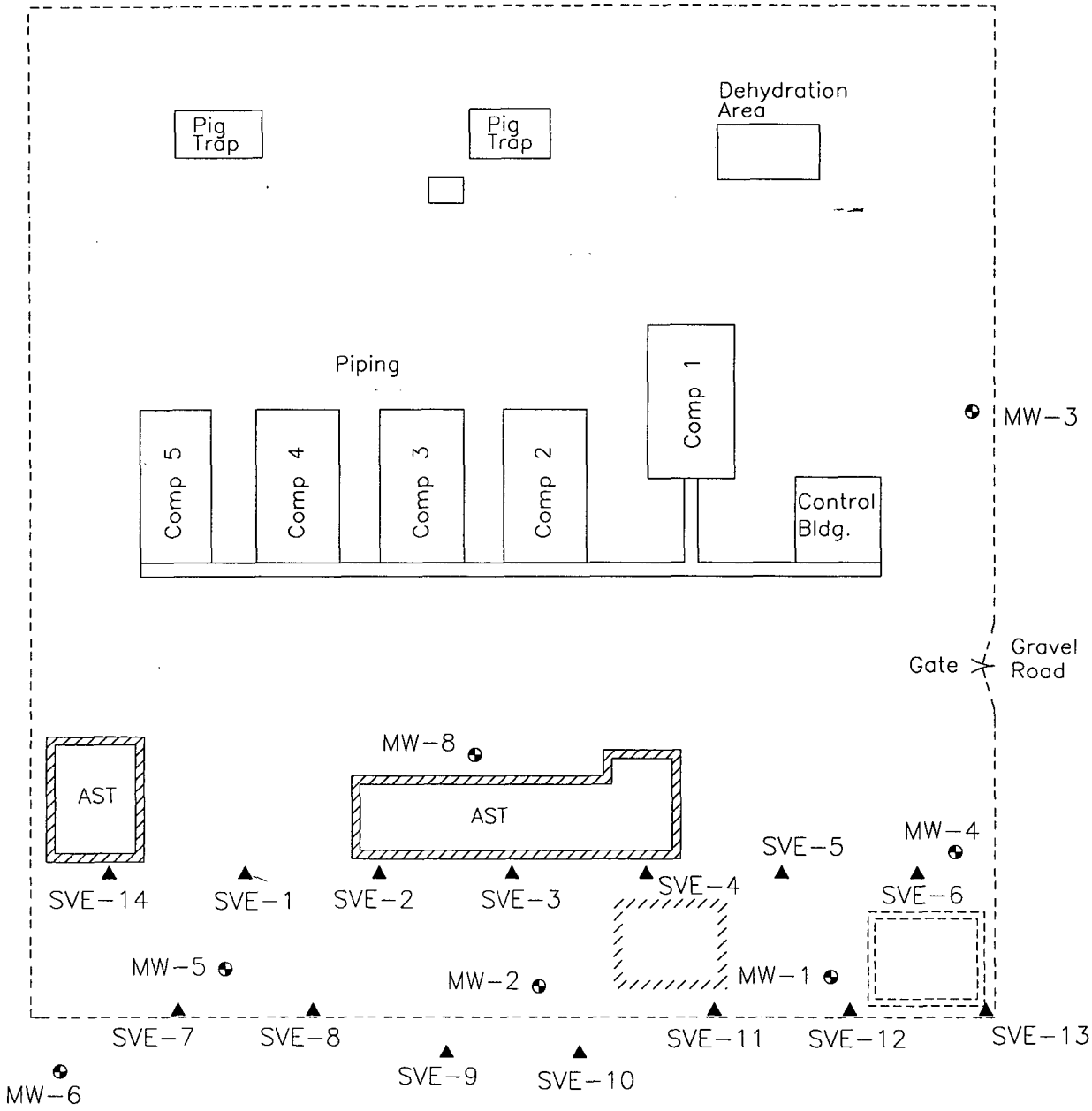


FIGURE 1

SITE MAP

ATOKA-1 COMPRESSOR STATION

TRANSWESTERN PIPELINE COMPANY

F:\USER\KWILLAR\ROBINSON\DRAWINGS\ATOKA\ATKSITE.DWG

CYPRESS ENGINEERING SERVICES, INC.

9-96

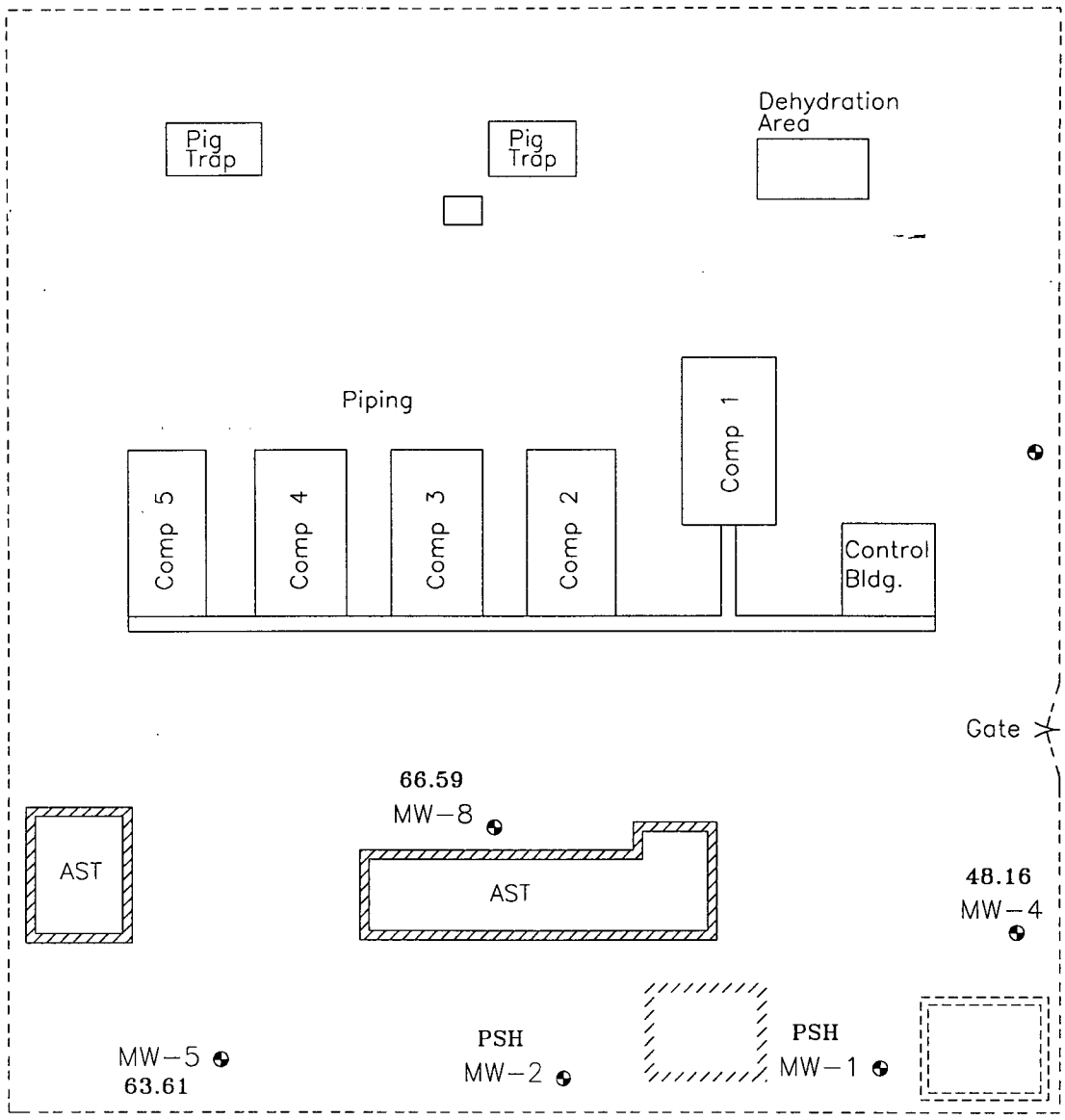


FIGURE 2

GROUND WATER ELEVATIONS
(August 1996)

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

F:\USER\KWILLAR\ROBINSON\DRAWINGS\ATOKA\ATKSITE.DWG

CYPRESS ENGINEERING SERVICES, INC.
9-96

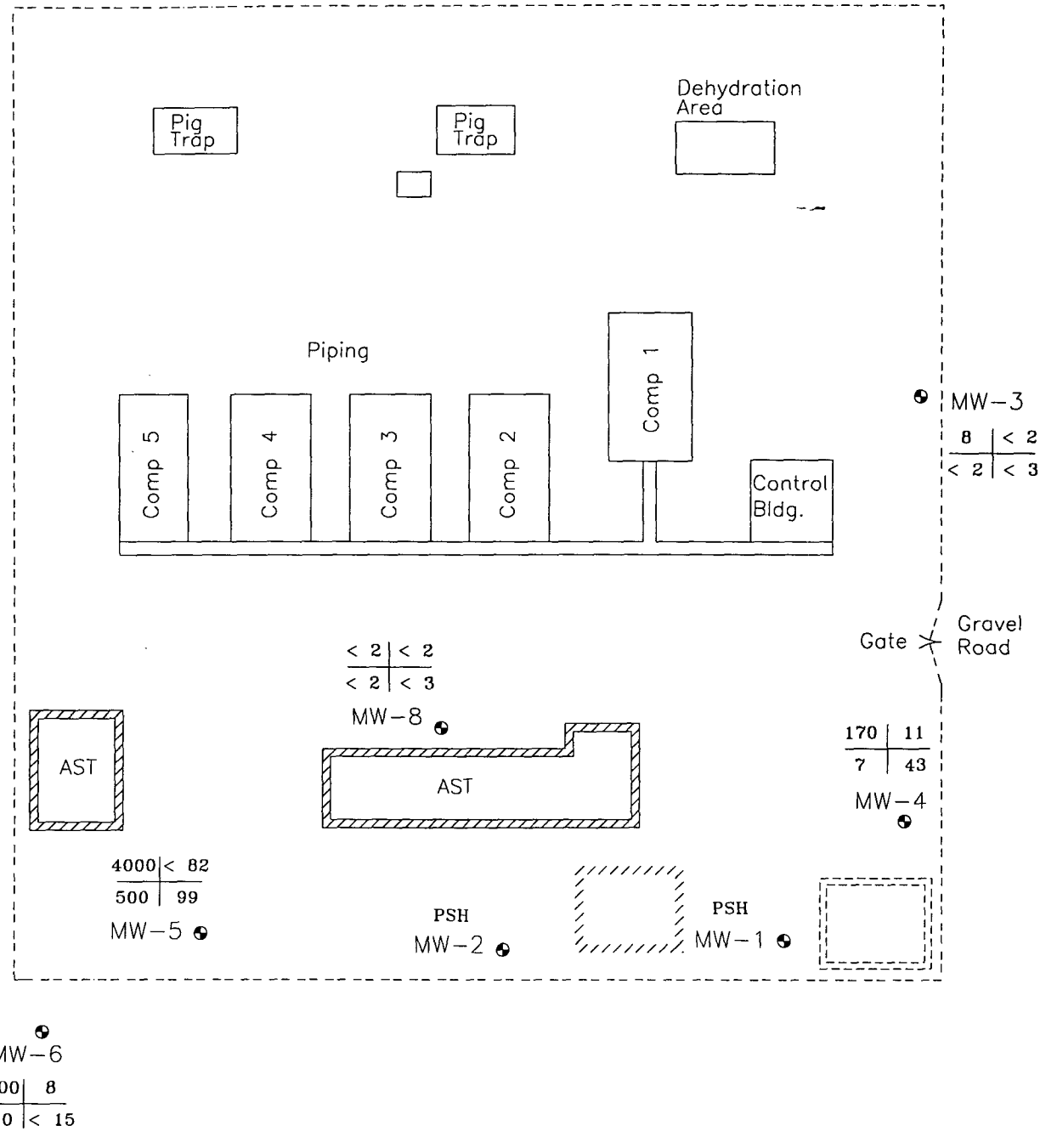


FIGURE 3

BTEX DISTRIBUTION
(August 1996)

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

F:\USER\KWILLAR\ROBINSON\DRAWINGS\ATOKA\ATKSITE.DWG

CYPRESS ENGINEERING SERVICES, INC.
9-96

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Tables

Table 1. Summary of Ground Water Surface Elevations
TW Atoka-1 Station

Well	Top of Casing (ft)	Screen Interval (ft. bgs)	Sampling Date 7/21/93			Sampling Date 12/02/94			Sampling Date 10/30/95			Adjusted Elevations - 11/95 Top of Casing (ft)	Sampling Date 2/23/96 (d)		
			Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)	Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)	Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)		Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)
MW-1	94.65	53.5 - 63.5	(b)	(b)	(b)	56.12	56.82	38.39	(b)	56.83	(b)	95.66	57.52	57.89	38.07
MW-2	96.45	39 - 49	(a)	42.38	54.07	42.31	42.35	54.13	(b)	42.54	(b)	97.29	43.34	43.36	53.95
MW-3	95.00	45 - 55	(a)	36.55	58.45	(a)	32.23	62.77	(a)	31.80	63.20		(a)	31.22	63.78
MW-4	94.02	45 - 55	(a)	49.92	44.10	(a)	46.38	47.64	(a)	46.05	47.97	95.21	(a)	47.64	47.57
MW-5	98.22	29 - 54				(a)	34.40	63.82	(a)	34.80	63.42		(a)	34.88	63.34
MW-6	99.62	31 - 46				(a)	36.00	63.62	(a)	36.34	63.28		(a)	36.46	63.16
MW-7	99.14	31 - 46				(a)	45.58	53.56	(a)	35.87	63.27		(a)	35.86	63.28
MW-8	95.98	29 - 54				(a)	28.70	67.28	(a)	29.16	66.82		(a)	29.19	66.79

NOTES:

(a) Not applicable since no measurable thickness of hydrocarbon is present

(b) Information not available

(c) Corrections to ground water surface elevation for presence of hydrocarbon is calculated assuming a specific gravity of 0.76

(d) Values reflect corrections made to TOC elevations for MW-1(+1.01'), MW-2 (+0.84') and MW-4 (+1.19').

Table 1. Summary of Ground Water Surface Elevations
TW Atoka-1 Station

Well	Top of Casing (ft)	Screen Interval (ft. bgs)	Sampling Date 5/14/96 (d)			Sampling Date 8/12/96 (d)		
			Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)	Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)
MW-1	94.65	53.5 - 63.5	57.5	57.83	38.09	57.61	57.98	37.96
MW-2	96.45	39 - 49	43.33	43.34	53.96	43.32	43.33	53.97
MW-3	95.00	45 - 55	(a)	31.28	63.72	(a)	31.28	63.72
MW-4	94.02	45 - 55	(a)	47.58	47.63	(a)	47.05	48.16
MW-5	98.22	29 - 54	(a)	34.88	63.34	(a)	34.61	63.61
MW-6	99.62	31 - 46	(a)	36.38	63.24	(a)	36.22	63.40
MW-7	99.14	31 - 46	(a)	35.91	63.23	(a)	35.76	63.38
MW-8	95.98	29 - 54	(a)	29.30	66.68	(a)	29.39	66.59

NOTES:
(a) Not applicable since no measurable thicknes
(b) Information not available
(c) Corrections to ground water surface elevatio
(d) Values reflect corrections made to TOC elev

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	BTEX Concentration - (µg/L) Benzene	Toluene	Ethylbenzene	Total xylenes
NMWQCC Standard		10	750	750	620
MW-1	07/21/93	(a)	(a)	(a)	(a)
	12/02/94	(a)	(a)	(a)	(a)
	10/30/95	(a)	(a)	(a)	(a)
	02/23/96	(a)	(a)	(a)	(a)
	05/14/96	(a)	(a)	(a)	(a)
	08/12/96	(a)	(a)	(a)	(a)
MW-2	07/21/93	**3,600**	400	**9,800**	**3,170**
	12/02/94	(a)	(a)	(a)	(a)
	10/30/95	(a)	(a)	(a)	(a)
	02/23/96	(a)	(a)	(a)	(a)
	05/14/96	(a)	(a)	(a)	(a)
	08/12/96	(a)	(a)	(a)	(a)
MW-3	07/21/93	7	<2	6	<2
	12/02/94	**14**	<2	<2	<4
	10/30/95	8.8	<0.5	<0.5	<0.5
	02/23/96	6	3	<2	<2
	05/14/96	6	<2	<2	<2
	08/12/96	8	<2	<2	<3
MW-4	07/21/93	**61**	4	20	68
	12/02/94	**230**	<2	60	130
	10/30/95	**240**	2.1	<0.5	92
	02/23/96	**83**	5	<2	36
	05/14/96	**171**	17	<2	54
	08/12/96	**170**	11	7	43
MW-5	12/02/94	**6,200**	**1,100**	**13,000**	**7,400**
	11/02/95	**6,800**	**4,500**	**930**	**3,500**
	02/23/96	**4,490**	**1,820**	388	**1,235**
	05/14/96	**4,630**	573	**775**	**1,600**
	08/12/96	**4,000**	<82	500	99
MW-6	12/02/94	**360**	50	<10	<20
	10/30/95	**4,600**	<5.0	190	<5.0
	02/23/96	**1,000**	9	222	9
	05/14/96	**3,700**	56	234	88
	08/12/96	**2,300**	8	250	<15

a - No sample, phase separated hydrocarbon present

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	BTEX Concentration - (µg/L) Benzene	Toluene	Ethylbenzene	Total xylenes
NMWQCC Standard		10	750	750	620
MW-7	12/02/94	**620**	170	**1,100**	**1,100**
	10/30/95	**2,200**	440	460	270
	02/23/96	**832**	463	318	422
	05/14/96	**1,610**	**2880**	649	**3030**
	08/12/96	**850**	**850**	360	**720**
MW-8	01/01/95	<2	<2	<2	<4
	10/30/95	**110**	1.3	<0.5	130
	02/23/96	6	<2	<2	<2
	05/14/96	2	<2	<2	3
	08/12/96	<2	<2	<2	<3

a - No sample, phase separated hydrocarbon present

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Attachment #1

Lab Reports for the May 1996 Ground Water Sampling Event

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

05/25/1996

NET Job Number: 96.03858

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
306297	MW-3	05/14/1996	05/16/1996
306298	MW-4	05/14/1996	05/16/1996
306299	MW-5	05/14/1996	05/16/1996
306300	MW-6	05/14/1996	05/16/1996
306301	MW-7	05/14/1996	05/16/1996
306302	MW-8	05/14/1996	05/16/1996

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

05/25/1996
Job No.: 96.03858

Project Name: TWP-ATEKA-1

Date Received: 05/16/1996

306297 MW-3
Taken: 05/14/1996 13:00

EPA-8020 AQ (PRESERVED)		
Benzene	6	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
SURR: a,a,a-TFT	103	% Rec

306298 MW-4
Taken: 05/14/1996 11:55

EPA-8020 AQ (PRESERVED)		
Benzene	171	ug/L
Ethylbenzene	<2	ug/L
Toluene	17	ug/L
Xylenes, Total	54	ug/L
SURR: a,a,a-TFT	91	% Rec

306299 MW-5
Taken: 05/14/1996 12:10

EPA-8020 AQ (PRESERVED)		
Benzene	4630	ug/L
Ethylbenzene	775	ug/L
Toluene	573	ug/L
Xylenes, Total	1600	ug/L
SURR: a,a,a-TFT	109	% Rec

306300 MW-6
Taken: 05/14/1996 11:01

EPA-8020 AQ (PRESERVED)		
Benzene	3700	ug/L
Ethylbenzene	234	ug/L
Toluene	56	ug/L
Xylenes, Total	88	ug/L
SURR: a,a,a-TFT	104	% Rec

ANALYTICAL REPORT

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

05/25/1996
Job No.: 96.03858

Project Name: TWP-ATEKA-1

Date Received: 05/16/1996

306301 MW-7
Taken: 05/14/1996 11:05

EPA-8020 AQ (PRESERVED)		
Benzene	1610	ug/L
Ethylbenzene	649	ug/L
Toluene	2880	ug/L
Xylenes, Total	3030	ug/L
SURR: a,a,a-TFT	109	% Rec

306302 MW-8
Taken: 05/14/1996 12:00

EPA-8020 AQ (PRESERVED)		
Benzene	2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	3	ug/L
SURR: a,a,a-TFT	114	% Rec

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 96.03858

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	jar	05/21/1996	S-8020M	22	20	110	NA
Ethylbenzene	jar	05/21/1996	S-8020M	23	20	115	NA
Toluene	jar	05/21/1996	S-8020M	22	20	110	NA
Xylenes, Total	jar	05/21/1996	S-8020M	70	60	117	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	jar	05/22/1996	S-8020M	21	20	105	NA
Ethylbenzene	jar	05/22/1996	S-8020M	22	20	110	NA
Toluene	jar	05/22/1996	S-8020M	21	20	105	NA
Xylenes, Total	jar	05/22/1996	S-8020M	67	60	112	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	jar	05/23/1996	S-8020M	18	20	90	NA
Ethylbenzene	jar	05/23/1996	S-8020M	19	20	95	NA
Toluene	jar	05/23/1996	S-8020M	18	20	90	NA
Xylenes, Total	jar	05/23/1996	S-8020M	57	60	95	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	jar	05/23/1996	S-8020M	18	20	90	NA
Ethylbenzene	jar	05/23/1996	S-8020M	19	20	95	NA
Toluene	jar	05/23/1996	S-8020M	18	20	90	NA
Xylenes, Total	jar	05/23/1996	S-8020M	57	60	95	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: 96.03858

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
EPA-8020 AQ (PRESERVED)					
Benzene	05/21/1996	<2	ug/L	2	NA
Ethylbenzene	05/21/1996	<2	ug/L	2	NA
Toluene	05/21/1996	<2	ug/L	2	NA
Xylenes, Total	05/21/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	05/22/1996	<2	ug/L	2	NA
Ethylbenzene	05/22/1996	<2	ug/L	2	NA
Toluene	05/22/1996	<2	ug/L	2	NA
Xylenes, Total	05/22/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	05/23/1996	<2	ug/L	2	NA
Ethylbenzene	05/23/1996	<2	ug/L	2	NA
Toluene	05/23/1996	<2	ug/L	2	NA
Xylenes, Total	05/23/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	05/23/1996	<2	ug/L	2	NA
Ethylbenzene	05/23/1996	<2	ug/L	2	NA
Toluene	05/23/1996	<2	ug/L	2	NA
Xylenes, Total	05/23/1996	<2	ug/L	2	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: 96.03858

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
EPA-8020 AQ (PRESERVED)				
Benzene	20	20	100	
Ethylbenzene	20	20	100	
Toluene	19	20	95	
Xylenes, Total	41	60	68	
EPA-8020 AQ (PRESERVED)				
Benzene	25	20	125	
Ethylbenzene	25	20	125	
Toluene	23	20	115	
Xylenes, Total	50	40	125	

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: 96.03858

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
EPA-8020 AQ (PRESERVED)								
Benzene	<2	21	23	20	105	115	9.1	
Ethylbenzene	<2	22	24	20	110	120	8.7	
Toluene	<2	21	23	20	105	115	9.1	
Xylenes, Total	<2	45	49	40	113	123	8.5	

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.

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENRON OPERATIONS CORP
ADDRESS P.O. BOX 1188 HOUSTON TX 77251
PHONE (713)646-7237 FAX (713) 646-7867
PROJECT NAME/LOCATION TWP - AFGKA-1
PROJECT NUMBER
PROJECT MANAGER

ENRON OPERATIONS CORP
ATTN: GEORGE ROBINSON
3AC 3142
REPORT TO: P.O. BOX 1188
INVOICE TO: HOUSTON, TX 77251
P.O. NO.
NET QUOTE NO.

SAMPLED BY SANDY SHARP (PRINT NAME) Sandy Sharp SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	GRAB	COMP	# OF CONTAINERS TYPE	MATRIX	PRESERVED Y/N	ANALYSES: BTEX-8020	COMMENTS
5/14	1300	MW-3	X		2/G	A	Y	X	
	1155	MW-4							
	1210	MW-5							
	1101	MW-6							
	1105	MW-7							
	1200	MW-8							

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO NA
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO NA
VOLATILES FREE OF HEADSPACE? YES / NO NA
TEMPERATURE UPON RECEIPT 11°

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS SS DATE 5/14/96

RELINQUISHED BY:	DATE/TIME	RECEIVED BY:	RELINQUISHED BY:	DATE/TIME	RECEIVED FOR NET BY:
				5/16/96 10:00 AM	

METHOD OF SHIPMENT

REMARKS:

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Attachment #2

Lab Reports for the August 1996 Ground Water Sampling Event

NATIONAL ENVIRONMENTAL TESTING, INC.

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

ANALYTICAL AND QUALITY CONTROL REPORT

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

08/27/1996

NET Job Number: 96.06442

Project Description: TWP (Atoka-1)

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

Sample Number	Sample Description	Date Taken	Time Taken	Date Received
316602	MW-4	08/12/1996	11:40	08/14/1996
316603	MW-3	08/12/1996	11:45	08/14/1996
316604	MW-8	08/12/1996	12:15	08/14/1996
316605	MW-6	08/12/1996	12:45	08/14/1996
316606	MW-7	08/12/1996	12:30	08/14/1996
316607	MW-5	08/12/1996	13:30	08/14/1996

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

Debby Skogen
Debby Skogen
Project Coordinator

ANALYTICAL RESULTS REPORT

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

08/27/1996

NET Job Number: 96.06442
Sample Number: 316602

Project Description: TWP (Atoka-1)

Sample Description: MW-4

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		170	ug/L	S-8020M		08/24/1996	cjp		2581	2
Ethylbenzene		7	ug/L	S-8020M		08/24/1996	cjp		2581	2
Toluene		11	ug/L	S-8020M		08/24/1996	cjp		2581	2
Xylenes, Total		43	ug/L	S-8020M		08/24/1996	cjp		2581	3
SURR: a,a,a-TFT		95	% Rec	S-8020M		08/24/1996	cjp		2581	60-125

ANALYTICAL RESULTS REPORT

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

08/27/1996

NET Job Number: 96.06442
Sample Number: 316603

Project Description: TWP (Atoka-1)

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		8	ug/L	S-8020M		08/24/1996	cjp		2581	2
Ethylbenzene		<2	ug/L	S-8020M		08/24/1996	cjp		2581	2
Toluene		<2	ug/L	S-8020M		08/24/1996	cjp		2581	2
Xylenes, Total		<3	ug/L	S-8020M		08/24/1996	cjp		2581	3
SURR: a,a,a-TFT		86	% Rec	S-8020M		08/24/1996	cjp		2581	60-125

ANALYTICAL RESULTS REPORT

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

08/27/1996

NET Job Number: 96.06442
Sample Number: 316604

Project Description: TWP (Atoka-1)

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA 8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/24/1996	cjp		2581	2
Ethylbenzene		<2	ug/L	S-8020M		08/24/1996	cjp		2581	2
Toluene		<2	ug/L	S-8020M		08/24/1996	cjp		2581	2
Xylenes, Total		<3	ug/L	S-8020M		08/24/1996	cjp		2581	3
SURR: a,a,a-TFT		94	% Rec	S-8020M		08/24/1996	cjp		2581	60-125

ANALYTICAL RESULTS REPORT

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

08/27/1996

NET Job Number: 96.06442
Sample Number: 316605

Project Description: TWP (Atoka-1)

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		2,300	ug/L	S-8020M		08/24/1996	cjp		2581	2.5
Ethylbenzene		250	ug/L	S-8020M		08/24/1996	cjp		2581	5
Toluene		8	ug/L	S-8020M		08/24/1996	cjp		2581	5
Xylenes, Total	EDL	<15	ug/L	S-8020M		08/24/1996	cjp		2581	15
SURR: a,a,a-TFT		93	% Rec	S-8020M		08/24/1996	cjp		2581	60-125

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL RESULTS REPORT

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

08/27/1996

NET Job Number: 96.06442
Sample Number: 316606

Project Description: TWP (Atoka-1)

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		850	ug/L	S-8020M		08/24/1996	cjp		2581	2
Ethylbenzene		360	ug/L	S-8020M		08/24/1996	cjp		2581	2
Toluene		850	ug/L	S-8020M		08/24/1996	cjp		2581	2
Xylenes, Total		720	ug/L	S-8020M		08/24/1996	cjp		2581	3
SURR: a,a,a-TFT		80	% Rec	S-8020M		08/24/1996	cjp		2581	60-125

ANALYTICAL RESULTS REPORT

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

08/27/1996

NET Job Number: 96.06442
Sample Number: 316607

Project Description: TWP (Atoka-1)

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
EPA-8020 AQ (PRESERVED)										
Benzene		4,000	ug/L	S-8020M		08/24/1996	cjp		2581	41
Ethylbenzene		500	ug/L	S-8020M		08/24/1996	cjp		2581	82
Toluene	EDL	<82	ug/L	S-8020M		08/24/1996	cjp		2581	82
Xylenes, Total		99	ug/L	S-8020M		08/24/1996	cjp		2581	3
SURR: a,a,a-TFT		100	% Rec	S-8020M		08/24/1996	cjp		2581	60-125

EDL - Elevated Detection Limit due to matrix interference.

QUALITY CONTROL REPORT
BLANKS

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

08/27/1996

NET Job Number: 96.06442

Project Description: TWP (Atoka-1)

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/24/1996		2581
Ethylbenzene		<2	ug/L	2	08/24/1996		2581
Toluene		<2	ug/L	2	08/24/1996		2581
Xylenes, Total		<3	ug/L	3	08/24/1996		2581

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

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

08/27/1996

NET Job Number: 96.06442

Project Description: TWP (Atoka-1)

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	19.7	98.5	08/24/1996	2581
Ethylbenzene		20	ug/L	20.9	104.5	08/24/1996	2581
Toluene		20	ug/L	20.2	101.0	08/24/1996	2581
Xylenes, Total		60	ug/L	62.9	104.8	08/24/1996	2581

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

08/27/1996

NET Job Number: 96.06442

Project Description: TWP (Atoka-1)

Analyte	Prep Batch No.	Run Batch No.	LCS True Conc	Units	LCS Conc Found	LCS % Rec.	LCS Dup Conc. Found	LCS Dup % Rec	LCS % RPD	Flag	Date Analyzed
EPA-8020 AQ (PRESERVED)											
Benzene		2581	20	ug/L	19.7	98.5	20.1	100.5	1.9		08/24/1996
Ethylbenzene		2581	20	ug/L	20.9	104.5	21.3	106.5	1.9		08/24/1996
Toluene		2581	20	ug/L	20.2	101.0	20.6	103.0	2.0		08/24/1996
Xylenes, Total		2581	60	ug/L	62.9	104.8	63.6	106.0	1.1		08/24/1996

LCS - Laboratory Control Standard

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

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENRON OPERATIONS CORP
ADDRESS P.O. BOX 1188 HOUSTON TX 77251
PHONE (713)646-7327 FAX (713) 646-7867
PROJECT NAME/LOCATION TWP (HOKA-1)
PROJECT NUMBER
PROJECT MANAGER

REPORT TO: GEORGE ROBINSON C/O ENRON OPERATIONS CORP P.O. BOX 1188
INVOICE TO: HOUSTON TX 77251
P.O. NO. ATTN: 3AC-3142
NET QUOTE NO.

SAMPLED BY
SANDY SHARP (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: BTEX 8020
8/12/96	1140	MW-4	A	X		3/G					X
	1145	MW-3									X
	1215	MW-8									X
	1245	MW-6									X
	1230	MW-7									X
	1330	MW-5									X

To assist us in selecting the proper method

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

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

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

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / ~~NO~~ NA
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 X SS
DATE 8/12/96

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	~~RELINQUISHED BY:~~	DATE	TIME	RECEIVED FOR NET BY:
S. Sharp	8/13/96				8/14/96	10:00	J Robinson

METHOD OF SHIPMENT

REMARKS:

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

2R - 34

REPORTS

DATE:

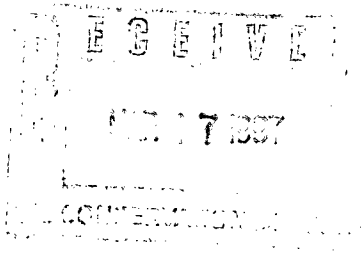
MAR. 3. 1997

ENRON
Transwestern Pipeline Company

P. O. Box 1188 Houston, Texas 77251-1188 (713) 853-6161

March 3, 1997

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



RE: Semi-Annual Report of Ground Water Remediation Activities
Transwestern Pipeline Company Atoka-1 Compressor Station
Eddy County, New Mexico

Dear Bill,

The attached report is submitted pursuant to the NMOCD's requirements for semi-annual reporting of ground water remediation activities at the subject facility.

If you have any questions or comments regarding this report, please contact me at (505) 625-8022 or George Robinson at (713) 646-7327.

Sincerely,

Larry Campbell

Larry Campbell
Division Environmental Specialist

LC/sls

xc w/attachments: Mark Ashley NMOCD Artesia District Office
George Robinson Cypress Engineering Services

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station
Eddy County, New Mexico

Submitted to:
New Mexico Oil Conservation Division

March 3, 1997

Prepared For:
Transwestern Pipeline Company
6381 North Main Street
Roswell, NM 88201

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

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company

Atoka-1 Compressor Station

I. Ground Water Monitoring Activities

4th Quarter, 1996, Ground Water Sampling Event

Transwestern Pipeline Company (TW) completed the 4th quarter, 1996, sampling event on November 11, 1996.

Prior to sampling, the depth to water, and the depth to hydrocarbon where phase separated hydrocarbon (PSH) was present, was determined for each monitor well. Table 1 presents a summary of ground water and PSH surface elevation information. A ground water surface elevation map for the November, 1996, sampling event is included as Figure 2.

Ground water samples were collected from six of the eight monitor wells at the site. Samples were not collected from monitor well MW-1 due to the presence of PSH in the well casing. In addition, samples were not collected from monitor well MW-2. Provisions had not been made to collect samples from monitor well MW-2 due to the presence of PSH measured in the well casing in the course of previous sampling events. Ground water samples were delivered to a laboratory for analysis by EPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). A summary of the laboratory results is presented in Table 2. A BTEX distribution map for the November, 1996, sampling event is included as Figure 3.

Approximately 42 gallons of purge water were generated during the 4th quarter, 1996, sampling event. The purge water has been contained on-site in an approved DOT drum.

Results/Conclusions from Ground Water Sampling Events

Occurrence and Direction of Ground Water Flow

Water table elevations measured during the 4th quarter, 1996, sampling event are indicated on Figure 2. The elevation of shallow ground water measured in the monitor wells do not define a consistent ground water table. This observation is consistent with previous sampling events and is likely because there is very little shallow ground water present.

The apparent direction of ground water flow, based on elevations measured in monitor wells MW-3, MW-5, MW-6, and MW-7, is toward to south-southwest. This is consistent with what would be expected based upon ground surface topography.

Lateral Extent of Phase Separated Hydrocarbon

The lateral extent of PSH is currently defined by the occurrence of PSH at the water table in monitor well MW-1 and the absence of PSH in all other monitor wells. The thickness of accumulated PSH in monitor well MW-1 was measured in November, 1996, at 0.14 feet. Prior sampling events identified the presence of PSH in monitor well MW-2, however, no PSH was detected in monitor well MW-2 during the November, 1996, sampling event. Based on the information currently available, the volume and lateral extent of PSH in the area appears to be relatively limited.

At this time, the presence of PSH does not appear to require a modification of the existing remediation plan due to the relatively limited lateral extent of PSH and the existing plan for soil vapor extraction from the fourteen SVE wells (Figure 1).

Condition of Affected Ground water

The condition of affected ground water has not changed significantly from previous sampling events as evidenced by the information presented in Table 2.

II. Planned Changes to the Ground Water Monitoring Program

Disposal of Monitor Well Purge Water

TW anticipates that approximately 50 gallons (total) of purge water will be generated from the eight monitor wells in the course of each sampling event. The purge water generated from all eight monitor wells will be stored on-site in one or more 55-gallon drums. A water sample will be collected from each drum containing purge water prior to a determination regarding disposal. Purge water samples will be delivered to a laboratory for analysis for BTEX compounds (Method 8020). In the event analytical results indicate the concentration of all BTEX compounds to be below WQCC standards, the contents of the associated drum will be emptied to the ground surface on-site. In the event analytical results indicate the concentration of any BTEX compound to be above WQCC Standards, the contents of the associated drum will be placed into the on-site condensate AST.

Frequency of Ground Water Monitoring

In light of the history of ground water sampling results which has been developed for this site, TW proposes to move from a schedule of quarterly sampling events to semi-annual sampling events. [Note: at least six sampling events have been completed for each monitor well at the site.]

Routine Reporting of Monitoring Activities

TW proposes to move from semi-annual reporting to annual reporting. The next annual report will be submitted to the OCD by March 1, 1998.

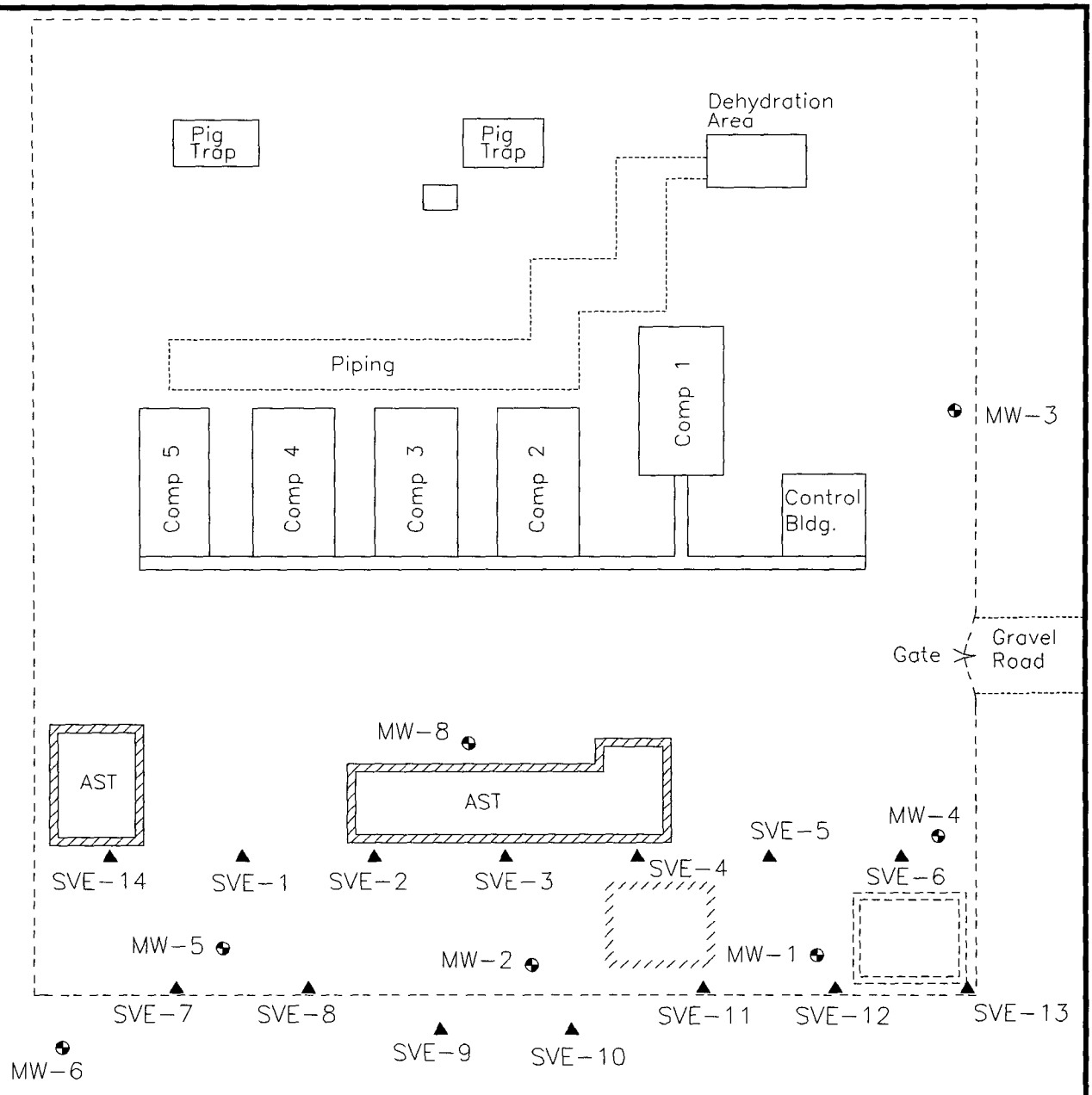
III. Status of Remediation Activities

Installation and start-up of an SVE system at this site has been on hold pending the availability of remediation equipment which is currently in use at another TW project site. At this time, TW anticipates that remediation equipment will be available for use at the Atoka-1 site by mid-year, 1997.

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Figures



F:\COMMON\EAD\GROBBINS\DRAWINGS\ATOKA\ATKSITE.DWG

FIGURE 1

SITE MAP

ATOKA-1 COMPRESSOR STATION

TRANSWESTERN PIPELINE COMPANY

CYPRESS ENGINEERING SERVICES, INC.

2-97

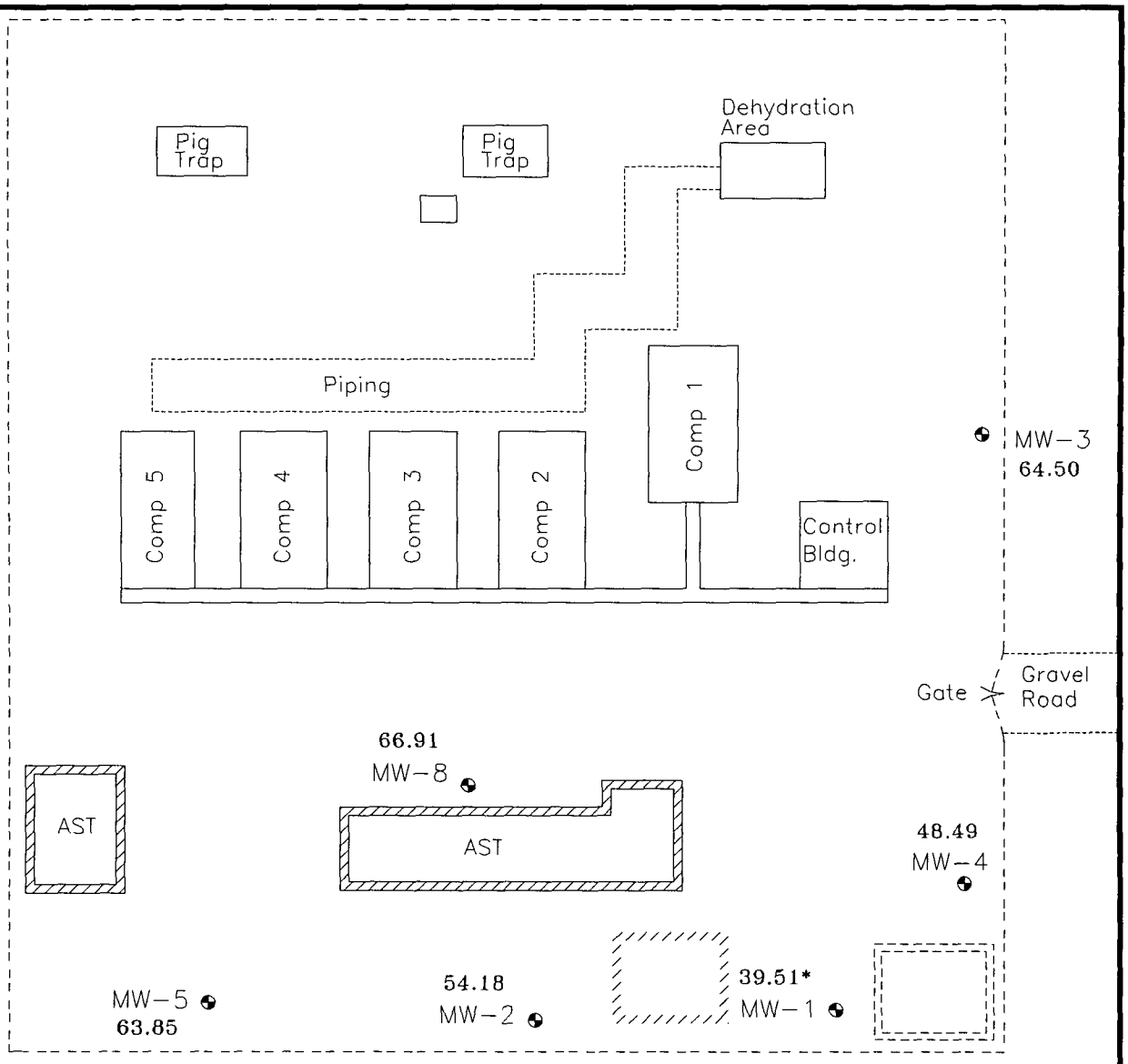


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FIGURE 2

GROUND WATER ELEVATIONS (November 1996)

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

CYPRESS ENGINEERING SERVICES, INC.
2-97

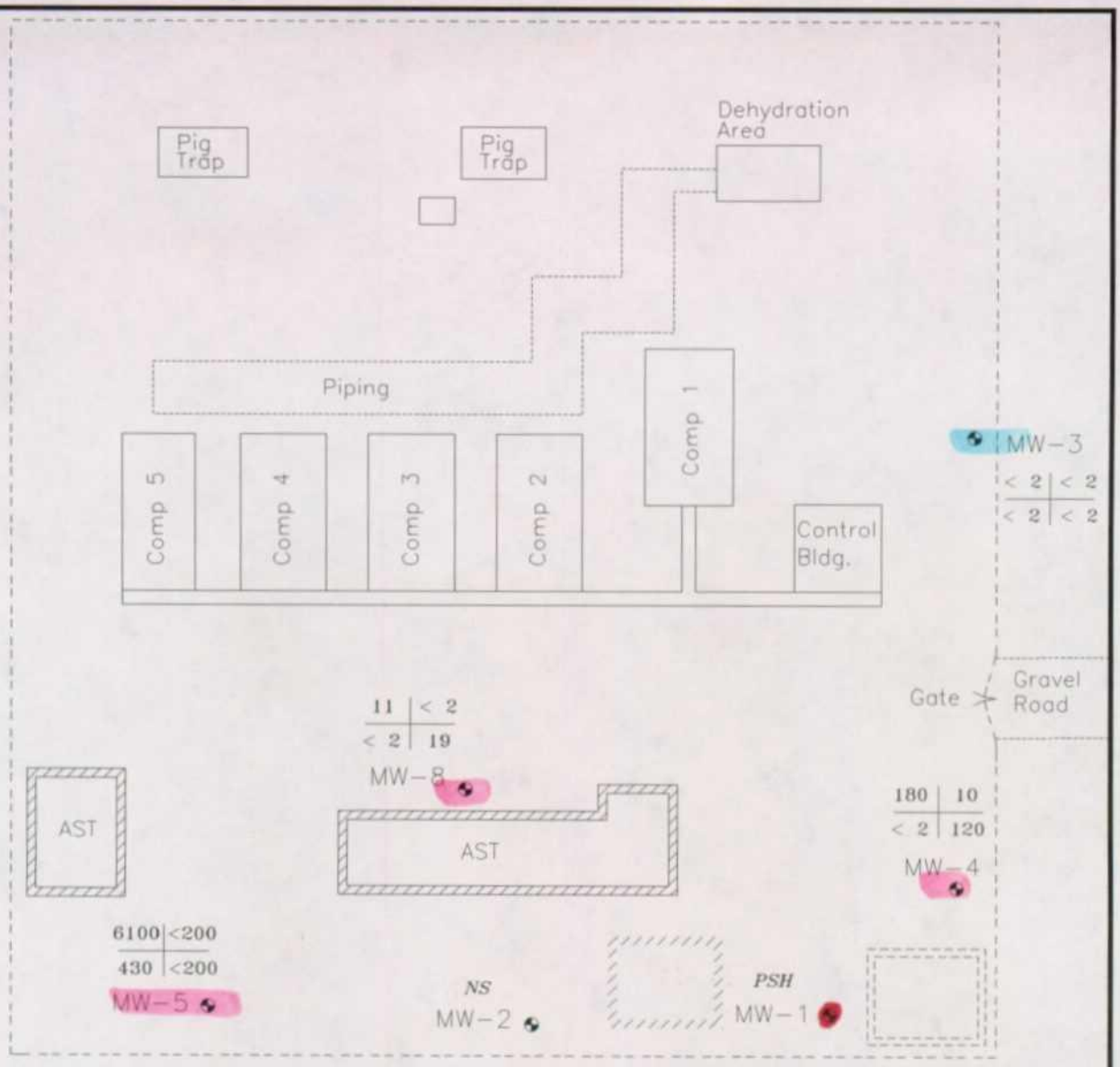

FIGURE 3

BTEX DISTRIBUTION
(November 1996)

ATOKA-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

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CYPRESS ENGINEERING SERVICES, INC.
2-97

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Tables

Table 1. Summary of Ground Water Surface Elevations
TW Atoka-1 Station

Well	Sampling Date	PSH Thickness (ft)	Groundwater Surface Elevation (ft)
MW-1	7/93	(b)	(b)
	12/94	0.70	38.36
	10/95	(b)	(b)
	2/96	0.37	38.05
	5/96	0.33	38.08
	8/96	0.37	37.96
	11/96	0.14	39.52
MW-2	7/93	(a)	54.07
	12/94	0.04	54.13
	10/95	(b)	(b)
	2/96	0.02	53.95
	5/96	0.01	53.96
	8/96	0.01	53.97
	11/96	(a)	54.18
MW-3	7/93	(a)	58.45
	12/94	(a)	62.77
	10/95	(a)	63.20
	2/96	(a)	63.78
	5/96	(a)	63.72
	8/96	(a)	63.72
	11/96	(a)	64.50
MW-4	7/93	(a)	44.10
	12/94	(a)	47.64
	10/95	(a)	47.97
	2/96	(a)	47.57
	5/96	(a)	47.63
	8/96	(a)	48.16
	11/96	(a)	48.49
MW-5	12/94	(a)	63.82
	10/95	(a)	63.42
	2/96	(a)	63.34
	5/96	(a)	63.34
	8/96	(a)	63.61
	11/96	(a)	63.85
MW-6	12/94	(a)	63.62
	10/95	(a)	63.28
	2/96	(a)	63.16
	5/96	(a)	63.24
	8/96	(a)	63.40
	11/96	(a)	63.59

Table 1. Summary of Ground Water Surface Elevations
TW Atoka-1 Station

Well	Sampling Date	PSH Thickness (ft)	Groundwater Surface Elevation (ft)
MW-7	12/94	(a)	53.56
	10/95	(a)	63.27
	2/96	(a)	63.28
	5/96	(a)	63.23
	8/96	(a)	63.38
	11/96	(a)	63.55
MW-8	12/94	(a)	67.28
	10/95	(a)	66.82
	2/96	(a)	66.79
	5/96	(a)	66.68
	8/96	(a)	66.59
	11/96	(a)	66.91

Notes:
(a) Not applicable since no measurable thickness of hydrocarbon is present
(b) Information not available
(c) Corrections to ground water surface elevation for presence of hydrocarbon is calculated assuming a specific gravity of 0.76
(d) 2/23/96 onward - values reflect corrections made to TOC elevations for MW-1(+1.01'), MW-2 (+0.84') and MW-4 (+1.19').

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	General Water Quality			BTEX Concentration - (ug/L)			
		pH (Units)	DO (mg/l)	Conductivity (x1000)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard		6-9	none	none	10	750	750	620
MW-1	07/21/93				(a)	(a)	(a)	(a)
	12/02/94				(a)	(a)	(a)	(a)
	10/30/95				(a)	(a)	(a)	(a)
	02/23/96				(a)	(a)	(a)	(a)
	05/14/96				(a)	(a)	(a)	(a)
	08/12/96				(a)	(a)	(a)	(a)
	11/11/96				(a)	(a)	(a)	(a)
MW-2	07/21/93				**3,600**	400	**9,800**	**3,170**
	12/02/94				(a)	(a)	(a)	(a)
	10/30/95				(a)	(a)	(a)	(a)
	02/23/96				(a)	(a)	(a)	(a)
	05/14/96				(a)	(a)	(a)	(a)
	08/12/96				(a)	(a)	(a)	(a)
	11/11/96				(a)	(a)	(a)	(a)
MW-3	07/21/93				7	<2	6	<2
	12/02/94				**14**	<2	<2	<4
	10/30/95		-		8.8	<0.5	<0.5	<0.5
	02/23/96	7.58	-	4.8	6	3	<2	<2
	05/14/96	7.27	-	5.38	6	<2	<2	<2
	08/12/96	7.25	-	5.07	8	<2	<2	<3
	11/11/96	7.17	-	-	<2	<2	<2	<2
MW-4	07/21/93				**61**	4	20	68
	12/02/94				**230**	<2	60	130
	10/30/95				**240**	2.1	<0.5	92
	02/23/96	6.61	-	3.5	**83**	5	<2	36
	05/14/96	6.75	-	4.14	**171**	17	<2	54
	08/12/96	6.6	-	3.79	**170**	11	7	43
	11/11/96	6.66	-	-	**180**	10	<2	120
MW-5	12/02/94				**6,200**	**1,100**	**13,000**	**7,400**
	11/02/95				**6,800**	**4,500**	**930**	**3,500**
	02/23/96	6.92	-	4.11	**4,490**	**1,820**	388	**1,235**
	05/14/96	7.02	-	5.38	**4,630**	573	**775**	**1,600**
	08/12/96	7.04	-	3.63	**4,000**	<82	500	99
	11/11/96	7.12	-	-	**6,100**	<200	430	<200

a - No sample, phase separated hydrocarbon present

Table 2. Summary of Ground Water Analyses
TW Atoka-1 Station

Well	Sampling Date	General Water Quality			BTEX Concentration - (ug/L)			
		pH (Units)	DO (mg/l)	Conductivity (x1000)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard		6-9	none	none	10	750	750	620
MW-6	12/02/94				**360**	50	<10	<20
	10/30/95				**4,600**	<5.0	190	<5.0
	02/23/96	7.34	-	3.33	**1,000**	9	222	9
	05/14/96	7.01	-	2.66	**3,700**	56	234	88
	08/12/96	6.67	-	4.65	**2,300**	8	250	<15
	11/11/96	7.38	-	-	**3,700**	<10	220	<10
MW-7	12/02/94				**620**	170	**1,100**	**1,100**
	10/30/95				**2,200**	440	460	270
	02/23/96	-	-	-	**832**	463	318	422
	05/14/96	6.76	-	2.89	**1,610**	**2880**	649	**3030**
	08/12/96	6.83	-	3.15	**850**	**850**	360	**720**
	11/11/96	7.07	-	-	**720**	**970**	170	390
MW-8	01/01/95				<2	<2	<2	<4
	10/30/95				**110**	1.3	<0.5	130
	02/23/96	7.15	-	4.81	6	<2	<2	<2
	05/14/96	6.96	-	5.26	2	<2	<2	3
	08/12/96	7.17	-	5.37	<2	<2	<2	<3
	11/11/96	6.93	-	-	**11**	<2	<2	19

a - No sample, phase separated hydrocarbon present

Semi-Annual Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Atoka-1 Compressor Station

Attachment #1

Lab Reports for the November 1996 Ground Water Sampling Event