GW - 355

MONITORING REPORTS

DATE:

7/98

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant
Lea County, New Mexico

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ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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Report of Ground Water Remediation Activities

Transwestern Pipeline Company

Bell Lake Plant

I. Installation of Additional Monitor Wells and SVE Wells

Installation of Four Additional SVE Wells

Transwestern Pipeline Company installed four additional soil vapor extraction (SVE) wells on November 8-12, 1997. The locations of the new wells are indicated in Figure 1 as wells SVE-4, SVE-5, SVE-6, and SVE-7. These wells were installed in order to further define the lateral extent of phase separated hydrocarbon (PSH) accumulated at the water table and in order to accelerate removal of PSH. Of the four new SVE wells, only well SVE-4 has indicated the presence of PSH accumulated in the well casing.

In addition to further defining the lateral extent of PSH, soil boring activities preceding well installation were able to identify a clay aquitard present at a depth of approximately 98 feet below ground surface (bgs). At the time of installation, the depth to water in these wells was measured at about 89 feet bgs. Based on this information, the saturated interval above the aquitard is about 9 feet thick.

Installation of Three Additional Monitor Wells

Transwestern Pipeline Company installed three additional ground water monitor wells on January 6-8, 1998. The locations of the new wells are indicated in Figure 1 as wells MW-10, MW-11, and MW-12. These wells were installed in order to further define the lateral extent of dissolved phase petroleum hydrocarbon compounds in the perched ground water. Ground water samples were collected from each of the new monitor wells at the time of installation and again in the course of the February 26, 1998, semiannual sampling event.

II. Ground Water Monitoring Activities

Semiannual Ground Water Sampling Events

Transwestern Pipeline Company completed two semiannual sampling events in 1997 and one semiannual sampling event in 1998. These events were completed on February 9, 1997, August 9, 1997, and February 26, 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. A summary of ground water and PSH surface elevation information is presented in Table 1.

In the course of each sample event, ground water samples were collected from each of the monitor wells at the site. In addition, ground water samples were collected from the on-site water well. Samples were not collected from monitor wells with PSH accumulated 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), total dissolved solids (TDS), and chlorides. In addition, samples collected in the course of the August 9, 1997, sampling event were also submitted to a laboratory for analysis for a selected list of metals. A summary of the laboratory results for organics and for field measured parameters is presented in Table 2. A summary of the laboratory results for inorganics is presented in Table 3.

Results/Conclusions from Ground Water Sampling Events

Occurrence and Direction of Ground Water Flow

A ground water surface elevation map, based on measurements obtained on January 9, 1998, is included as Figure 2. The apparent direction of groundwater flow is consistent with water table elevation maps previously developed for this site. The hydraulic gradient, as estimated from the information presented in Figure 2, is approximately 0.002 ft/ft over the site area.

Lateral Extent of Phase Separated Hydrocarbon

The lateral extent of PSH is currently defined by the occurrence of PSH at the water table in wells SVE-1, SVE-3, SVE-4, and MW-4, and the absence of PSH in all other wells. The presence of PSH in monitor well MW-4 was first measured in the course of the August 9, 1997, sampling event. The thickness of accumulated PSH in wells SVE-1, SVE-3, SVE-4, and MW-4 is presented in Table 1. A figure indicating the estimated area with PSH present at the water table is included as Figure 4.

Condition of Affected Ground water

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 and Table 3. Elevated concentrations of benzene continue to be the primary concern. A sufficient history of constituent concentrations has yet to be developed in order to evaluate natural attenuation processes.

III. Planned Changes to the Ground Water Monitoring Program

Disposal of Monitor Well Purge Water

No changes are proposed at this time.

Frequency of Ground Water Monitoring

No changes are proposed at this time.

Sample Analysis Plan

No changes are proposed at this time.

Routine Reporting of Monitoring Activities

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

IV. Status of Remediation Activities

Remediation Activities Completed through June 1998

The following remediation activities were completed between January 1997 and June 1998:

1) Transwestern installed four additional SVE wells in November 1997. Only one of the four wells, SVE-4, has indicated the presence of accumulated PSH at the water table and has been connected to the SVE system manifold.

2) Transwestern obtained approval from the NMED Air Quality Bureau to relocate the Baker Furnace blower/incinerator unit from the Bell Lake site to another Transwestern facility. At the same time, Transwestern obtained approval of a Notice of Intent application for the installation of a SVE blower unit, without an emission control component, to replace the blower/incinerator unit. The equipment replacement was completed on June 3, 1998.

3) Transwestern installed a liquid recovery pump in well SVE-3 on June 3, 1998, in an effort to accelerate the removal of PSH accumulated at the water table. The anticipated recovery rate is 0.5 gpm. Vapor extraction will continue during liquid recovery (dual phase extraction). Recovered water will be stored in an onsite 400 bbl AST

pending disposal in an OCD permitted injection well. The recovery pump will be rotated between the four wells with accumulated PSH in the well casing: SVE-1, SVE-3, SVE-4, and MW-4.

Current Status of Remediation Activities

Routine operation and maintenance of the SVE system is ongoing.

Remediation Activities Planned for July 1998 through June 1999

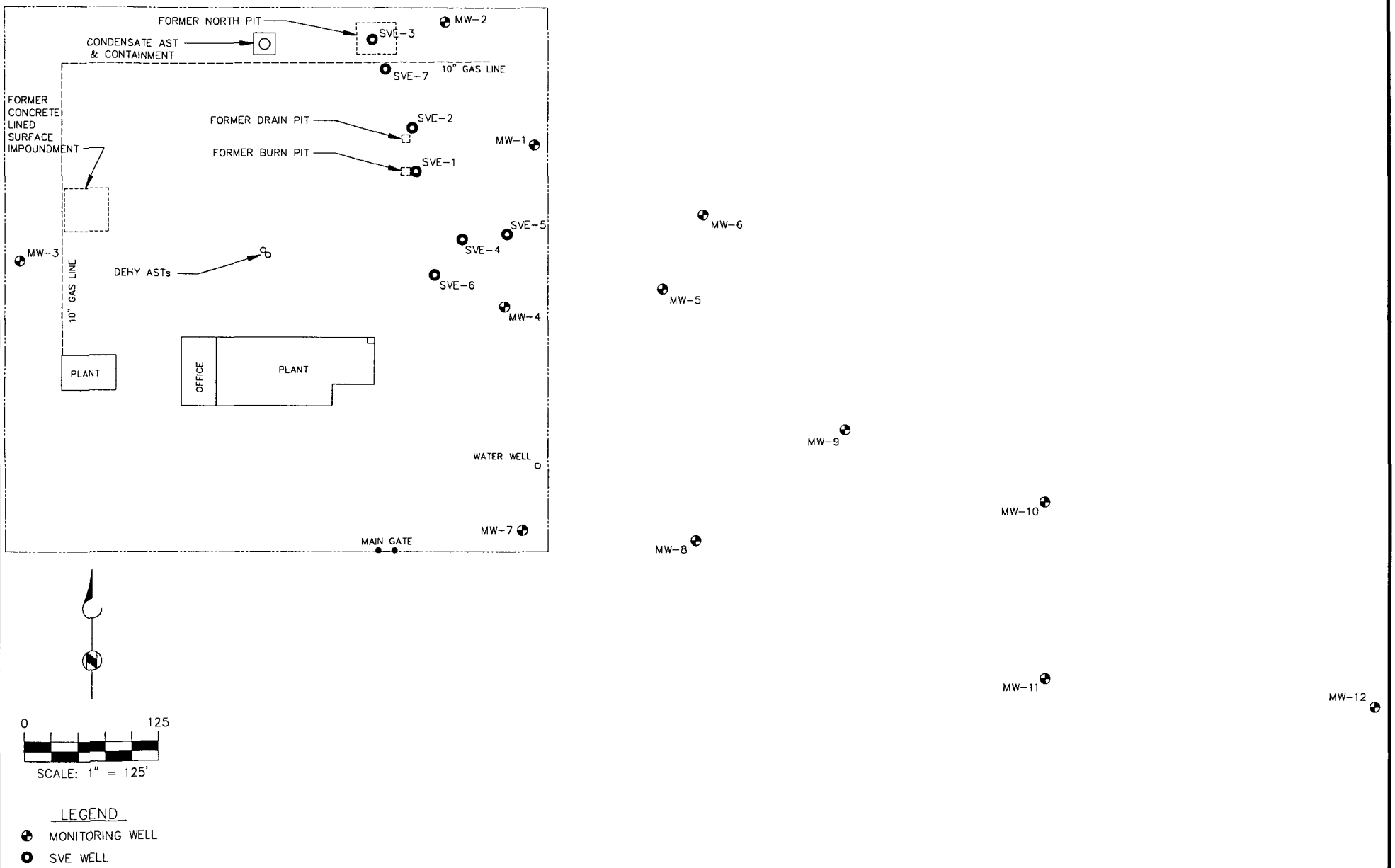
Transwestern anticipates that the remediation system will be in operation at least through the end of 1998 in order to achieve its cleanup objectives. In addition, Transwestern plans to complete the ground water sampling program as outlined above.

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Figures

F:\...\DRAWINGS\BELLLAKE\TWBL0198.DWG (06/23/98)



SITE MAP

TRANSWESTERN PIPELINE COMPANY

BELL LAKE PLANT

FIGURE 1

CYPRESS ENGINEERING SERVICES, INC.

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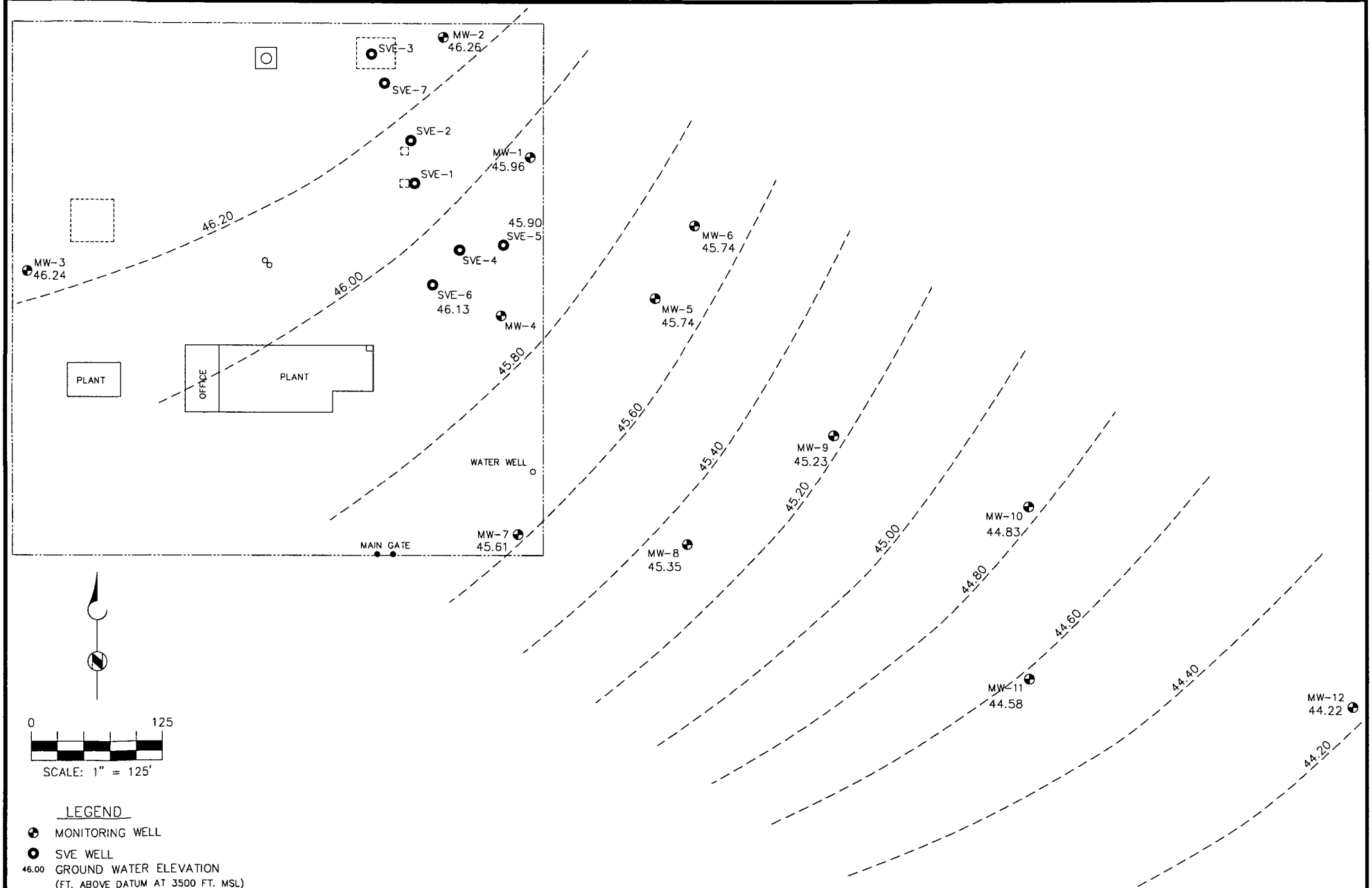

GROUND WATER SURFACE ELEVATION - JANUARY 9, 1998

TRANSWESTERN PIPELINE COMPANY

BELL LAKE PLANT

FIGURE 2

CYPRESS ENGINEERING SERVICES, INC.

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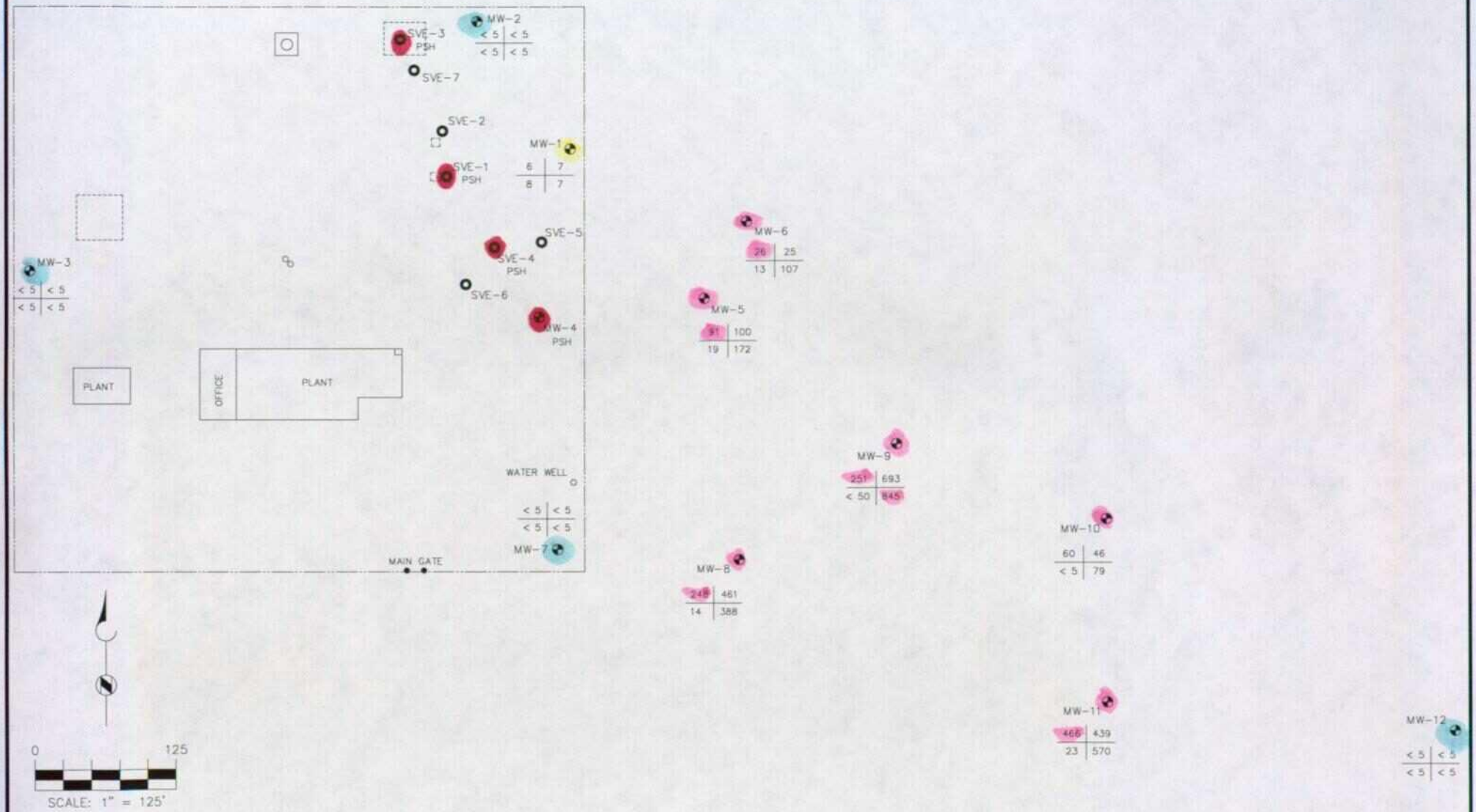

LEGEND

- MONITORING WELL
- SVE WELL

B	T
E	X

BTEX CONCENTRATION (ppb)
[all sample data collected 08/97 except MW-10, MW-11 & MW-12 collected 01/98]

PSH Phase Separated Hydrocarbon

DISTRIBUTION OF BTEX - FEBRUARY 25, 1998

TRANSWESTERN PIPELINE COMPANY

BELL LAKE PLANT

FIGURE 3

CYPRESS ENGINEERING SERVICES, INC.

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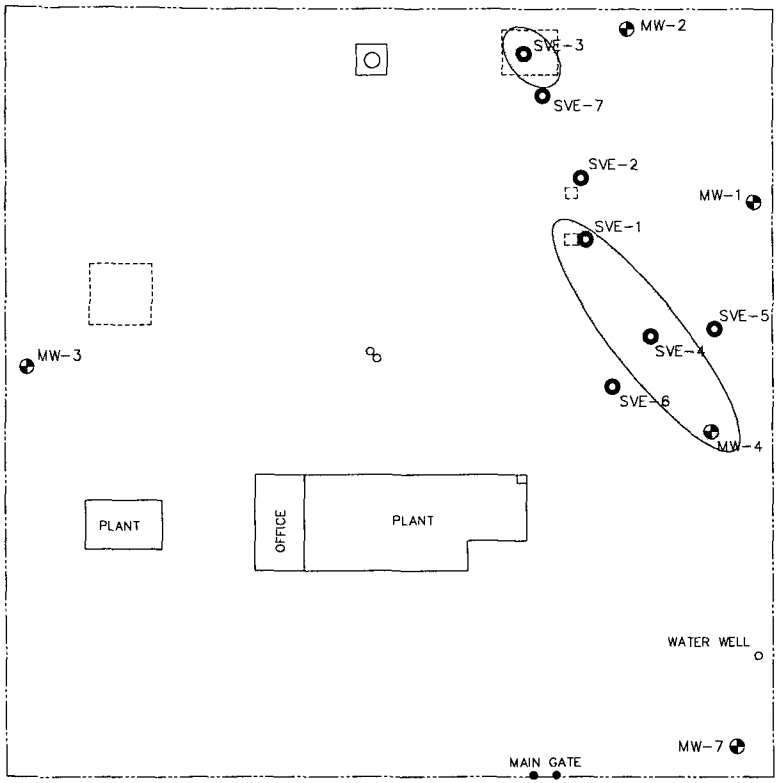


SCALE: 1" = 125'

LEGEND

- MONITORING WELL
- SVE WELL
- ESTIMATED AREA OF PSH (PHASE SEPARATED HYDROCARBON)

MW-6

MW-5

MW-9

MW-10

MW-8

MW-11

MW-12

DISTRIBUTION OF PSH - FEBRUARY 25, 1998

TRANSWESTERN PIPELINE COMPANY

BELL LAKE PLANT

FIGURE 4

CYPRESS ENGINEERING SERVICES, INC.

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Tables

Table 1. Summary of Ground Water Surface Elevations
TW Bell Lake Gas Plant

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-1	10/24/93	3635.37	(a)	88.97	(a)	3546.40
	12/08/94		(a)	89.38	(a)	3545.99
	05/31/95		(a)	89.18	(a)	3546.19
	12/12/95		(a)	89.27	(a)	3546.10
	02/20/96		(a)	89.24	(a)	3546.13
	05/15/96		(a)	89.21	(a)	3546.16
	08/14/96		(a)	89.32	(a)	3546.05
	11/12/96		(a)	89.10	(a)	3546.27
	02/07/97		(a)	89.35	(a)	3546.02
	08/08/97		(a)	89.22	(a)	3546.15
	01/09/98		(a)	89.41	(a)	3545.96
	02/24/98		(a)	89.21	(a)	3546.16
MW-2	10/19/93	3634.63	(a)	88.02	(a)	3546.61
	12/08/94		(a)	88.15	(a)	3546.48
	05/31/95		(a)	88.23	(a)	3546.40
	12/12/95		(a)	88.31	(a)	3546.32
	02/20/96		(a)	88.29	(a)	3546.34
	05/15/96		(a)	88.27	(a)	3546.36
	08/14/96		(a)	88.39	(a)	3546.24
	11/12/96		(a)	88.10	(a)	3546.53
	02/07/97		(a)	88.37	(a)	3546.26
	08/08/97		(a)	88.27	(a)	3546.36
	01/09/98	3634.68 (c)	(a)	88.42	(a)	3546.26
	02/24/98		(a)	88.30	(a)	3546.38
MW-3	10/20/93	3639.64	(a)	92.96	(a)	3546.68
	12/08/94		(a)	93.08	(a)	3546.56
	05/31/95		(a)	93.17	(a)	3546.47
	12/12/95		(a)	93.24	(a)	3546.40
	02/20/96		(a)	93.20	(a)	3546.44
	05/15/96		(a)	93.20	(a)	3546.44
	08/14/96		(a)	93.31	(a)	3546.33
	11/12/96		(a)	93.30	(a)	3546.34
	02/07/97		(a)	93.31	(a)	3546.33
	08/08/97		(a)	93.27	(a)	3546.37
	01/09/98		(a)	93.40	(a)	3546.24
	02/24/98		(a)	93.28	(a)	3546.36

Table 1. Summary of Ground Water Surface Elevations
TW Bell Lake Gas Plant

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-4	12/08/94	3636.05	(a)	89.90	(a)	3546.15
	05/31/95		(a)	89.97	(a)	3546.08
	12/12/95		(a)	90.05	(a)	3546.00
	02/20/96		(a)	90.05	(a)	3546.00
	05/15/96		(a)	89.99	(a)	3546.06
	08/14/96		(a)	90.09	(a)	3545.96
	11/12/96		(a)	90.00	(a)	3546.05
	02/07/97		(a)	90.13	(a)	3545.92
	08/08/97		90.00	90.60	0.60	3545.93
	11/12/97		90.02	90.25	0.23	3545.98
	12/29/97	3637.04 (c)	90.69	92.55	1.86	3545.98
MW-5	12/08/94	3635.31	(a)	89.33	(a)	3545.98
	05/31/95		(a)	89.36	(a)	3545.95
	12/12/95		(a)	89.40	(a)	3545.91
	02/20/96		(a)	89.46	(a)	3545.85
	05/15/96		(a)	89.40	(a)	3545.91
	08/14/96		(a)	89.43	(a)	3545.88
	11/12/96		(a)	89.42	(a)	3545.89
	02/07/97		(a)	89.53	(a)	3545.78
	08/08/97		(a)	89.41	(a)	3545.90
	01/09/98		(a)	89.57	(a)	3545.74
	02/24/98		(a)	89.38	(a)	3545.93
MW-6	12/08/94	3634.66	(a)	88.65	(a)	3546.01
	05/31/95		(a)	88.70	(a)	3545.96
	12/12/95		(a)	88.72	(a)	3545.94
	02/20/96		(a)	88.81	(a)	3545.85
	05/15/96		(a)	88.75	(a)	3545.91
	08/14/96		(a)	88.82	(a)	3545.84
	11/12/96		(a)	88.81	(a)	3545.85
	02/07/97		(a)	88.88	(a)	3545.78
	08/08/97		(a)	88.80	(a)	3545.86
	01/09/98		(a)	88.92	(a)	3545.74
	02/24/98		(a)	88.75	(a)	3545.91
MW-7	12/12/95	3635.89	(a)	90.18	(a)	3545.71
	02/20/96		(a)	90.15	(a)	3545.74
	05/15/96		(a)	90.11	(a)	3545.78
	08/14/96		(a)	90.21	(a)	3545.68
	11/12/96		(a)	90.20	(a)	3545.69
	02/07/97		(a)	90.22	(a)	3545.67
	08/08/97		(a)	90.19	(a)	3545.70
	01/09/98		(a)	90.28	(a)	3545.61
	02/24/98		(a)	90.18	(a)	3545.71

Table 1. Summary of Ground Water Surface Elevations
TW Bell Lake Gas Plant

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-8	12/12/95	3635.28	(a)	89.82	(a)	3545.46
	02/20/96		(a)	89.82	(a)	3545.46
	05/15/96		(a)	89.78	(a)	3545.50
	08/14/96		(a)	89.86	(a)	3545.42
	11/12/96		(a)	89.86	(a)	3545.42
	02/07/97		(a)	89.89	(a)	3545.39
	08/08/97		(a)	89.85	(a)	3545.43
	01/09/98	3635.30 (c)	(a)	89.95	(a)	3545.35
	02/24/98		(a)	89.87	(a)	3545.43
MW-9	12/12/95	3633.58	(a)	88.21	(a)	3545.37
	02/20/96		(a)	88.23	(a)	3545.35
	05/15/96		(a)	88.18	(a)	3545.40
	08/14/96		(a)	88.22	(a)	3545.36
	11/12/96		(a)	88.27	(a)	3545.31
	02/07/97		(a)	88.29	(a)	3545.29
	08/08/97		(a)	88.25	(a)	3545.33
	01/09/98		(a)	88.35	(a)	3545.23
	02/24/98		(a)	88.24	(a)	3545.34
MW-10	01/09/98	3633.25 (c)	(a)	88.42	(a)	3544.83
	02/24/98		(a)	88.33	(a)	3544.92
MW-11	01/09/98	3631.57 (c)	(a)	86.99	(a)	3544.58
	02/24/98		(a)	86.94	(a)	3544.63
MW-12	01/09/98	3630.61 (c)	(a)	86.39	(a)	3544.22
	02/24/98		(a)	86.29	(a)	3544.32
SVE-1	12/01/95	3637.06	90.68	92.12	1.44	3546.09
	02/01/96		90.52	92.12	1.60	3546.22
	05/01/96		90.51	92.20	1.69	3546.21
	01/17/97	3638.21 (c)	91.63	93.34	1.71	3546.24
	12/29/97		91.50	93.45	1.95	3546.32
SVE-2	12/01/95	3636.49	(a)	90.18	(a)	3546.31
	02/01/96		(a)	90.22	(a)	3546.27
	05/01/96		(a)	90.21	(a)	3546.28
	01/17/97	3637.53 (c)	(a)	91.20	(a)	3546.33
	12/29/97		(a)	91.13	(a)	3546.40
SVE-3	12/01/95	3636.44	90.00	90.30	0.30	3546.38
	02/01/96		89.52	92.37	2.85	3546.35
	05/01/96		89.38	92.92	3.54	3546.35
	01/17/97	3637.62 (c)	90.65	93.60	2.95	3546.38
	12/29/97		90.50	93.70	3.20	3546.48

Table 1. Summary of Ground Water Surface Elevations
TW Bell Lake Gas Plant

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-4	11/12/97	3636.95 (c)	(a)	89.69	(a)	3547.26
	12/29/97		90.40	92.30	1.90	3546.17
SVE-5	11/12/97	3635.65 (c)	(a)	89.60	(a)	3546.05
	12/29/97		(a)	89.59	(a)	3546.06
	01/09/98		(a)	89.75	(a)	3545.90
SVE-6	11/12/97	3636.38 (c)	(a)	90.20	(a)	3546.18
	12/29/97		(a)	90.20	(a)	3546.18
	01/09/98		(a)	90.25	(a)	3546.13
SVE-7	11/12/97	3637.01 (c)	(a)	89.61	(a)	3547.40
	12/29/97		(a)	90.52	(a)	3546.49

NOTES:
(a) Not applicable since no measurable thickness of hydrocarbon is present
(b) Corrections to ground water surface elevation for presence of hydrocarbon is calculated assuming a specific gravity of 0.8
(c) TOC elevation based on survey by CES (GCR) on 01/09/98.

Table 2. Summary of Ground Water Analyses
Organics and Field Measured Parameters
TW Bell Lake Gas Plant

Well	Sampling Date	TPH - Gasoline Fraction (ug/L, 8015M)	BTEX (ug/L)				Field Measured Parameters			
			Benzene	Toluene	Ethylbenzene	Total xylenes	Dissolved Oxygen (mg/L)	pH (units)	Temperature (C)	Conductivity (uS/cm)
NMWQCC Standard		none	10	750	750	620	none	6-9	none	none
MW-1	10/24/93	-	**24**	29	32	82	-	-	-	-
	12/07/94	-	**92**	50	54	< 111	-	8.82	-	-
	05/31/95	-	8	13	9	29	-	8.80	-	-
	12/14/95	-	< 200	366	< 200	204	< 1	**9.55**	18.7	8090
	02/21/96	757	**13**	6	29	54	< 1	-	-	-
	05/16/96	-	**15**	9	33	47	< 1	**9.68**	26.7	14650
	08/14/96	744	**11**	5	23	30	< 1	8.97	23.2	8490
	11/14/96	-	2.4	4.9	13	9	< 1	8.38	19.7	-
	02/08/97	-	**11**	13	11	14	< 1	**9.32**	14.5	9200
	08/09/97	-	**14**	14	12	12	0	8.92	23.1	8750
	02/25/98	-	6.54	7.66	8.45	7.01	0	**9.45**	19.7	9340
MW-2	10/19/93	-	< 5	< 5	< 5	< 5	-	-	-	-
	12/07/94	-	6	5	< 2	< 4	-	7.18	-	-
	05/31/95	-	3	< 2	< 2	< 2	-	7.40	-	-
	12/14/95	-	< 2	< 2	< 2	< 2	2	8.26	19.8	3890
	02/20/96	< 50	< 2	< 2	< 2	< 2	4	7.07	22.2	2220
	05/16/96	< 50	< 2	< 2	< 2	< 2	3	7.84	24.4	3950
	08/13/96	-	< 2	< 2	< 2	< 3	3	8.62	27.2	6860
	11/14/96	-	< 2	< 2	< 2	< 2	2	7.67	16.9	-
	02/08/97	-	< 2	< 2	< 2	< 2	4	7.38	13.7	2000
	08/08/97	-	7.3	5.4	< 2	2.7	1.7	7.38	22.0	1701
	02/25/98	-	< 5	< 5	< 5	< 5	2.8	7.56	18.6	1433
MW-3	10/20/93	-	< 5	< 5	< 5	< 5	-	-	-	-
	12/07/94	-	< 2	< 2	< 2	< 4	-	7.32	-	-
	05/31/95	-	< 2	< 2	< 2	< 2	-	7.70	-	-
	12/14/95	-	< 2	< 2	< 2	< 2	9	7.79	23.0	480
	02/20/96	-	< 2	< 2	< 2	2	8	7.52	22.7	490
	05/16/96	< 50	< 2	< 2	< 2	< 2	9	7.62	27.2	5880
	08/13/96	-	< 2	< 2	< 2	< 3	10	7.46	28.9	550
	11/14/96	-	< 2	< 2	< 2	< 2	8	7.37	17.2	-
	02/08/97	-	< 2	< 2	< 2	< 2	8	7.35	15.3	400
	08/09/97	-	< 2	< 2	< 2	< 2	8.1	7.53	21.6	573
	02/25/98	-	< 5	< 5	< 5	< 5	8.1	7.51	18.7	484

Table 2. Summary of Ground Water Analyses
Organics and Field Measured Parameters
TW Bell Lake Gas Plant

Well	Sampling Date	TPH - Gasoline Fraction (ug/L, 8015M)	BTEX (ug/L) Benzene	Toluene	Ethylbenzene	Total xylenes	Field Measured Parameters Dissolved Oxygen (mg/L)	pH (units)	Temperature (C)	Conductivity (uS/cm)
NMWQCC Standard		none	10	750	750	620	none	6-9	none	none
MW-4	12/07/94	-	**18**	71	4	160	-	**9.7**	-	-
	05/31/95	-	**300**	**1300**	< 2	**800**	-	**10.0**	-	-
	12/13/95	-	**445**	**1380**	< 200	**970**	< 1	**10.73**	17.7	6300
	02/21/96	2520	**< 200**	454	< 200	594	< 1	-	-	-
	05/16/96	58800	**92**	549	52	**1370**	< 1	**9.93**	27.5	9840
	08/14/96	80200	**333**	**992**	< 200	**2630**	< 1	**12.89**	24.0	6480
	11/14/96	-	**260**	**1010**	55	**1200**	< 1	8.51	21.1	-
	02/08/97	-	**240**	**1000**	< 100	**1200**	< 1	**10.73**	16.5	7600
MW-5	12/07/94	-	9	20	4	64	-	**9.29**	-	-
	05/31/95	-	**51**	109	16	219	-	**9.00**	-	-
	12/12/95	-	**27**	26	16	107	< 1	**10.40**	21.5	12420
	02/21/96	1090	**45**	59	17	133	< 1	**12.96**	20.4	9860
	05/16/96	1710	**51**	52	26	177	< 1	8.85	26.7	10110
	08/14/96	28900	**48**	33	21	150	< 1	**9.10**	24.4	10620
	11/14/96	-	**67**	56	32	270	< 1	8.61	22.6	-
	02/08/97	-	**75**	60	26	140	< 1	**9.58**	15.3	4200
	08/09/97	-	**140**	110	47	370	0.6	8.74	26.1	12060
	02/25/98	-	**91.8**	100	19.5	172.1	0.6	8.97	18.9	11540
MW-6	12/07/94	-	< 2	3	< 2	< 6	-	8.51	-	-
	05/31/95	-	**28**	26	4	57	-	**9.20**	-	-
	12/12/95	-	**18**	11	3	33	2	**9.13**	21.6	6150
	02/20/96	277	**16**	12	6	48	< 1	**9.04**	21.7	6000
	05/16/96	618	**24**	26	10	74	< 1	**9.09**	28.4	7880
	08/14/96	27100	**24**	23	< 20	80	< 1	8.79	23.1	6590
	11/14/96	-	**38**	31	11	43	< 1	8.62	21.9	-
	02/08/97	-	**24**	22	11	75	< 1	**9.67**	17.4	8700
	08/09/97	-	**68**	58	28	150	0	**9.14**	24.0	8470
	02/25/98	-	**26.1**	25.0	13.7	107.0	0.1	**9.06**	18.4	7390

Table 2. Summary of Ground Water Analyses
Organics and Field Measured Parameters
TW Bell Lake Gas Plant

Well	Sampling Date	TPH - Gasoline Fraction (ug/L, 8015M)	BTEX (ug/L)				Field Measured Parameters			
			Benzene	Toluene	Ethylbenzene	Total xylenes	Dissolved Oxygen (mg/L)	pH (units)	Temperature (C)	Conductivity (uS/cm)
NMWQCC Standard		none	10	750	750	620	none	6-9	none	none
MW-7	12/13/95	-	< 2	< 2	< 2	< 2	6	7.15	19.5	4580
	02/20/96	< 50	2	< 2	< 2	< 2	2	6.47	22.5	6310
	05/15/96	< 50	4	< 2	2	< 2	2	6.57	25.9	7070
	08/14/96	< 50	**11**	< 2	< 2	< 2	2	6.80	22.3	5270
	11/14/96	-	< 2	< 2	< 2	< 2	< 1	6.79	18.7	-
	02/08/97	-	< 2	< 2	< 2	< 2	1.4	6.97	15.0	5700
	08/08/97	-	< 2	< 2	< 2	< 2	0.9	6.84	22.6	6650
	02/24/98	-	< 5	< 5	< 5	< 5	2.0	6.79	20.3	6730
MW-8	12/12/95	-	**227**	391	< 200	228	1	8.76	19.7	4790
	02/21/96	1630	**191**	379	< 20	300	2	**9.34**	21.2	2920
	05/16/96	1110	**47**	94	5	91	< 1	8.43	27.2	6870
	08/14/96	45500	**54**	110	< 20	93	< 1	8.75	23.6	2440
	11/14/96	-	**110**	230	11	160	< 1	8.61	21.6	-
	02/08/97	-	**98**	210	8	130	0.4	**9.57**	16.9	4000
	08/09/97	-	**430**	660	< 100	610	0.1	**9.17**	24.7	5010
	02/26/98	-	**248**	461	14.9	388.2	1.1	**9.36**	18.3	4130
dup (MW-13)	02/26/98	-	**104**	207	< 50	121	-	-	-	-
MW-9	12/12/95	-	**< 200**	241	< 200	383	10	7.17	23.2	14520
	02/21/96	2540	**331**	662	< 200	**739**	< 1	-	-	-
	05/16/96	42100	**460**	450	< 200	**1650**	< 1	6.93	30.1	17580
	08/14/96	46200	**250**	340	< 50	**800**	-	-	26.8	11640
	11/14/96	-	**240**	410	28	**780**	< 1	8.72	23.2	-
	02/08/97	-	**250**	480	< 100	**930**	< 1	7.50	18.9	17700
	08/09/97	-	**490**	**810**	< 100	**1100**	1.3	7.20	25.9	17080
	02/25/98	-	**251**	693	< 50	**845**	0	7.21	19.4	19960
MW-10	01/09/98	-	**49**	37	4.3	71	-	-	-	-
	02/25/98	-	**60.3**	46.3	< 5	79.1	0.7	6.74	18.7	953
MW-11	01/10/98	-	**360**	320	19	490	-	-	-	-
	02/25/98	-	**466**	439	23.7	570	2.1	6.61	18.7	13670
MW-12	01/10/98	-	< 0.5	< 0.5	< 0.5	< 0.5	-	-	-	-
	02/24/98	-	< 5	< 5	< 5	< 5	6.8	7.67	20.6	547

Table 2. Summary of Ground Water Analyses
Organics and Field Measured Parameters
TW Bell Lake Gas Plant

Well	Sampling Date	TPH - Gasoline Fraction (ug/L, 8015M)	BTEX (ug/L)				Field Measured Parameters			
			Benzene	Toluene	Ethylbenzene	Total xylenes	Dissolved Oxygen (mg/L)	pH (units)	Temperature (C)	Conductivity (uS/cm)
NMWQCC Standard		none	10	750	750	620	none	6-9	none	none
Water Well	05/31/95	-	< 2	< 2	< 2	< 2	-	8.20	-	-
	12/14/95	-	< 2	< 2	< 2	< 2	8	8.53	22.9	1160
	02/21/96	-	< 2	< 2	< 2	< 2	8	-	23.3	9060
	05/16/96	< 50	< 2	< 2	< 2	< 2	8	7.52	27.3	1320
	08/14/96	-	< 2	< 2	< 2	< 3	-	-	-	-
	11/14/96	-	< 2	< 2	< 2	< 2	< 1	7.52	-	-
	02/08/97	-	< 2	< 2	< 2	< 2	0.8	8.45	20.2	1200
	08/09/97	-	< 2	< 2	< 2	< 2	1.1	8.11	24.9	1338
	02/26/98	-	< 5	< 5	< 5	< 5	0.8	7.56	20.6	1221
SVE-2	12/13/95	-	**< 200**	231	< 200	202	< 1	**9.50**	21.4	5820
	02/20/96	< 500	**133**	191	< 2	72	2	**9.05**	22.0	4750

Notes:
Values exceeding NMWQCC standards are shown in bold type

Table 3. Summary of Ground Water Analyses - Inorganics
TW Bell Lake Gas Plant

Well	Sampling Date	TDS (mg/L)	Alk., total (mg/L)	Major Ions (mg/L)									Metals (mg/L)										
				Chloride	Sulfate	Sulfite	N-Nitrate	N-Nitrite	Calcium	Magnesium	Potassium	Sodium	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Manganese	Selenium	Silver	Zinc
NMWQCC Standard		1000	none	250	600	none	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.002	0.2	0.05	0.05	10
MW-1	12/07/94	**7100**	-	-	140	-	.06[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/31/95	**5800**	1290	**2620**	78.3	2.0	0.37	0.04	62.7	114	12.6	1400	0.07	0.32	< 0.01	< 0.01	< 0.01	0.73	< 0.03	< 0.0002	**0.28**	< 0.04	< 0.01	< 0.03
	12/14/95	**5640**	-	**2500**	176	3.0	**30**	0.02	34.3	75.8	9.48	2400	-	-	-	-	-	-	-	-	-	-	-	-
	02/21/96	**5050**	-	**2450**	155	< 0.50	< 0.05	0.04	35.8	112	11.7	1550	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**5610**	-	**2350**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	**5090**	-	**2050**	-	-	-	-	-	-	-	-	< 0.03	0.30	< 0.01	< 0.01	0.01	**1.7**	< 0.03	< 0.0002	0.10	< 0.04	< 0.01	0.12
	02/25/98	**5700**	-	**2140**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	10/19/93	**9200**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/07/94	**2600**	-	-	51	-	<0.05[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/31/95	**1500**	445	**512**	73.6	0.50	< 0.10	0.01	79.8	43.1	5.4	195	0.06	0.22	< 0.01	< 0.01	0.02	**3.7**	< 0.03	< 0.0002	**0.67**	< 0.04	< 0.01	0.04
	12/14/95	**1420**	-	**470**	89	< 1	**10**	0.02	132	46.2	5.89	3060	-	-	-	-	-	-	-	-	-	-	-	-
	02/20/96	940	-	214	95.5	< 0.50	< 0.05	< 0.01	85.7	44.8	5.75	216	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**1040**	-	**325**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/08/97	986	-	**280**	-	-	-	-	-	-	-	-	< 0.03	0.44	< 0.01	< 0.01	< 0.01	**2.3**	< 0.03	< 0.0002	**0.38**	< 0.04	< 0.01	0.03
	02/25/98	**1020**	-	**353**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	10/20/93	**1500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	12/07/94	320	-	-	31	-	3.6[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/31/95	380	210	14.5	43.4	0.50	3.3	< 0.01	54.7	17.6	7.1	20.5	< 0.03	0.21	< 0.01	< 0.01	< 0.01	0.22	< 0.03	< 0.0002	< 0.01	< 0.04	< 0.01	< 0.03
	12/14/95	334	-	17.0	35	< 1.0	6.7	0.01	68	15.8	6.69	20.6	-	-	-	-	-	-	-	-	-	-	-	-
	02/20/96	346	-	20.0	32.1	< 0.50	2.92	< 0.01	64.9	19.6	7.6	67.4	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	368	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	380	-	10	-	-	-	-	-	-	-	-	< 0.03	0.21	< 0.01	< 0.01	< 0.01	**1.0**	< 0.03	< 0.0002	0.03	< 0.04	< 0.01	0.06
	02/25/98	330	-	13.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-4	12/07/94	**4700**	-	-	70	-	<0.05[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/31/95	**5200**	2180	**1700**	104	17.5	< 0.10	< 0.01	< 0.10	0.76	4.9	1650	**0.33**	0.23	< 0.01	< 0.01	< 0.01	0.11	< 0.03	< 0.0002	0.03	< 0.04	< 0.01	< 0.03
	12/13/95	**6600**	-	**1900**	90	21.0	**103**	< 0.01	74.2	4.25	6.15	1880	-	-	-	-	-	-	-	-	-	-	-	-
	02/21/96	**3450**	-	**1010**	35.7	20.0	< 0.05	< 0.01	10.6	2.02	4.84	1210	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**4380**	-	**1110**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-5	12/07/94	**9500**	-	-	49	-	<0.05[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/31/95	**7400**	1690	**4070**	12.4	4.5	< 0.10	0.01	4.8	2.0	13.8	2690	**0.14**	0.88	< 0.01	< 0.01	0.01	0.13	< 0.03	< 0.0002	0.02	< 0.04	< 0.01	< 0.03
	12/12/95	**7580**	-	**3650**	24	3.0	**53**	0.06	6.13	1.98	11.8	2590	-	-	-	-	-	-	-	-	-	-	-	-
	02/21/96	**8050**	-	**4050**	17.9	< 0.50	< 0.05	1.45	22.2	2.79	12.6	3100	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**6980**	-	**3300**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	**8370**	-	**1450**	-	-	-	-	-	-	-	-	< 0.03	0.94	< 0.01	< 0.01	< 0.01	0.93	< 0.03	< 0.0002	0.01	< 0.04	< 0.01	0.29
	02/25/98	**7300**	-	**3480**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3. Summary of Ground Water Analyses - Inorganics
TW Bell Lake Gas Plant

Well	Sampling Date	TDS (mg/L)	Alk., total (mg/L)	Major Ions (mg/L)									Metals (mg/L)										
				Chloride	Sulfate	Sulfite	N-Nitrate	N-Nitrite	Calcium	Magnesium	Potassium	Sodium	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Manganese	Selenium	Silver	Zinc
NMWQCC Standard		1000	none	250	600	none	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.002	0.2	0.05	0.05	10
MW-6	12/07/94	**4700**	-	-	150	-	<0.05[a]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	05/31/95	**5400**	1070	**2670**	78.3	2.5	0.59	0.04	11.1	4.6	14.4	1320	**0.33**	0.36	< 0.01	< 0.01	< 0.01	0.25	< 0.03	< 0.0002	0.04	< 0.04	< 0.01	< 0.03
	12/12/95	**4770**	-	**2500**	92	2.0	**44.2**	0.03	68.8	11.8	17	1560	-	-	-	-	-	-	-	-	-	-	-	-
	02/20/96	**4830**	-	**2500**	85.9	< 0.50	< 0.50	< 0.01	26.6	10.5	18.1	1500	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**4050**	-	**2200**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	**5040**	-	**2220**	-	-	-	-	-	-	-	-	**0.39**	0.57	< 0.01	< 0.01	< 0.01	0.98	< 0.03	< 0.0002	0.03	< 0.04	< 0.01	< 0.03
	02/25/98	**5280**	-	**2540**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	12/13/95	**4040**	-	**2150**	88	2.0	**17.5**	0.023	419	155	31.2	954	-	-	-	-	-	-	-	-	-	-	-	-
	02/20/96	**4490**	-	**2500**	60.9	< 0.50	< 0.50	< 0.01	499	193	29.3	745	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**4350**	-	**2100**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/08/97	**6260**	-	**2200**	-	-	-	-	-	-	-	-	< 0.03	**1.5**	< 0.01	< 0.01	0.04	**3.1**	< 0.03	< 0.0002	**6.7**	**0.19**	< 0.01	0.15
	02/24/98	**4470**	-	**1810**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	12/12/95	**2840**	-	**1140**	71	2.0	**24.5**	0.07	66.3	13	15.8	979	-	-	-	-	-	-	-	-	-	-	-	-
	02/21/96	**2530**	-	**790**	10.2	< 0.50	< 0.50	< 0.01	50.4	13.2	14.5	873	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**3050**	-	**825**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	**4910**	-	**1420**	-	-	-	-	-	-	-	-	**0.29**	0.63	< 0.01	< 0.01	0.02	**4.2**	< 0.03	< 0.0002	0.10	< 0.04	< 0.01	0.90
	02/26/98	**2730**	-	**800**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Dup (MW-13)	02/26/98	**2950**	-	**887**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-9	12/12/95	**11700**	-	**4500**	7	3.0	**38.3**	< 0.01	388	168	32	3030	-	-	-	-	-	-	-	-	-	-	-	-
	02/21/96	**11000**	-	**4200**	< 5.0	< 0.50	< 0.50	0.02	201	118	28.9	3740	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	**10800**	-	**4750**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	**11400**	-	**4450**	-	-	-	-	-	-	-	-	< 0.03	**14.7**	< 0.01	< 0.01	< 0.01	**4.8**	< 0.03	< 0.0002	0.18	**0.20**	< 0.01	0.20
	02/25/98	**10900**	-	**5730**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	01/09/98	**5930**	-	**3600**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/25/98	**9150**	-	**3860**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-11	01/10/98	**6760**	-	**3500**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/25/98	**10800**	-	**4650**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-12	01/10/98	413	-	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	02/24/98	362	-	77.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 3. Summary of Ground Water Analyses - Inorganics
TW Bell Lake Gas Plant

Well	Sampling Date	TDS (mg/L)	Alk., total (mg/L)	Major Ions (mg/L)									Metals (mg/L)										
				Chloride	Sulfate	Sulfite	N-Nitrate	N-Nitrite	Calcium	Magnesium	Potassium	Sodium	Arsenic	Barium	Cadmium	Chromium	Copper	Iron	Lead	Mercury	Manganese	Selenium	Silver	Zinc
NMWQCC Standard		1000	none	250	600	none	10	none	none	none	none	none	0.1	1.0	0.01	0.05	1.0	1.0	0.05	0.002	0.2	0.05	0.05	10
Water Well	05/31/95	900	144	100	356	0.50	< 0.10	< 0.01	38.7	23.2	5.3	194	0.02	0.02	< 0.01	< 0.01	< 0.01	0.39	< 0.03	< 0.0002	0.01	< 0.04	< 0.01	< 0.03
	12/14/95	825	-	106	345	< 1.0	1.7	< 0.01	38	22.2	5.32	186	-	-	-	-	-	-	-	-	-	-	-	-
	02/21/96	402	-	107	343	< 0.50	< 0.50	< 0.01	44.9	26.1	5.82	221	-	-	-	-	-	-	-	-	-	-	-	-
	02/08/97	854	-	109	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	08/09/97	840	-	**500**	-	-	-	-	-	-	-	-	< 0.03	< 0.01	< 0.01	< 0.01	< 0.01	0.66	< 0.03	< 0.0002	0.02	< 0.04	< 0.01	0.19
	02/26/98	850	-	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SVE-2	12/13/95	**2670**	-	**1500**	43	3.0	**31.9**	0.03	317	25.2	26.8	1720	-	-	-	-	-	-	-	-	-	-	-	-
	02/20/96	**2410**	-	**495**	33.5	< 0.50	< 0.50	0.01	66.5	56.6	25	1390	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
a - Nitrate + Nitrite

Table 4. Summary of SVE Emissions at Individual Extraction Points
TW Bell Lake Gas Plant

SVE Well	Date	PID Reading	Gasoline Range VOCs		< C5	C5-C6	C6-C7	C7-C8	C8-C9	C9-C10	C10-C11	C11-C12	C12-C14	C14+
		(ppmv)	(ug/L)	(ppmv) [a]	(%)									
SVE-1	08/13/96	>2000	15,000	3,726	0.0	18.2	43.1	22.7	13.7	2.1	0.2	0.0	0.0	0.0
	02/08/97	>2000	650	161	0.0	8.3	29.1	56.6	5.5	0.4	0.1	0.0	0.0	0.0
	08/10/97	na	6,000	1,490	0.0	0.4	3.1	21.2	31.9	34.2	7.5	1.5	0.1	0.1
	01/09/98	na	6,400	1,590	0.0	0.9	5.2	17.6	32.7	28.9	12.4	2.1	0.2	0.0
SVE-2	08/13/96	>2000	9,000	2,236	0.3	13.9	39.1	25.4	17.2	3.9	0.2	0.0	0.0	0.0
	02/08/97	>2000	630	156	0.0	1.9	25.4	61.7	9.1	1.3	0.0	0.1	0.3	0.2
	01/09/98	na	3,900	969	0.0	0.0	3.8	19.6	33.5	27.9	12.3	2.5	0.3	0.1
SVE-3	08/13/96	>2000	4,700	1,167	0.6	19.3	29.2	22.9	19.6	7.4	0.7	0.1	0.2	0.0
	02/08/97	>2000	800	199	0.0	2.0	27.8	61.3	8.1	0.8	0.0	0.0	0.0	0.0
	08/10/97	na	3,300	820	0.0	0.2	2.4	34.2	29.6	21.0	8.8	3.3	0.5	0.0
	01/09/98	na	1,400	348	0.0	0.0	1.4	17.6	28.6	24.8	18.6	7.3	1.7	0.0
SVE-4	01/09/98	na	5,300	1,317	0.0	1.3	10.4	31.3	25.2	19.2	9.4	2.7	0.5	0.0
SVE-7	01/09/98	na	4,100	1,018	0.0	0.1	2.6	25.9	38.2	23.2	7.1	2.2	0.7	0.0
MW-4	01/09/98	na	1,200	298	0.0	0.5	5.6	20.2	24.5	23.5	16.6	6.6	2.3	0.2
SVE-Total	08/10/97	na	2,800	696	0.0	0.2	3.1	21.8	31.0	30.4	9.4	3.4	0.7	0.0
	01/09/98	na	4,000	994	0.0	0.2	4.1	19.7	32.7	26.8	12.6	3.2	0.7	0.0

All air samples analyzed by Hall Laboratory of Albuquerque, NM
PID = Photoionization detector
[a] Conversion Factor:
P = 0.88 atm, MW = 110 g/mole, R = 0.08205 L*atm/(K*mole), T = 293°K
C ppmv = C ug/L * ((R * T)/(MW*P))
C ppmv = C ug/L * 0.2484

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #1

Soil Boring and Completion Details for new SVE and Monitor Wells

WELL #	DATE	HARD STREAK @	AQUIFER SAND	AQUITARD	T.D.	SCREEN INTERVAL	TOP OF SAND	TOP OF BENTONITE
SVE #4	11/8/97	36'-38'	90 FEET	98 FEET	100.5'	100.5' - 85.5'	83.5'	80.0'
SVE # 5	11/9/97	36'-38.5'	89 FEET	96 FEET	100'	100'-85'	83'	80'
SVE # 6	11/11/97	32'-36'	89 FEET	98 FEET	100'	100'-85'	83'	80'
SVE #7	11/12/97	42'-44'	89 FEET	97.5 FEET	98'	98'-83'	81'	78'

CM BARNHILL
GEOLOGIST

SPLIT SPOON SAMPLES ON
MONITOR WELLS 4 AND 7
AT 95'-97' AND 100'-102'
(AQUIFER SAND AND AQUITARD)

FINE GRAINED SAND AND CALICHE TO 50 FEET
MEDIUM GRAINED WELL SORTED RED SAND
FROM 50 FEET TO TD IN ALL WELLS
HARD ZONE AROUND 36 FEET IN MOST WELLS
IS CALCIUM CEMENTED SILTSTONE.

DRILLING LOG SUMMARY
BELL LAKE PLANT
MONITOR WELLS 10-12

WELL #	DATE	HARD STREAK @	AQUIFER SAND	AQUITARD	T.D.	SCREEN INTERVAL	TOP OF SAND	TOP OF BENTONITE
MW 10	1/6/98	40.5'-42.5	89.9' FEET	Unknown	100'	100.0' - 80.0'	78'	75.0'
MW 11	1/7/98	32.8'-34.8"	87.4' FEET	Unknown	100'	100.0' - 80.0'	78'	75.0'
MW 12	1/8/98	37.3'-39.3'	87.2' FEET	98.5' FEET	100'	100.0' - 80.0'	78'	75.0'

CM BARNHILL
GEOLOGIST

SPLIT SPOON SAMPLES ON
MONITOR WELL 12
AT 95'-97' AND 100'-102'
(AQUIFER SAND AND AQUITARD)

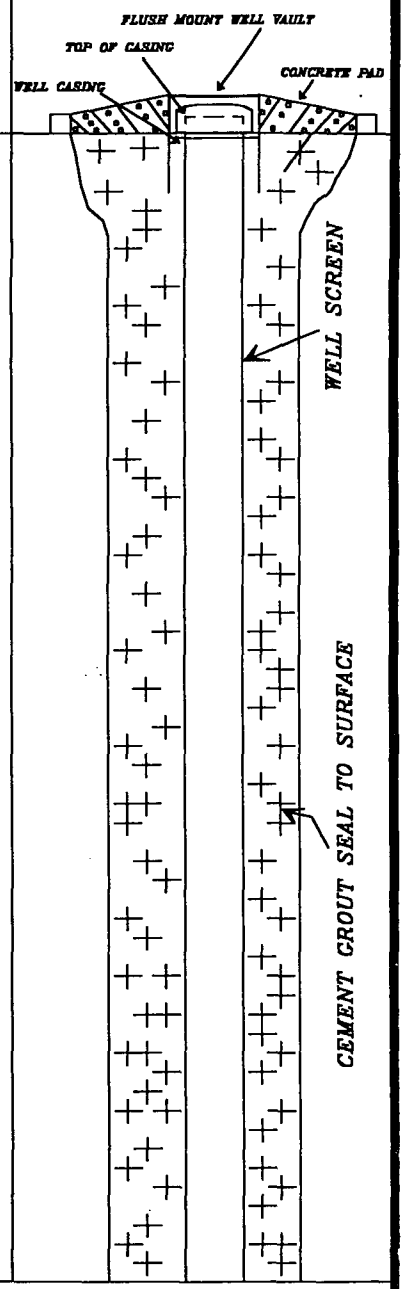
FINE GRAINED SAND AND CALICHE TO 50 FEET
MEDIUM GRAINED WELL SORTED RED SAND
FROM 50 FEET TO TD IN ALL WELLS
HARD ZONE AROUND 36 FEET IN MOST WELLS
IS CALCIUM CEMENTED SILTSTONE.

Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility MONITOR WELL # 10	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
0	SM	0'–45': Light Tan Caliche, mixed with tan to white fine grained well sorted sandstone with little or no moisture.						NO	0		
5									5		
10									10		
15									15		
20									20		
25									25		
30		At 40.5', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone.							30		
35		51'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist. Water @ 88.90'? T.D. 100.0' Screened Interval 100–80.0' 10/20 Sand Filter Pack 100'–78' Bentonite Seal 78' –75' Cement Grout to Surface.							35		
40									40		
45									45		
50									50		
55									55		
60									60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 1/06/98 Well No.: MW-10

Size: 41/4" I.D., 8" O.D, Hollow Stem Auger, Casing 2" Schedule 40 PVC Top of Casing Elevation: Unknown

Comments: Monitor Well 10 was drilled in compliance with NMED Regulations.

Driller: Geo Projects International, Amador Hinojosa Driller Logged By: C.M. Barnhill, CPG 7145

REMARKS:

CMB Environmental & Geological

FIGURE NO.

Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility Monitor Well #10	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70 80 90 100	SM	51'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @88.90' Screened Interval 100'–80' 16/30 Sand Filter Pack 100'–78' Bentonite Seal 78'–75' Cement Grout to Surface. T.D. 100.0'				Very Moist @ 88'		NO

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL

70 80 90 100

T.D. 100.0'

Water@88.9'

Cement Grout to Surface
0.010 Slotted Screen
16/30 Sand Filter Pack
Bentonite Seal

REMARKS: Page 2 of Monitor Well # 10

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ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

FIGURE NO.
2 of 2

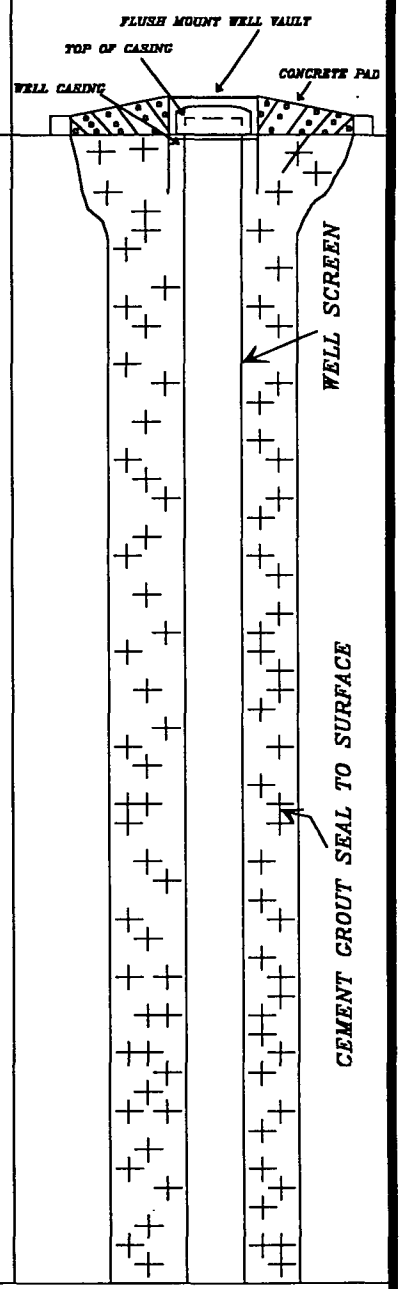
Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility MONITOR WELL # 11	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
0	SM	0'–35': Light Tan Caliche, mixed with tan to white fine grained well sorted sandstone with little or no moisture.						NO
5								
10								
15								
20								
25								
30		At 32.8', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone.						
35		35'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist. Water @ 87.40'? T.D. 100.0' Screened Interval 100–80.0' 10/20 Sand Filter Pack 100'–78' Bentonite Seal 78' –75' Cement Grout to Surface.						
40								
45								
50								
55								
60								

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 1/07/98 Well No.: MW-11

Size: 41/4" I.D., 8" O.D, Hollow Stem Auger, Casing 2" Schedule 40 PVC Top of Casing Elevation: Unknown

Comments: Monitor Well 11 was drilled in compliance with NMED Regulations.

Driller: Geo Projects International, Amador Hinojosa Driller Logged By: C.M. Barnhill, CPG 7145

REMARKS:

CMB Environmental & Geological

FIGURE NO.

1 OF 2

Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

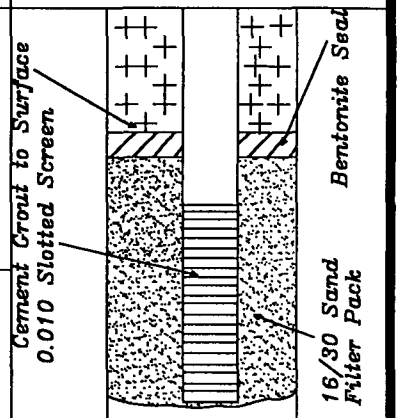
DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility Monitor Well #11	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70 80 90 100	SM	35'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @87.40' Screened Interval 100'–80' 16/30 Sand Filter Pack 100'–78' Bentonite Seal 78'–75' Cement Grout to Surface. T.D. 100.0'				Very Moist @ 88'		NO

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL

70 | 80 | 90 | 100

T.D. 100.0'

Water @ 87.4'



REMARKS: Page 2 of Monitor Well # 11

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ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

FIGURE NO.
2 of 2

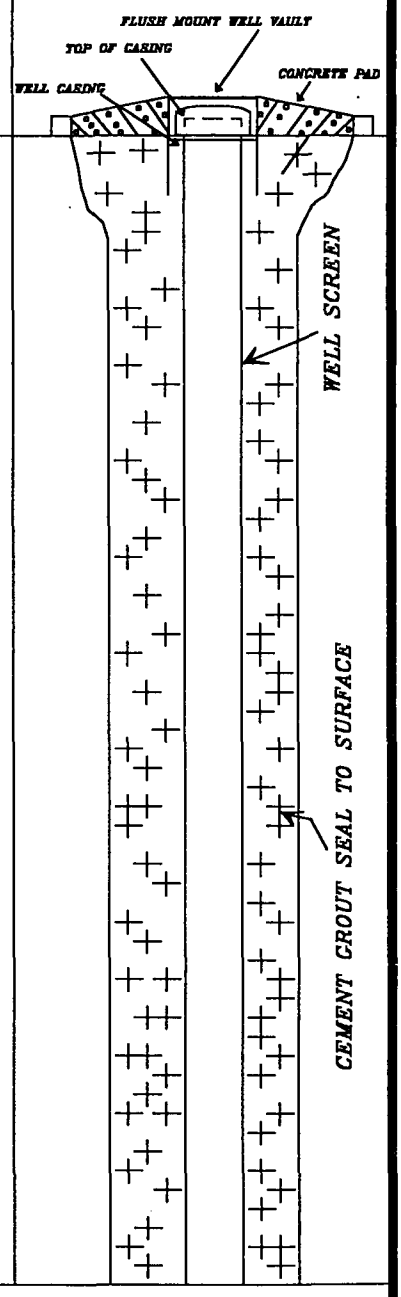
Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility MONITOR WELL # 12	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
0	SM	0'–37.3': Light Tan Caliche, mixed with tan to white fine grained well sorted sandstone with little or no moisture.						NO
5								
10								
15								
20								
25								
30		At 37.3', 2' thick calcite cemented Sandstone layer. Drilling is harder. Sand is white to tan well sorted fine grained sandstone.						
35		41'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist. Water @ 87.20'? T.D. 100.0' Screened Interval 100–80.0' 10/20 Sand Filter Pack 100'–78' Bentonite Seal 78' –75' Cement Grout to Surface.						
40								
45								
50								
55								
60								

DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
0		
5		
10		
15		
20		
25		
30		
35		
40		
45		
50		
55		
60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 1/08/98 Well No.: MW-12

Size: 41/4" I.D., 8" O.D. Hollow Stem Auger Casing 2" Schedule 40 PVC Top of Casing Elevation: Unknown

Comments: Monitor Well 12 was drilled in compliance with NMED Regulations.

Driller: Geo Projects International, Amador Hinojosa Driller Logged By: C.M. Barnhill, CPG 7145

REMARKS:

CMB Environmental & Geological

FIGURE NO.

1 OF 2

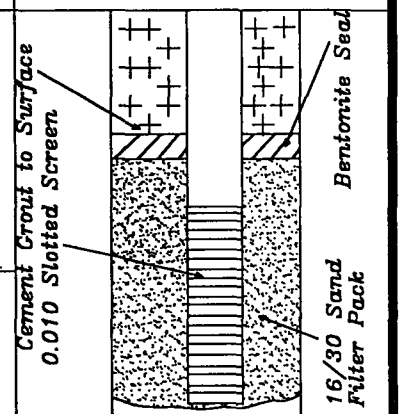
Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL (USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility Monitor Well #12	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70	SM	41'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @87.20'				Very Moist @ 88'		NO
80		Screened Interval 100'–80' 16/30 Sand Filter Pack 100'–78' Bentonite Seal 78'–75' Cement Grout to Surface. T.D. 100.0'						
90		Sampled with Split Spoon 95'–97' 104 SPT Blows Aquitard at 98.5' feet Hard drilling red fine grained clayey sandstone layer		104				
100		Sampled with Split Spoon 100'–102' 290 SPT Blows		290				

DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
70		
80		
90		▽ Water@87.2'
100	T.D. 100.0'	



REMARKS: Page 2 of Monitor Well # 12

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ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

FIGURE NO.
2 of 2

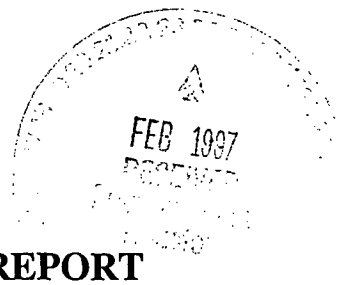
Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #2

Laboratory Reports for the February 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

02/18/1997

EPIC Job Number: 97.00403

Project Description:
Job Description: Bell Lake

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
328330	MW-3	02/07/1997	12:00	02/11/1997
328331	MW-1	02/09/1997	10:30	02/11/1997
328332	MW-2	02/09/1997	09:50	02/11/1997
328333	MW-4	02/09/1997	12:45	02/11/1997
328334	MW-5	02/09/1997	13:55	02/11/1997
328335	MW-6	02/09/1997	14:30	02/11/1997
328336	MW-7	02/09/1997	11:15	02/11/1997
328337	MW-8	02/09/1997	13:20	02/11/1997
328338	MW-9	02/09/1997	15:00	02/11/1997
328339	Water Well	02/09/1997	15:20	02/11/1997
328340	Trip Blank			02/11/1997

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.

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328330

Project Description:
Job Description: Bell Lake

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		15	mg/L	S-9252		02/13/1997	cgl		746	5.0
Total Dissolved Solids		368	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Ethylbenzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Toluene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Xylenes, Total		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
: a,a,a-TFT		92	% Rec	S-8020M		02/13/1997	zst		2713	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328331

Project Description:
Job Description: Bell Lake

Sample Description: MW-1

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2350	mg/L	S-9252		02/13/1997	cgl		746	5.0
Total Dissolved Solids		5610	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		11	ug/L	S-8020M		02/17/1997	zst		2715	2
Ethylbenzene		11	ug/L	S-8020M		02/17/1997	zst		2715	2
Toluene		13	ug/L	S-8020M		02/17/1997	zst		2715	2
Xylenes, Total		14	ug/L	S-8020M		02/17/1997	zst		2715	2
a,a,a-TFT		91	% Rec	S-8020M		02/17/1997	zst		2715	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328332

Project Description:
Job Description: Bell Lake

Sample Description: MW-2

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		325	mg/L	S-9252		02/13/1997	cgl		746	5.0
Total Dissolved Solids		1040	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Ethylbenzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Toluene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Xylenes, Total		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
a,a,a-TFT		93	% Rec	S-8020M		02/13/1997	zst		2713	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328333

Project Description:
Job Description: Bell Lake

Sample Description: MW-4

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		1110	mg/L	S-9252		02/13/1997	cgl		746	5.0
Total Dissolved Solids		4380	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		240	ug/L	S-8020M		02/14/1997	zst		2718	100
Ethylbenzene	EDL	<100	ug/L	S-8020M		02/14/1997	zst		2718	100
Toluene		1000	ug/L	S-8020M		02/14/1997	zst		2718	100
Xylenes, Total		1200	ug/L	S-8020M		02/14/1997	zst		2718	100
a,a,a-TFT		113	% Rec	S-8020M		02/14/1997	zst		2718	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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328334

Project Description:
Job Description: Bell Lake

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		3300	mg/L	S-9252		02/13/1997	cgl		746	5.0
Total Dissolved Solids		6980	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		75	ug/L	S-8020M		02/14/1997	zst		2718	5
Ethylbenzene		26	ug/L	S-8020M		02/14/1997	zst		2718	5
Toluene		60	ug/L	S-8020M		02/14/1997	zst		2718	5
Xylenes, Total		140	ug/L	S-8020M		02/14/1997	zst		2718	5
a,a,a-TFT		123	% Rec	S-8020M		02/14/1997	zst		2718	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328335

Project Description:
Job Description: Bell Lake

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2200	mg/L	S-9252		02/13/1997	cgl		747	5.0
Total Dissolved Solids		4050	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		24	ug/L	S-8020M		02/17/1997	zst		2715	2
Ethylbenzene		11	ug/L	S-8020M		02/17/1997	zst		2715	2
Toluene		22	ug/L	S-8020M		02/17/1997	zst		2715	2
Xylenes, Total		75	ug/L	S-8020M		02/17/1997	zst		2715	2
[redacted] a,a,a-TFT		83	% Rec	S-8020M		02/17/1997	zst		2715	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328336

Project Description:
Job Description: Bell Lake

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2100	mg/L	S-9252		02/13/1997	cgl		747	5.0
Total Dissolved Solids		4350	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Ethylbenzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Toluene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Xylenes, Total		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
: a,a,a-TFT		107	% Rec	S-8020M		02/13/1997	zst		2713	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328337

Project Description:
Job Description: Bell Lake

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		825	mg/L	S-9252		02/13/1997	cgl		747	5.0
Total Dissolved Solids		3050	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		98	ug/L	S-8020M		02/14/1997	zst		2718	2
Ethylbenzene		8	ug/L	S-8020M		02/14/1997	zst		2718	2
Toluene		210	ug/L	S-8020M		02/14/1997	zst		2718	2
Xylenes, Total		130	ug/L	S-8020M		02/14/1997	zst		2718	2
[redacted] a,a,a-TFT		114	% Rec	S-8020M		02/14/1997	zst		2718	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328338

Project Description:
Job Description: Bell Lake

Sample Description: MW-9

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		4750	mg/L	S-9252		02/13/1997	cgl		747	5.0
Total Dissolved Solids		10800	mg/L	E-160.1		02/11/1997	cgl		683	5
EPA-8020 AQ (PRESERVED)										
Benzene		250	ug/L	S-8020M		02/14/1997	zst		2718	100
Ethylbenzene	EDL	<100	ug/L	S-8020M		02/14/1997	zst		2718	100
Toluene		480	ug/L	S-8020M		02/14/1997	zst		2718	100
Xylenes, Total		930	ug/L	S-8020M		02/14/1997	zst		2718	100
[redacted]: a,a,a-TFT		108	% Rec	S-8020M		02/14/1997	zst		2718	60-125

[redacted]- 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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328339

Project Description:
Job Description: Bell Lake

Sample Description: Water Well

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		109	mg/L	S-9252		02/13/1997	cgl		747	5.0
Total Dissolved Solids		854	mg/L	E-160.1		02/13/1997	cgl		684	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Ethylbenzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Toluene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Xylenes, Total		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
S[redacted] a,a,a-TFT		92	% Rec	S-8020M		02/13/1997	zst		2713	60-125

ANALYTICAL RESULTS REPORT

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

02/18/1997

EPIC Job Number: 97.00403
Sample Number: 328340

Project Description:
Job Description: Bell Lake

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		02/13/1997	zst		2713	2
Ethylbenzene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Toluene		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
Xylenes, Total		<2	ug/L	S-8020M		02/13/1997	zst		2713	2
SURR: a,a,a-TFT		98	% Rec	S-8020M		02/13/1997	zst		2713	60-125

QUALITY CONTROL REPORT
BLANKS

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

02/18/1997

EPIC Job Number: 97.00403

Project Description:
Job Description: Bell Lake

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Chloride		<5.0	mg/L	5.0	02/13/1997		746
Chloride		<5.0	mg/L	5.0	02/13/1997		747
Total Dissolved Solids		<5	mg/L	5	02/11/1997		683
Total Dissolved Solids		<5	mg/L	5	02/13/1997		684
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	02/13/1997		2713
Ethylbenzene		<2	ug/L	2	02/13/1997		2713
Toluene		<2	ug/L	2	02/13/1997		2713
Xylenes, Total		<2	ug/L	2	02/13/1997		2713
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	02/17/1997		2715
Ethylbenzene		<2	ug/L	2	02/17/1997		2715
Toluene		<2	ug/L	2	02/17/1997		2715
Xylenes, Total		<2	ug/L	2	02/17/1997		2715
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	02/14/1997		2718
Ethylbenzene		<2	ug/L	2	02/14/1997		2718
Toluene		<2	ug/L	2	02/14/1997		2718
Xylenes, Total		<2	ug/L	2	02/14/1997		2718

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

02/18/1997

EPIC Job Number: 97.00403

Project Description:
Job Description: Bell Lake

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	20	100.0	02/13/1997	2713
Ethylbenzene		20	ug/L	23	115.0	02/13/1997	2713
Toluene		20	ug/L	22	110.0	02/13/1997	2713
Xylenes, Total		60	ug/L	69	115.0	02/13/1997	2713
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	16	80.0	02/17/1997	2715
Ethylbenzene		20	ug/L	20	100.0	02/17/1997	2715
Toluene		20	ug/L	16	80.0	02/17/1997	2715
Xylenes, Total		60	ug/L	58	96.7	02/17/1997	2715
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	19	95.0	02/14/1997	2718
Ethylbenzene		20	ug/L	18	90.0	02/14/1997	2718
Toluene		20	ug/L	22	110.0	02/14/1997	2718
Xylenes, Total		60	ug/L	55	91.7	02/14/1997	2718

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

02/18/1997

EPIC Job Number: 97.00403

Project Description:
Job Description: Bell Lake

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	880	400	1260	95.0	400	1230	87.5	8.2	02/13/1997		746
Chloride		mg/L	3300	2000	5450	107.5	2000	5400	105.0	2.4	02/13/1997		746
Chloride		mg/L	109	40.0	151	105.0	40.0	150	102.5	2.4	02/13/1997		747
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	35	20	62	135.0	20	64	145.0	7.1	02/17/1997		2715
Ethylbenzene		ug/L	<2	20	23	115.0	20	25	125.0	8.3	02/17/1997		2715
Toluene		ug/L	<2	20	22	110.0	20	22	110.0	0.0	02/17/1997		2715
Xylenes, Total		ug/L	<2	40	45	112.5	40	50	125.0	10.5	02/17/1997		2715
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	20	20	44	120.0	20	46	130.0	8.0	02/14/1997		2718
Ethylbenzene		ug/L	10	20	34	120.0	20	33	115.0	4.3	02/14/1997		2718
Toluene		ug/L	17	20	43	130.0	20	45	140.0	7.4	02/14/1997		2718
Xylenes, Total		ug/L	70	40	120	125.0	40	120	125.0	0.0	02/14/1997		2718

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

02/18/1997

EPIC Job Number: 97.00403

Project Description:
Job Description: Bell Lake

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	1150	1150	0.0	02/11/1997		683
Total Dissolved Solids		mg/L	1150	1180	2.6	02/11/1997		683
Total Dissolved Solids		mg/L	1250	1230	1.6	02/13/1997		684
Total Dissolved Solids		mg/L	4550	4590	0.9	02/13/1997		684
Total Dissolved Solids		mg/L	3890	3880	0.3	02/13/1997		684

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

02/18/1997

EPIC Job Number: 97.00403

Project Description:
Job Description: Bell Lake

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		746	1000	mg/L	1020	102.0					02/13/1997
Chloride		747	1000	mg/L	1000	100.0					02/13/1997
Total Dissolved Solids		683	2000	mg/L	2010	100.5					02/11/1997
Total Dissolved Solids		684	2000	mg/L	2020	101.0					02/13/1997
EPA-8020 AQ (PRESERVED)											
[illegible]zene		2713	20	ug/L	28	140.0	28	140.0	0.0		02/13/1997
[illegible]hylbenzene		2713	20	ug/L	19	95.0	22	110.0	14.5		02/13/1997
Toluene		2713	20	ug/L	28	140.0	28	140.0	0.0		02/13/1997
Xylenes, Total		2713	40	ug/L	44	110.0	40	100.0	9.5		02/13/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2715	20	ug/L	24	120.0					02/17/1997
Ethylbenzene		2715	20	ug/L	28	140.0					02/17/1997
Toluene		2715	20	ug/L	24	120.0					02/17/1997
Xylenes, Total		2715	40	ug/L	55	137.5					02/17/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2718	20	ug/L	21	105.0	23	115.0	9.1		02/14/1997
Ethylbenzene		2718	20	ug/L	20	100.0	21	105.0	4.9		02/14/1997
Toluene		2718	20	ug/L	23	115.0	26	130.0	12.2		02/14/1997
Xylenes, Total		2718	40	ug/L	42	105.0	43	107.5	2.4		02/14/1997

[illegible]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) 646-7327 FAX 7864
PROJECT NAME/LOCATION BELL LAKE
PROJECT NUMBER
PROJECT MANAGER

ENRON OPERATIONS CORP
REPORT TO: ATTN: Room 3AC3122
INVOICE TO: P.O. BOX 1188
HOUSTON TX 77251
P.O. NO.
ATTN: GEORGE ROBINSON
EPIC QUOTE NO.

SAMPLED BY
SANDY SHARP / C. BARNHILL (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)	CHLORIDE (325.2)	TDS (160.1)
2/7/97	1700	MW-3	A	X		2/6				1/P	X	X	X
2/8/97	1030	MW-1											
	0950	MW-2											
	1245	MW-4											
	1355	MW-5											
	1430	MW-6											
	1115	MW-7											
	1320	MW-8											
	1500	MW-9											
	1530	WATER WELL											
		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

97.00403

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 4°C
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS SS
DATE 2/8/97

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
[signature]	2/10/97	14:00			2/11/97	955	Barbara Walker

METHOD OF SHIPMENT: FED EX
REMARKS:

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #3

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

08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

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
337722	MW-1	08/09/1997	10:55	08/12/1997
337723	MW-3	08/09/1997	09:15	08/12/1997
337724	MW-5	08/09/1997	13:30	08/12/1997
337725	MW-6	08/09/1997	12:50	08/12/1997
337726	MW-9	08/09/1997	14:35	08/12/1997
337727	MW-8	08/09/1997	14:00	08/12/1997
337728	Water Well	08/09/1997	15:20	08/12/1997
337729	Drum Sampling Event 2/8/97	08/09/1997	15:20	08/12/1997

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

ANALYTICAL RESULTS REPORT

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

08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337722

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-1

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2050	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1701	0.03
Barium		0.30	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Copper		0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1753	0.01
Iron		1.7	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1771	0.03
[illegible]nese		0.10	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1737	0.01
M[illegible]ury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1422	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.12	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1758	0.03
Total Dissolved Solids		5090	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		14	ug/L	S-8020M		08/14/1997	zst		2845	2
Ethylbenzene		12	ug/L	S-8020M		08/14/1997	zst		2845	2
Toluene		14	ug/L	S-8020M		08/14/1997	zst		2845	2
Xylenes, Total		12	ug/L	S-8020M		08/14/1997	zst		2845	2
SURR: a,a,a-TFT		95	% Rec	S-8020M		08/14/1997	zst		2845	60-125

ANALYTICAL RESULTS REPORT

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

08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337723

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-3

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		10	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1701	0.03
Barium		0.21	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1753	0.01
Iron		1.0	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1771	0.03
[redacted]anese		0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1737	0.01
[redacted]ury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1422	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.06	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1758	0.03
Total Dissolved Solids		380	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
Ethylbenzene		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
Toluene		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
Xylenes, Total		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
SURR: a,a,a-TFT		119	% Rec	S-8020M		08/13/1997	zst		2843	60-125

ANALYTICAL RESULTS REPORT

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08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337724

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-5

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		1450	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1701	0.03
Barium		0.94	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1753	0.01
Iron		0.93	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1771	0.03
[illegible]anese		0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1737	0.01
[illegible]ury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1422	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.29	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1758	0.03
Total Dissolved Solids		8370	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		140	ug/L	S-8020M		08/14/1997	zst		2845	20
Ethylbenzene		47	ug/L	S-8020M		08/14/1997	zst		2845	20
Toluene		110	ug/L	S-8020M		08/14/1997	zst		2845	20
Xylenes, Total		370	ug/L	S-8020M		08/14/1997	zst		2845	20
SURR: a,a,a-TFT		88	% Rec	S-8020M		08/14/1997	zst		2845	60-125

ANALYTICAL RESULTS REPORT

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08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337725

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-6

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2220	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		0.39	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1701	0.03
Barium		0.57	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1753	0.01
Iron		0.98	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1771	0.03
[illegible]nese		0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1737	0.01
M[illegible]dry, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1422	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1758	0.03
Total Dissolved Solids		5040	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		68	ug/L	S-8020M		08/14/1997	zst		2845	20
Ethylbenzene		28	ug/L	S-8020M		08/14/1997	zst		2845	20
Toluene		58	ug/L	S-8020M		08/14/1997	zst		2845	20
Xylenes, Total		150	ug/L	S-8020M		08/14/1997	zst		2845	20
SURR: a,a,a-TFT		122	% Rec	S-8020M		08/14/1997	zst		2845	60-125

ANALYTICAL RESULTS REPORT

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08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337726

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-9

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		4450	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1701	0.03
Barium		14.7	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1753	0.01
Iron		4.8	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1771	0.03
[redacted]anese		0.18	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1737	0.01
[redacted]cury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		0.20	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.20	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1758	0.03
Total Dissolved Solids		11400	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		490	ug/L	S-8020M		08/14/1997	zst		2845	100
Ethylbenzene	EDL	<100	ug/L	S-8020M		08/14/1997	zst		2845	100
Toluene		810	ug/L	S-8020M		08/14/1997	zst		2845	100
Xylenes, Total		1100	ug/L	S-8020M		08/14/1997	zst		2845	100
SURR: a,a,a-TFT		83	% Rec	S-8020M		08/14/1997	zst		2845	60-125

EDL - Elevated detection limit due to matrix interference.

ANALYTICAL RESULTS REPORT

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08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337727

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-8

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		1420	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		0.29	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1701	0.03
Barium		0.63	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Copper		0.02	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1753	0.01
Iron		4.2	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1771	0.03
[illegible]nese		0.10	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1737	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.09	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1758	0.03
Total Dissolved Solids		4910	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		430	ug/L	S-8020M		08/14/1997	zst		2845	100
Ethylbenzene	EDL	<100	ug/L	S-8020M		08/14/1997	zst		2845	100
Toluene		660	ug/L	S-8020M		08/14/1997	zst		2845	100
Xylenes, Total		610	ug/L	S-8020M		08/14/1997	zst		2845	100
SURR: a,a,a-TFT		87	% Rec	S-8020M		08/14/1997	zst		2845	60-125

EDL - Elevated detection limit due to matrix interference.

ANALYTICAL RESULTS REPORT

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08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337728

Project Description:
Job Description: TWP Bell Lake

Sample Description: Water Well

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		500	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1701	0.03
Barium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1753	0.01
Iron		0.66	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1771	0.03
[illegible]anese		0.02	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1737	0.01
[illegible]ury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.19	mg/L	S-6010A	08/13/1997	08/14/1997	cac	2107	1758	0.03
Total Dissolved Solids		840	mg/L	E-160.1		08/15/1997	cgl		747	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
Ethylbenzene		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
Toluene		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
Xylenes, Total		<2	ug/L	S-8020M		08/13/1997	zst		2843	2
SURR: a,a,a-TFT		123	% Rec	S-8020M		08/13/1997	zst		2843	60-125

ANALYTICAL RESULTS REPORT

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08/21/1997

EPIC Job Number: 97.03368
Sample Number: 337729

Project Description:
Job Description: TWP Bell Lake

Sample Description: Drum Sampling Event 2/8/97

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		08/14/1997	zst		2844	2
Ethylbenzene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Toluene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Xylenes, Total		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
SURR: a,a,a-TFT		92	% Rec	S-8020M		08/14/1997	zst		2844	60-125

QUALITY CONTROL REPORT
BLANKS

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08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Chloride		<5.0	mg/L	5.0	08/14/1997		773
Arsenic		<0.03	mg/L	0.03	08/14/1997	2107	1701
Barium		<0.01	mg/L	0.01	08/14/1997	2107	1587
Cadmium		<0.01	mg/L	0.01	08/14/1997	2107	1762
Chromium		<0.01	mg/L	0.01	08/14/1997	2107	1762
Copper		<0.01	mg/L	0.01	08/14/1997	2107	1753
Iron		<0.01	mg/L	0.01	08/14/1997	2107	1757
Lead		<0.03	mg/L	0.03	08/14/1997	2107	1771
Manganese		<0.01	mg/L	0.01	08/14/1997	2107	1737
Mercury, CVAA		<0.0002	mg/L	0.0002	08/13/1997		1422
Mercury, CVAA		<0.0002	mg/L	0.0002	08/13/1997		1423
Silver		<0.01	mg/L	0.01	08/14/1997	2107	1755
Zinc		<0.03	mg/L	0.03	08/14/1997	2107	1758
Total Dissolved Solids		<5	mg/L	5	08/15/1997		746
Total Dissolved Solids		<5	mg/L	5	08/15/1997		747
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/13/1997		2843
Ethylbenzene		<2	ug/L	2	08/13/1997		2843
Toluene		<2	ug/L	2	08/13/1997		2843
Xylenes, Total		<2	ug/L	2	08/13/1997		2843
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/14/1997		2844
Ethylbenzene		<2	ug/L	2	08/14/1997		2844
Toluene		<2	ug/L	2	08/14/1997		2844
Xylenes, Total		<2	ug/L	2	08/14/1997		2844
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/14/1997		2845
Ethylbenzene		<2	ug/L	2	08/14/1997		2845

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

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08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Toluene		<2	ug/L	2	08/14/1997		2845
Xylenes, Total		<2	ug/L	2	08/14/1997		2845

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

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P.O. Box 1188
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08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
Arsenic		4.00	mg/L	4.04	101.0	08/14/1997	1701
Barium		4.00	mg/L	4.12	103.0	08/14/1997	1587
Cadmium		4.00	mg/L	4.18	104.5	08/14/1997	1762
Chromium		4.00	mg/L	4.13	103.3	08/14/1997	1762
Copper		4.00	mg/L	3.97	99.3	08/14/1997	1753
Iron		4.00	mg/L	4.12	103.0	08/20/1997	1769
Iron		4.00	mg/L	4.11	102.8	08/20/1997	1769
Lead		4.00	mg/L	3.86	96.5	08/14/1997	1771
Manganese		4.00	mg/L	4.16	104.0	08/14/1997	1737
Mercury, CVAA		0.0050	mg/L	0.0052	104.0	08/13/1997	1422
Mercury, CVAA		0.0050	mg/L	0.0050	100.0	08/13/1997	1423
Selenium		4.00	mg/L	4.04	101.0	08/14/1997	1699
Silver		1.00	mg/L	1.02	102.0	08/14/1997	1754
Zinc		4.00	mg/L	4.00	100.0	08/14/1997	1758
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	20	100.0	08/14/1997	2843
Ethylbenzene		20	ug/L	18	90.0	08/14/1997	2843
Toluene		20	ug/L	20	100.0	08/14/1997	2843
Xylenes, Total		60	ug/L	51	85.0	08/14/1997	2843
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	19	95.0	08/14/1997	2844
Ethylbenzene		20	ug/L	24	120.0	08/14/1997	2844
Toluene		20	ug/L	22	110.0	08/14/1997	2844
Xylenes, Total		60	ug/L	67	111.7	08/14/1997	2844
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	19	95.0	08/14/1997	2845
Ethylbenzene		20	ug/L	15	75.0	08/14/1997	2845
Toluene		20	ug/L	19	95.0	08/14/1997	2845

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
CONTINUING CALIBRATION VERIFICATION STANDARD

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08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
Xylenes, Total		60	ug/L	45	75.0	08/14/1997	2845

CCVS - Continuing Calibration Verification Standard

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

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	1040	400	1490	112.5	400	1470	107.5	4.5	08/14/1997		773
Chloride		mg/L	1370	1000	2370	100.0	1000	2350	98.0	1.9	08/14/1997		773
Arsenic		mg/L	<0.03	1.00	0.89	89.0	1.00	0.97	97.0	8.6	08/14/1997	2107	1701
[illegible]nic		mg/L	<0.03	1.00	0.91	91.0	1.00	0.97	97.0	6.4	08/14/1997	2107	1701
[illegible]rium		mg/L	<0.01	1.00	0.97	97.0	1.00	0.99	99.0	2.0	08/14/1997	2107	1587
Barium		mg/L	<0.01	1.00	1.02	102.0	1.00	1.03	103.0	1.0	08/14/1997	2107	1587
Cadmium		mg/L	0.01	1.00	1.00	99.0	1.00	1.00	99.0	0.0	08/14/1997	2107	1761
Cadmium		mg/L	<0.01	1.00	0.95	95.0	1.00	1.00	100.0	5.0	08/14/1997	2107	1762
Cadmium		mg/L	<0.01	1.00	0.98	98.0	1.00	1.02	102.0	3.9	08/14/1997	2107	1762
Chromium		mg/L	1.1	1.00	1.00	-10.0	1.00	1.00	-10.0	0.0	08/14/1997	2107	1761
Chromium		mg/L	0.03	1.00	0.94	91.0	1.00	1.01	98.0	7.4	08/14/1997	2107	1762
Chromium		mg/L	<0.01	1.00	0.94	94.0	1.00	0.97	97.0	3.1	08/14/1997	2107	1762
Copper		mg/L	0.03	1.00	1.00	97.0	1.00	1.00	97.0	0.0	08/14/1997	2107	1752
Copper		mg/L	0.02	1.00	0.95	93.0	1.00	0.98	96.0	3.2	08/14/1997	2107	1753
Copper		mg/L	<0.01	1.00	1.01	101.0	1.00	1.06	106.0	4.8	08/14/1997	2107	1753
Iron		mg/L	0.66	10.0	10.6	99.4	10.0	10.1	94.4	5.2	08/20/1997	2107	1769
Lead		mg/L	<0.03	1.00	1.00	100.0	1.00	1.00	100.0	0.0	08/14/1997	2107	1770
Lead		mg/L	<0.03	1.00	0.88	88.0	1.00	0.92	92.0	4.4	08/14/1997	2107	1771
Lead		mg/L	<0.03	1.00	0.90	90.0	1.00	0.94	94.0	4.3	08/14/1997	2107	1771
Manganese		mg/L	<0.01	1.00	0.94	94.0	1.00	1.00	100.0	6.1	08/14/1997	2107	1737
Manganese		mg/L	0.02	1.00	0.97	95.0	1.00	1.00	98.0	3.1	08/14/1997	2107	1737
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0061	122.0	0.0050				08/13/1997		1422
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0052	104.0	0.0050	0.0053	106.0	1.9	08/13/1997		1422
Mercury, CVAA	EDL	mg/L	<0.02	0.050	0.057	114.0	0.050	0.058	116.0	1.7	08/13/1997		1422
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0044	88.0	0.0050	0.0044	88.0	0.0	08/13/1997		1423

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

EDL - Elevated Detection Limit due to matrix interference.

QUALITY CONTROL REPORT
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

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

08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

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
Selenium		mg/L	<0.04	1.00	0.92	92.0	1.00	0.97	97.0	5.3	08/14/1997	2107	1699
Selenium		mg/L	<0.04	1.00	0.97	97.0	1.00	1.09	109.0	11.6	08/14/1997	2107	1699
Silver		mg/L	<0.01	1.00	1.00	100.0	1.00	1.00	100.0	0.0	08/14/1997	2107	1754
[illegible]er		mg/L	0.10	1.00	1.23	113.0	1.00	1.37	127.0	11.7	08/14/1997	2107	1754
[illegible]er		mg/L	<0.01	1.00	1.18	118.0	1.00	1.13	113.0	4.3	08/14/1997	2107	1754
Zinc		mg/L	0.04	1.00	1.00	96.0	1.00	1.00	96.0	0.0	08/14/1997	2107	1757
Zinc		mg/L	0.04	1.00	0.98	94.0	1.00	1.22	118.0	22.5	08/14/1997	2107	1758
Zinc		mg/L	0.19	1.00	0.98	79.0	1.00	1.04	85.0	7.3	08/14/1997	2107	1758
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	23	115.0	20	27	135.0	16.0	08/13/1997		2843
Ethylbenzene		ug/L	<2	20	15	75.0	20	17	85.0	12.5	08/13/1997		2843
Toluene		ug/L	<2	20	21	105.0	20	22	110.0	4.7	08/13/1997		2843
Xylenes, Total		ug/L	<2	60	43	71.7	60	48	80.0	10.9	08/13/1997		2843
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	15	75.0	20	17	85.0	12.5	08/14/1997		2844
Ethylbenzene		ug/L	<2	20	18	90.0	20	22	110.0	19.9	08/14/1997		2844
Toluene		ug/L	<2	20	17	85.0	20	20	100.0	16.1	08/14/1997		2844
Xylenes, Total		ug/L	<2	60	50	83.3	60	60	100.0	18.1	08/14/1997		2844
EPA-8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	23	115.0	20	25	125.0	8.3	08/14/1997		2845
Ethylbenzene		ug/L	<2	20	15	75.0	20	17	85.0	12.5	08/14/1997		2845
Toluene		ug/L	<2	20	21	105.0	20	23	115.0	9.1	08/14/1997		2845
Xylenes, Total		ug/L	<2	60	44	73.3	60	50	83.3	12.8	08/14/1997		2845

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

08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	144	146	1.4	08/15/1997		746
Total Dissolved Solids		mg/L	166	180	8.1	08/15/1997		746
Total Dissolved Solids		mg/L	870	844	3.0	08/15/1997		747
Total Dissolved Solids		mg/L	40			08/15/1997		747

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

08/21/1997

EPIC Job Number: 97.03368

Project Description:
Job Description: TWP Bell Lake

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		773	1000	mg/L	975	97.5					08/14/1997
Arsenic	2107	1701	1.00	mg/L	1.00	100.0					08/14/1997
Barium	2107	1587	1.00	mg/L	0.99	99.0					08/14/1997
Cadmium	2107	1762	1.00	mg/L	1.07	107.0					08/14/1997
Chromium	2107	1762	1.00	mg/L	1.00	100.0					08/14/1997
Copper	2107	1753	1.00	mg/L	1.01	101.0					08/14/1997
Iron	2107	1757	10.0	mg/L	10.4	104.0					08/14/1997
Lead	2107	1771	1.00	mg/L	0.91	91.0					08/14/1997
Manganese	2107	1737	1.00	mg/L	1.01	101.0					08/14/1997
Mercury, CVAA		1422	0.010	mg/L	0.010	100.0					08/13/1997
Mercury, CVAA		1423	0.010	mg/L	0.011	110.0					08/13/1997
Silver	2107	1755	1.00	mg/L	1.06	106.0					08/14/1997
Zinc	2107	1758	1.00	mg/L	1.06	106.0					08/14/1997
Total Dissolved Solids		746	2000	mg/L	2000	100.0					08/15/1997
Total Dissolved Solids		747	2000	mg/L	2010	100.5					08/15/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2843	20	ug/L	21	105.0					08/13/1997
Ethylbenzene		2843	20	ug/L	16	80.0					08/13/1997
Toluene		2843	20	ug/L	20	100.0					08/13/1997
Xylenes, Total		2843	60	ug/L	46	76.7					08/13/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2844	20	ug/L	18	90.0					08/14/1997
Ethylbenzene		2844	20	ug/L	24	120.0					08/14/1997
Toluene		2844	20	ug/L	21	105.0					08/14/1997
Xylenes, Total		2844	60	ug/L	67	111.7					08/14/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2845	20	ug/L	22	110.0					08/14/1997
Ethylbenzene		2845	20	ug/L	17	85.0					08/14/1997
Toluene		2845	20	ug/L	17	85.0					08/14/1997
Xylenes, Total		2845	60	ug/L	49	81.7					08/14/1997

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)646-7327 FAX (713)646-7867
PROJECT NAME/LOCATION TWP Bell Lake
PROJECT NUMBER
PROJECT MANAGER

REPORT TO: George Robinson c/o Enron Operating Corp ATTN: SAC3142
INVOICE TO: ~~Enron~~ P.O. Box 1188 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	TDS	Chlorides	*Metals
8/9/97	1055	MW-1	A	X		3/G				3/P	X	X	X	X
8/9/97	0915	MW-3	X	X		X				X	X	X	X	X
		~~MW-4~~												
8/9/97	1330	MW-5	X	X		X				X	X	X	X	X
8/9/97	1250	MW-6	X	X		X				X	X	X	X	X
8/9/97	1435	MW-9	X	X		X				X	X	X	X	X
8/9/97	1400	MW-8	X	X		X				X	X	X	X	X
8/9/97	1520	WATER WELL	X	X		X				X	X	X	X	X
8/9/97	1520	DRUM Sampling event 2/8/97	X	X		1/G					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 X Drinking Water ___ Other X None ___

COMMENTS
* METALS : ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER, COPPER, IRON, MANGANESE, ZINC

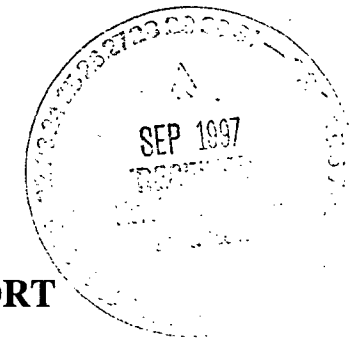
CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 4°C
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS
DATE 8/9/97

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Sandy Sharp	8/9/97	0600			8/11/97	17:08	8/12/97 10:30am

METHOD OF SHIPMENT
REMARKS:

EPIC LABORATORIES, INC.



ANALYTICAL AND QUALITY CONTROL REPORT

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

09/09/1997

EPIC Job Number: 97.03375

Page 1

Project Description:
Job Description: TWP Bell Lake

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
337747	MW-10 (K-1) Kabi Sampler Dup for MW-1	08/08/1997	18:15	08/12/1997
337748	MW-11 (K-5) " " " " MW-5	08/08/1997	18:40	08/12/1997
337749	MW-12 (K-9) " " " " MW-9	08/08/1997	19:00	08/12/1997
337750	MW-2	08/08/1997	09:55	08/12/1997
337751	MW-7	08/08/1997	10:30	08/12/1997
337752	Trip Blank			08/12/1997

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
Project Coordinator

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

1555 Valwood Parkway, Suite 100, 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) 286-2424

ANALYTICAL RESULTS REPORT

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

09/09/1997

EPIC Job Number: 97.03375
Sample Number: 337747

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-10

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2280	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1739	0.03
Barium		0.26	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1625	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1800	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1800	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1791	0.01
Iron		0.68	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1809	0.03
[illegible]nese		0.16	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1775	0.01
Mercury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1737	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.03	mg/L	S-6010A	08/13/1997	09/05/1997	out	2107	1796	0.03
Total Dissolved Solids		5420	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (NONPRESERVED)										
Benzene		2.7	ug/L	S-8020M		08/14/1997	zst		2844	2
Ethylbenzene		7.7	ug/L	S-8020M		08/14/1997	zst		2844	2
Toluene		5.4	ug/L	S-8020M		08/14/1997	zst		2844	2
Xylenes, Total		4.8	ug/L	S-8020M		08/14/1997	zst		2844	2
SURR: a,a,a-TFT		78	% Rec	S-8020M		08/14/1997	zst		2844	60-125

ANALYTICAL RESULTS REPORT

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

09/09/1997

EPIC Job Number: 97.03375
Sample Number: 337748

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-11

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		3520	mg/L	S-9252		08/14/1997	cgl		773	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1701	0.03
Barium		0.79	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1753	0.01
Iron		0.70	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1771	0.03
[illegible]nese		0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1737	0.01
[illegible]dry, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.05	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1758	0.03
Total Dissolved Solids		9460	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (NONPRESERVED)										
Benzene		70	ug/L	S-8020M		08/14/1997	zst		2844	20
Ethylbenzene		23	ug/L	S-8020M		08/14/1997	zst		2844	20
Toluene		56	ug/L	S-8020M		08/14/1997	zst		2844	20
Xylenes, Total		170	ug/L	S-8020M		08/14/1997	zst		2844	20
SURR: a,a,a-TFT		106	% Rec	S-8020M		08/14/1997	zst		2844	0

ANALYTICAL RESULTS REPORT

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

09/09/1997

EPIC Job Number: 97.03375
Sample Number: 337749

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-12

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		5050	mg/L	S-9252		08/14/1997	cgl		774	5.0
Arsenic		<0.10	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1701	0.10
Barium		13.0	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1753	0.01
Iron		7.3	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1771	0.03
[illegible]anese		0.68	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1737	0.01
[illegible]cury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		<0.20	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1699	0.20
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.43	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1758	0.03
Total Dissolved Solids		13100	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (NONPRESERVED)										
Benzene		210	ug/L	S-8020M		08/14/1997	zst		2844	20
Ethylbenzene		39	ug/L	S-8020M		08/14/1997	zst		2844	20
Toluene		650	ug/L	S-8020M		08/14/1997	zst		2844	20
Xylenes, Total		650	ug/L	S-8020M		08/14/1997	zst		2844	20
SURR: a,a,a-TFT		109	% Rec	S-8020M		08/14/1997	zst		2844	0

ANALYTICAL RESULTS REPORT

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09/09/1997

EPIC Job Number: 97.03375
Sample Number: 337750

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-2

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		280	mg/L	S-9252		08/14/1997	cgl		774	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1701	0.03
Barium		0.44	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Copper		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1753	0.01
Iron		2.3	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1771	0.03
[illegible]anese		0.38	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1737	0.01
[illegible]ury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		<0.04	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1758	0.03
Total Dissolved Solids		986	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		7.3	ug/L	S-8020M		08/14/1997	zst		2844	2
Ethylbenzene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Toluene		5.4	ug/L	S-8020M		08/14/1997	zst		2844	2
Xylenes, Total		2.7	ug/L	S-8020M		08/14/1997	zst		2844	2
SURR: a,a,a-TFT		93	% Rec	S-8020M		08/14/1997	zst		2844	60-125

ANALYTICAL RESULTS REPORT

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09/09/1997

EPIC Job Number: 97.03375
Sample Number: 337751

Project Description:
Job Description: TWP Bell Lake

Sample Description: MW-7

Parameter	Flag	Result	Units	Analytical Method	Date Prepared	Date Analyzed	Analyst	Prep Batch Number	Run Batch Number	Reporting Limit
Chloride		2200	mg/L	S-9252		08/14/1997	cgl		774	5.0
Arsenic		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1701	0.03
Barium		1.5	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1587	0.01
Cadmium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Chromium		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1762	0.01
Copper		0.04	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1753	0.01
Iron		3.1	mg/L	S-6010A	08/13/1997	08/20/1997	sps	2107	1769	0.01
Lead		<0.03	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1771	0.03
[redacted]nese		6.7	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1737	0.01
M[redacted]ury, CVAA		<0.0002	mg/L	S-7470A		08/13/1997	bwb		1423	0.0002
Selenium		0.19	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1699	0.04
Silver		<0.01	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1754	0.01
Zinc		0.15	mg/L	S-6010A	08/13/1997	08/14/1997	sps	2107	1758	0.03
Total Dissolved Solids		6260	mg/L	E-160.1		08/15/1997	cgl		746	5
EPA-8020 AQ (PRESERVED)										
Benzene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Ethylbenzene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Toluene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Xylenes, Total		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
SURR: a,a,a-TFT		91	% Rec	S-8020M		08/14/1997	zst		2844	60-125

ANALYTICAL RESULTS REPORT

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09/09/1997

EPIC Job Number: 97.03375
Sample Number: 337752

Project Description:
Job Description: TWP Bell Lake

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		08/14/1997	zst		2844	2
Ethylbenzene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Toluene		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
Xylenes, Total		<2	ug/L	S-8020M		08/14/1997	zst		2844	2
SURR: a,a,a-TFT		96	% Rec	S-8020M		08/14/1997	zst		2844	60-125

QUALITY CONTROL REPORT
BLANKS

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09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Chloride		<5.0	mg/L	5.0	08/14/1997		773
Chloride		<5.0	mg/L	5.0	08/14/1997		774
Arsenic		<0.03	mg/L	0.03	08/14/1997	2107	1701
Arsenic		<0.03	mg/L	0.03	08/14/1997	2107	1701
Barium		<0.01	mg/L	0.01	08/14/1997	2107	1587
Barium		<0.01	mg/L	0.01	08/14/1997	2107	1587
Cadmium		<0.01	mg/L	0.01	08/14/1997	2107	1762
Cadmium		<0.01	mg/L	0.01	08/14/1997	2107	1762
Chromium		<0.01	mg/L	0.01	08/14/1997	2107	1762
Chromium		<0.01	mg/L	0.01	08/14/1997	2107	1762
Copper		<0.01	mg/L	0.01	08/14/1997	2107	1753
Copper		<0.01	mg/L	0.01	08/14/1997	2107	1753
Iron		<0.01	mg/L	0.01	08/14/1997	2107	1757
Lead		<0.03	mg/L	0.03	08/14/1997	2107	1771
Lead		<0.03	mg/L	0.03	08/14/1997	2107	1771
Manganese		<0.01	mg/L	0.01	08/14/1997	2107	1737
Manganese		<0.01	mg/L	0.01	08/14/1997	2107	1737
Mercury, CVAA		<0.0002	mg/L	0.0002	08/13/1997		1423
Silver		<0.01	mg/L	0.01	08/14/1997	2107	1755
Zinc		<0.03	mg/L	0.03	08/14/1997	2107	1758
Zinc		<0.03	mg/L	0.03	08/14/1997	2107	1758
Total Dissolved Solids		<5	mg/L	5	08/15/1997		746
EPA-8020 AQ (PRESERVED)							
Benzene		<2	ug/L	2	08/14/1997		2844
Ethylbenzene		<2	ug/L	2	08/14/1997		2844
Toluene		<2	ug/L	2	08/14/1997		2844
Xylenes, Total		<2	ug/L	2	08/14/1997		2844
EPA-8020 AQ (NONPRESERVED)							

All parameters should be less than the reporting limit.

QUALITY CONTROL REPORT
BLANKS

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Env. Affairs, Rm 3 AC 3142
P.O. Box 1188
Houston, TX 77251

09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	Blank Result	Units	Reporting Limit	Date Analyzed	Prep Batch Number	Run Batch Number
Benzene		<2	ug/L	2	08/14/1997		2844
Ethylbenzene		<2	ug/L	2	08/14/1997		2844
Toluene		<2	ug/L	2	08/14/1997		2844
Xylenes, Total		<2	ug/L	2	08/14/1997		2844

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
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09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	CCVS True Concentration	Units	CCVS Concentration Found	CCVS Percent Recovery	Date Analyzed	Run Batch Number
Arsenic		4.00	mg/L	4.04	101.0	08/14/1997	1701
Barium		4.00	mg/L	4.12	103.0	08/14/1997	1587
Cadmium		4.00	mg/L	4.18	104.5	08/14/1997	1762
Chromium		4.00	mg/L	4.13	103.3	08/14/1997	1762
Copper		4.00	mg/L	3.97	99.3	08/14/1997	1753
Iron		4.00	mg/L	4.12	103.0	08/20/1997	1769
Iron		4.00	mg/L	4.11	102.8	08/20/1997	1769
Lead		4.00	mg/L	3.86	96.5	08/14/1997	1771
Manganese		4.00	mg/L	4.16	104.0	08/14/1997	1737
Mercury, CVAA		0.0050	mg/L	0.0050	100.0	08/13/1997	1423
Selenium		4.00	mg/L	4.04	101.0	08/14/1997	1699
Silver		1.00	mg/L	1.02	102.0	08/14/1997	1754
Zinc		4.00	mg/L	4.00	100.0	08/14/1997	1758
EPA-8020 AQ (PRESERVED)							
Benzene		20	ug/L	19	95.0	08/14/1997	2844
Ethylbenzene		20	ug/L	24	120.0	08/14/1997	2844
Toluene		20	ug/L	22	110.0	08/14/1997	2844
Xylenes, Total		60	ug/L	67	111.7	08/14/1997	2844
EPA-8020 AQ (NONPRESERVED)							
Benzene		20	ug/L	19	95.0	08/14/1997	2844
Ethylbenzene		20	ug/L	24	120.0	08/14/1997	2844
Toluene		20	ug/L	22	110.0	08/14/1997	2844
Xylenes, Total		60	ug/L	67	111.7	08/14/1997	2844

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

09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

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	1040	400	1490	112.5	400	1470	107.5	4.5	08/14/1997		773
Chloride		mg/L	1370	1000	2370	100.0	1000	2350	98.0	1.9	08/14/1997		773
Chloride		mg/L	2200	1000	3250	105.0	1000	3270	107.0	1.9	08/14/1997		774
[illegible]ic		mg/L	<0.03	1.00	0.89	89.0	1.00	0.97	97.0	8.6	08/14/1997	2107	1701
[illegible]nic		mg/L	<0.03	1.00	0.91	91.0	1.00	0.97	97.0	6.4	08/14/1997	2107	1701
Arsenic		mg/L	<0.03	1.00	0.89	89.0	1.00	0.97	97.0	8.6	08/14/1997	2107	1701
Arsenic		mg/L	<0.03	1.00	0.91	91.0	1.00	0.97	97.0	6.4	08/14/1997	2107	1701
Barium		mg/L	<0.01	1.00	0.97	97.0	1.00	0.99	99.0	2.0	08/14/1997	2107	1587
Barium		mg/L	<0.01	1.00	1.02	102.0	1.00	1.03	103.0	1.0	08/14/1997	2107	1587
Barium		mg/L	<0.01	1.00	0.97	97.0	1.00	0.99	99.0	2.0	08/14/1997	2107	1587
Barium		mg/L	<0.01	1.00	1.02	102.0	1.00	1.03	103.0	1.0	08/14/1997	2107	1587
Cadmium		mg/L	0.01	1.00	1.00	99.0	1.00	1.00	99.0	0.0	08/14/1997	2107	1761
Cadmium		mg/L	<0.01	1.00	0.95	95.0	1.00	1.00	100.0	5.0	08/14/1997	2107	1762
Cadmium		mg/L	<0.01	1.00	0.98	98.0	1.00	1.02	102.0	3.9	08/14/1997	2107	1762
Cadmium		mg/L	0.01	1.00	1.00	99.0	1.00	1.00	99.0	0.0	08/14/1997	2107	1761
Cadmium		mg/L	<0.01	1.00	0.95	95.0	1.00	1.00	100.0	5.0	08/14/1997	2107	1762
Cadmium		mg/L	<0.01	1.00	0.98	98.0	1.00	1.02	102.0	3.9	08/14/1997	2107	1762
Chromium		mg/L	0.03	1.00	0.94	91.0	1.00	1.01	98.0	7.4	08/14/1997	2107	1762
Chromium		mg/L	<0.01	1.00	0.94	94.0	1.00	0.97	97.0	3.1	08/14/1997	2107	1762
Chromium		mg/L	0.03	1.00	0.94	91.0	1.00	1.01	98.0	7.4	08/14/1997	2107	1762
Chromium		mg/L	<0.01	1.00	0.94	94.0	1.00	0.97	97.0	3.1	08/14/1997	2107	1762
Copper		mg/L	0.03	1.00	1.00	97.0	1.00	1.00	97.0	0.0	08/14/1997	2107	1752
Copper		mg/L	0.02	1.00	0.95	93.0	1.00	0.98	96.0	3.2	08/14/1997	2107	1753

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
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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P.O. Box 1188
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09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

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
Copper		mg/L	<0.01	1.00	1.01	101.0	1.00	1.06	106.0	4.8	08/14/1997	2107	1753
Copper		mg/L	0.03	1.00	1.00	97.0	1.00	1.00	97.0	0.0	08/14/1997	2107	1752
Copper		mg/L	0.02	1.00	0.95	93.0	1.00	0.98	96.0	3.2	08/14/1997	2107	1753
[redacted]er		mg/L	<0.01	1.00	1.01	101.0	1.00	1.06	106.0	4.8	08/14/1997	2107	1753
[redacted]		mg/L	0.66	10.0	10.6	99.4	10.0	10.1	94.4	5.2	08/20/1997	2107	1769
Lead		mg/L	<0.03	1.00	1.00	100.0	1.00	1.00	100.0	0.0	08/14/1997	2107	1770
Lead		mg/L	<0.03	1.00	0.88	88.0	1.00	0.92	92.0	4.4	08/14/1997	2107	1771
Lead		mg/L	<0.03	1.00	0.90	90.0	1.00	0.94	94.0	4.3	08/14/1997	2107	1771
Lead		mg/L	<0.03	1.00	1.00	100.0	1.00	1.00	100.0	0.0	08/14/1997	2107	1770
Lead		mg/L	<0.03	1.00	0.88	88.0	1.00	0.92	92.0	4.4	08/14/1997	2107	1771
Lead		mg/L	<0.03	1.00	0.90	90.0	1.00	0.94	94.0	4.3	08/14/1997	2107	1771
Manganese		mg/L	<0.01	1.00	0.94	94.0	1.00	1.00	100.0	6.1	08/14/1997	2107	1737
Manganese		mg/L	0.02	1.00	0.97	95.0	1.00	1.00	98.0	3.1	08/14/1997	2107	1737
Manganese		mg/L	<0.01	1.00	0.94	94.0	1.00	1.00	100.0	6.1	08/14/1997	2107	1737
Manganese		mg/L	0.02	1.00	0.97	95.0	1.00	1.00	98.0	3.1	08/14/1997	2107	1737
Mercury, CVAA		mg/L	<0.0002	0.0050	0.0044	88.0	0.0050	0.0044	88.0	0.0	08/13/1997		1423
Selenium		mg/L	<0.04	1.00	0.92	92.0	1.00	0.97	97.0	5.3	08/14/1997	2107	1699
Selenium		mg/L	<0.04	1.00	0.97	97.0	1.00	1.09	109.0	11.6	08/14/1997	2107	1699
Selenium		mg/L	<0.04	1.00	0.92	92.0	1.00	0.97	97.0	5.3	08/14/1997	2107	1699
Selenium		mg/L	<0.04	1.00	0.97	97.0	1.00	1.09	109.0	11.6	08/14/1997	2107	1699
Silver		mg/L	<0.01	1.00	1.00	100.0	1.00	1.00	100.0	0.0	08/14/1997	2107	1754
Silver		mg/L	0.10	1.00	1.23	113.0	1.00	1.37	127.0	11.7	08/14/1997	2107	1754
Silver		mg/L	<0.01	1.00	1.18	118.0	1.00	1.13	113.0	4.3	08/14/1997	2107	1754
Zinc		mg/L	0.04	1.00	1.00	96.0	1.00	1.00	96.0	0.0	08/14/1997	2107	1757
Zinc		mg/L	0.04	1.00	0.98	94.0	1.00	1.22	118.0	22.5	08/14/1997	2107	1758

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
MATRIX SPIKE/MATRIX SPIKE DUPLICATE

George Robinson
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P.O. Box 1188
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09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

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
Zinc		mg/L	0.19	1.00	0.98	79.0	1.00	1.04	85.0	7.3	08/14/1997	2107	1758
Zinc		mg/L	0.04	1.00	1.00	96.0	1.00	1.00	96.0	0.0	08/14/1997	2107	1757
Zinc		mg/L	0.04	1.00	0.98	94.0	1.00	1.22	118.0	22.5	08/14/1997	2107	1758
[redacted]		mg/L	0.19	1.00	0.98	79.0	1.00	1.04	85.0	7.3	08/14/1997	2107	1758
[redacted]8020 AQ (PRESERVED)													
Benzene		ug/L	<2	20	15	75.0	20	17	85.0	12.5	08/14/1997		2844
Ethylbenzene		ug/L	<2	20	18	90.0	20	22	110.0	19.9	08/14/1997		2844
Toluene		ug/L	<2	20	17	85.0	20	20	100.0	16.1	08/14/1997		2844
Xylenes, Total		ug/L	<2	60	50	83.3	60	60	100.0	18.1	08/14/1997		2844
EPA-8020 AQ (NONPRESERVED)													
Benzene		ug/L	<2	20	15	75.0	20	17	85.0	12.5	08/14/1997		2844
Ethylbenzene		ug/L	<2	20	18	90.0	20	22	110.0	19.9	08/14/1997		2844
Toluene		ug/L	<2	20	17	85.0	20	20	100.0	16.1	08/14/1997		2844
Xylenes, Total		ug/L	<2	60	50	83.3	60	60	100.0	18.1	08/14/1997		2844

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
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09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

Parameter	Flag	Units	Sample Result	Duplicate Sample Result	RPD	Date Analyzed	Prep Batch Number	Run Batch Number
Total Dissolved Solids		mg/L	144	146	1.4	08/15/1997		746
Total Dissolved Solids		mg/L	166	180	8.1	08/15/1997		746

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

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		773	1000	mg/L	975	97.5					08/14/1997
Chloride		774	1000	mg/L	975	97.5					08/14/1997
Arsenic	2107	1701	1.00	mg/L	1.00	100.0					08/14/1997
Arsenic	2107	1701	1.00	mg/L	1.00	100.0					08/14/1997
Barium	2107	1587	1.00	mg/L	0.99	99.0					08/14/1997
[illegible]rium	2107	1587	1.00	mg/L	0.99	99.0					08/14/1997
[illegible]dmium	2107	1762	1.00	mg/L	1.07	107.0					08/14/1997
Cadmium	2107	1762	1.00	mg/L	1.07	107.0					08/14/1997
Chromium	2107	1762	1.00	mg/L	1.00	100.0					08/14/1997
Chromium	2107	1762	1.00	mg/L	1.00	100.0					08/14/1997
Copper	2107	1753	1.00	mg/L	1.01	101.0					08/14/1997
Copper	2107	1753	1.00	mg/L	1.01	101.0					08/14/1997
Iron	2107	1757	10.0	mg/L	10.4	104.0					08/14/1997
Lead	2107	1771	1.00	mg/L	0.91	91.0					08/14/1997
Lead	2107	1771	1.00	mg/L	0.91	91.0					08/14/1997
Manganese	2107	1737	1.00	mg/L	1.01	101.0					08/14/1997
Manganese	2107	1737	1.00	mg/L	1.01	101.0					08/14/1997
Mercury, CVAA		1423	0.010	mg/L	0.011	110.0					08/13/1997
Silver	2107	1755	1.00	mg/L	1.06	106.0					08/14/1997
Zinc	2107	1758	1.00	mg/L	1.06	106.0					08/14/1997
Zinc	2107	1758	1.00	mg/L	1.06	106.0					08/14/1997
Total Dissolved Solids		746	2000	mg/L	2000	100.0					08/15/1997
EPA-8020 AQ (PRESERVED)											
Benzene		2844	20	ug/L	18	90.0					08/14/1997
Ethylbenzene		2844	20	ug/L	24	120.0					08/14/1997
Toluene		2844	20	ug/L	21	105.0					08/14/1997
Xylenes, Total		2844	60	ug/L	67	111.7					08/14/1997
EPA-8020 AQ (NONPRESERVED)											
Benzene		2844	20	ug/L	18	90.0					08/14/1997
Ethylbenzene		2844	20	ug/L	24	120.0					08/14/1997
Toluene		2844	20	ug/L	21	105.0					08/14/1997

LCS - Laboratory Control Standard

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

QUALITY CONTROL REPORT
LABORATORY CONTROL STANDARD

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

09/09/1997

EPIC Job Number: 97.03375

Project Description:
Job Description: TWP Bell Lake

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
Xylenes, Total		2844	60	ug/L	67	111.7					08/14/1997

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)646-7329 FAX (713)646-8867
PROJECT NAME/LOCATION TWP BELL LAKE
PROJECT NUMBER
~~PROJECT MANAGER~~ (WHITE COOLER)

REPORT TO: (TEDDIE ROBINSON c/o ENRON OPERATIONS CORP)
INVOICE TO: ATTN: JAE 3142 P.O. BOX 1188 HOUSTON TX 7725
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	HCl (NO HEADSPACE VOAs)	HNO_3	H_2SO_4	OTHER	BTEX 8020	TDS	Chlorides	Metals							
			A	X		3/G	2/G			2/P											
8/8/97	815	MW-10	X	X			X				X	X	X	X							
8/8/97	1840	MW-11	X	X			X				X	X	X	X							
8/8/97	1900	MW-12	X	X			X				X	X	X	X							
8/9/97	0955	MW-2	X	X		X					X	X	X	X							
8/9/97	1030	MW-7	X	X		X					X	X	X	X							
		TRIP BLANK				X					X										

ANALYSES

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

* METALS: ARSENIC, BARIUM, CADMIUM, CHROMIUM, LEAD, MERCURY, SELENIUM, SILVER, COPPER, IRON, MANGANESE, ZINC

MW 11, 12, 10 - rec'd in non preserved VOA vials

trip blank rec'd in cooler

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 4°C
Bottles supplied by EPIC? YES / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST EPIC TO DISPOSE OF ALL SAMPLE REMAINDERS
DATE 8/9/97

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR EPIC BY:
Sandy Sharp	8/9/97	0800			8/11/97	17:15	8/12/97 10:30 am

METHOD OF SHIPMENT
REMARKS:

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

Report of Ground Water Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #4

Laboratory Reports for the February 1998 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

COPY

Project: TWP BELL LAKE
Site:
Episode: LCJ

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

3/11/98
Date

Enclosures

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

Episode: LCJ Client: Transwestern Pipeline

Project: TWP BELL LAKE

Site:

Lab ID	Client ID	Description	Matrix	Collected	Received
LCJ-001	MW-13		Water	02/25/98	03/02/98
LCJ-002	MW-10		Water	02/25/98	03/02/98
LCJ-003	MW-5		Water	02/25/98	03/02/98
LCJ-004	MW-6		Water	02/25/98	03/02/98
LCJ-005	MW-11		Water	02/25/98	03/02/98
LCJ-006	WATER WELL		Water	02/26/98	03/02/98
LCJ-007	MW-8		Water	02/26/98	03/02/98
LCJ-008	TRIP BLANK		Water	02/26/98	03/02/98

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-13	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-001	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 18:54 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	10	104	D1	50.0	
100-41-4	Ethylbenzene	10	ND	D1	50.0	
108-88-3	Toluene	10	207	D1	50.0	
1330-20-7	m-p-Xylene	10	121	D1	50.0	
1330-20-7	o-Xylene	10	ND	D1	50.0	

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-10	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-002	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 19:20 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	60.3		5.00	
100-41-4	Ethylbenzene	1	ND		5.00	
108-88-3	Toluene	1	46.3		5.00	
1330-20-7	m-p-Xylene	1	56.0		5.00	
1330-20-7	o-Xylene	1	23.1		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:	MW-5	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-003	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 20:13 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	91.8		5.00	
100-41-4	Ethylbenzene	1	19.5		5.00	
108-88-3	Toluene	1	100		5.00	
1330-20-7	m-p-Xylene	1	143		5.00	
1330-20-7	o-Xylene	1	29.1		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:	MW-6	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-004	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 21:32 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	26.1		5.00	
100-41-4	Ethylbenzene	1	13.7		5.00	
108-88-3	Toluene	1	25.0		5.00	
1330-20-7	m-p-Xylene	1	93.7		5.00	
1330-20-7	o-Xylene	1	13.3		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-11	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-005	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 21:59 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	466		5.00	
100-41-4	Ethylbenzene	1	23.7		5.00	
108-88-3	Toluene	1	439		5.00	
1330-20-7	m-p-Xylene	1	388		5.00	
1330-20-7	o-Xylene	1	182		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:	WATER WELL	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-006	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

Sample Qu:

% Moisture: n/a

Units: ug/l

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 22:25 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-8	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LCJ-007	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 10-Mar-98 13:27 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	248		5.00	
100-41-4	Ethylbenzene	1	14.9		5.00	
108-88-3	Toluene	1	461		5.00	
1330-20-7	m-p-Xylene	1	293		5.00	
1330-20-7	o-Xylene	1	95.2		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 BELL LAKE	**Site:**	None
Lab ID:	LCJ-008	**Episode:**	LCJ
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25494

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 10-Mar-98 13:54 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-13 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LCJ-001 **Episode:** LCJ

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	10	1	887	D1	mg/l	50.0		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	2950		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/11/98 17:36:18

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-10 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LCJ-002 **Episode:** LCJ

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	50	1	3860	D1	mg/l	250		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	9150		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/11/98 17:36:13

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-5 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LCJ-003 **Episode:** LCJ

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	50	1	3480	D1	mg/l	250		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	7300		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/11/98 17:36:18

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

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

Project: TWP BELL LAKE **Site:** None

Lab ID: LCJ-004 **Episode:** LCJ

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	50	1	2540	D1	mg/l	250		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	5280		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/11/98 17:36:18

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-11 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LCJ-005 **Episode:** LCJ

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	50	1	4650	DI	mg/l	250		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	10800		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/11/98 17:36:18

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: WATER WELL
Client: TRANSWESTERN PIPELINE
Project: TWP BELL LAKE
Site: None
Lab ID: LCJ-006
Episode: LCJ
Description: None
Matrix: Water
%Moisture: n/a

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	1	1	102		mg/l	5.00		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	850		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/11/98 17:36:18

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-8 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LCJ-007 **Episode:** LCJ

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	10	1	800	D1	mg/l	50.0		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	2730		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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: LCJ

Method: Water GC Aromatic/TPH Volatile Organics Batch: 25494 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	88		20.0	81	86	6	39-150	39-150	25	
Ethylbenzene	20.0	113		20.0	111	101	9	32-160	32-160	25	
Toluene	20.0	121		20.0	113	114	1	46-148	46-148	25	
m-p-Xylene	40.0	131		40.0	125	125	0	40-150	40-150	25	
o-Xylene	20.0	140		20.0	133	130	2	40-150	40-150	25	

5 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: LCJ

Method: Water GC Aromatic/TPH Volatile Organics **Batch:** 25494

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
25494B1	96	91						
25494B2	103	97						
25494B3	110	140						
25494MS	95	91						
25494MSD	98	94						
25494S1	102	98						
LCJ-001	92	612 D						
LCJ-002	118	4062 G1						
LCJ-003	148 G1	16146 G1						
LCJ-004	102	593 G1						
LCJ-005	176 G1	6826 G1						
LCJ-006	100	103						
LCJ-007	118	8746 *						
LCJ-008	101	101						
LEV-001	105	101						
LEV-002	97	99						
LFU-001	99	92						
LFW-001	94	108						
LFW-002	99	93						
LGX-001	97	93						
LGX-002	101	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: 25494B1

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

Method: Water GC Aromatic/TPH Volatile Organics **Batch:** 25494 **Units:** ug/l

Prep Factor: 1 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 16:42 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting 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 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 of Quality Control

Pace Analytical Services, Inc. - New Orleans

Multiple Parameters - Multiple Batches

Episode: LCJ

Parameter Name	Batch	Blank	Units	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	Dup RPD	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Chloride	25444	ND	mg/l	48.4	110		50.0	114		24 *	80-120	75-125	20	Q8
Total Dissolved Solids	25421	ND	mg/l							3			20	

=(Count([ParaCode])) -" parameter(s) reported"

* denotes recovery outside of QC limits.

Spike amounts are not corrected for moisture content of the spiked sample.

Report Qualifiers

Pace Analytical Services, Inc. - New Orleans

Single Episode

Episode: LCJ

Qualifier	Qualifier Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
G1	Interferences are present which caused poor surrogate recovery.
Q8	The sample and/or duplicate concentration reported is less than 5 times the reporting limit; therefore, the replicate precision RPD is not statistically valid.

Pace Analytical

388943

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Transwestern Pipeline % George Robinson	Report To: George Robinson	Turn around Time	Pace Client No.
Address: 10235 West Little York Road, Suite 256	Bill To:	☐ 24 Hours ☐ 48 Hours ☐ 3-5 Days ☐ 1 Week 2 Weeks ☒ Normal 14 Days	Pace Project Manager
Houston, TX 77040	P.O. # / Billing Reference		Pace Project No.
Phone: (713) 466-7327	Project Name / No.: TWP Bell Lake		*Requested Due Date:

Sampled By (PRINT): Sandy Slider

Sampler Signature: Sandy Slider   Date Sampled: 2/25/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA (HCL)	NaOH	$Na_2S_2O_3$	BTEX 8020	Alkalinity/TDS								REMARKS
1	MW-13	0800	H_2O		3	1			2			X	X								
2	MW-10	1225	"		"	"			"			"	"								
3	MW-5	1320	"		"	"			"			"	"								
4	MW-6	1400	"		"	"			"			"	"								
5	MW-11	1645	"		"	"			"			"	"								
6																					
7																					
8																					

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

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Sandy Slider	2/26/98	1100	[illegible]	2/26/98	1100

Additional Comments

Shipped FedEx

SAMPLE CONDITION

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

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical

388944

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client Environmental Pipeline / George Robinson	Report To: George Robinson	Turn around Time	Pace Client No.
Address 10333 W. ST LITTLE York Road, Suite 254	Bill To:	☐ 24 Hours ☐ 48 Hours	Pace Project Manager
Houston, TX 77040	P.O. # / Billing Reference	☐ 3-5 Days ☐ 1 Week 2 Weeks	Pace Project No.
Phone (713) 690-7327	Project Name / No. TOP BELL LAKE	☒ Normal 14 Days	*Requested Due Date:

Sampled By (PRINT): Danny Sharp

Sampler Signature: Danny Sharp   Date Sampled: 2/26/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA (HCL)	NaOH	$Na_2S_2O_3$	BTEX 8020	Total Lead 1705								REMARKS
1	WATER WELL	0855	H2O		3	1			2			X	X								
2	MW-8	1000			✓	✓			✓			✓	✓								
3	TRIP BLANK				2				X			X									
4																					
5																					
6																					
7																					
8																					

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

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Danny Sharp	3/4/98	1100	[illegible]	[illegible]	[illegible]
	[illegible]			[illegible]	[illegible]	[illegible]
	[illegible]			[illegible]	[illegible]	[illegible]

Additional Comments

Supplied Pyrex

SAMPLE CONDITION

Temp: ________ °C | Received on Ice: Y / N | Sealed Cooler: Y / N | Samples Intact: Y / N | pH [illegible]

SEE REVERSE SIDE FOR INSTRUCTIONS

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 BELL LAKE
Site:
Episode: LBV

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

3/10/98
Date

Enclosures

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

Episode: LBV Client: Transwestern Pipeline

Project: TWP BELL LAKE

Site:

Lab ID	Client ID	Description	Matrix	Collected	Received
LBV-001	MW-3		Water	02/25/98	02/27/98
LBV-002	MW-2		Water	02/25/98	02/27/98
LBV-003	MW-1		Water	02/25/98	02/27/98
LBV-004	MW-9		Water	02/25/98	02/27/98
LBV-005	TRIP BLANK		Water	02/25/98	02/27/98
LBV-006	MW-12		Water	02/24/98	02/27/98
LBV-007	MW-7		Water	02/24/98	02/27/98

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-3	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-001	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 14:57 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-2	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-002	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 15:23 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-1	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-003	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 15:49 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	1	6.54		5.00	
100-41-4	Ethylbenzene	1	8.45		5.00	
108-88-3	Toluene	1	7.66		5.00	
1330-20-7	m-p-Xylene	1	7.01		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-9	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-004	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 17:08 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting Limit	Reg. Limit
71-43-2	Benzene	10	251	D1	50.0	
100-41-4	Ethylbenzene	10	ND	D1	50.0	
108-88-3	Toluene	10	693	D1	50.0	
1330-20-7	m-p-Xylene	10	628	D1	50.0	
1330-20-7	o-Xylene	10	217	D1	50.0	

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:	TRIP BLANK	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-005	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 17:35 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-12	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-006	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 18:01 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Protocol

Client ID:	MW-7	**Client:**	TRANSWESTERN PIPELINE
Project:	TWP BELL LAKE	**Site:**	None
Lab ID:	LBV-007	**Episode:**	LBV
Description:	None	**Matrix:**	Water
Method:	Water SW 8020 BTEX	**Batch:**	25456

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

Prep Factor: 1.00 **Leached:** n/a **Prepared:** **Analyzed:** 06-Mar-98 18:28 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.

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-3 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LBV-001 **Episode:** LBV

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	1	1	13.0		mg/l	5.00		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	330		mg/l	10.0	02-Mar-98	03-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/10/98 16:22:11

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-2 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LBV-002 **Episode:** LBV

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	5	1	353	D1	mg/l	25.0		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	1020		mg/l	10.0	02-Mar-98	03-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/10/98 16:22:11

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-1 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LBV-003 **Episode:** LBV

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	10	1	2140	D1	mg/l	50.0		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	5700		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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 - Inorganic Parameters

Client ID: MW-9 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LBV-004 **Episode:** LBV

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	50	1	5730	DI	mg/l	250		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	10900		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/10/98 16:22:11

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-12 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LBV-006 **Episode:** LBV

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	1	1	77.3		mg/l	5.00		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	362		mg/l	10.0	02-Mar-98	03-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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.

3/10/98 16:22:11

Report of Laboratory Analysis

Pace Analytical Services, Inc. - New Orleans

Single Sample - Inorganic Parameters

Client ID: MW-7 **Client:** TRANSWESTERN PIPELINE

Project: TWP BELL LAKE **Site:** None

Lab ID: LBV-007 **Episode:** LBV

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

ParameterName	Method	Batch	DF	PF	Result	Qu	Units	Reporting Limit	Prep.	Analysis		Reg. Limit
Chloride	SW 9251	25444	10	1	1810	D1	mg/l	50.0		03-Mar-98	LAK	
Total Dissolved Solids	EPA 160.1	25421	1	1	4470		mg/l	10.0	03-Mar-98	04-Mar-98	LAK	

2 parameter(s) reported

ND denotes Not Detected at or above the adjusted reporting limit.
DF denotes Dilution Factor of final sample. 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: LBV

Method: Water GC Aromatic/TPH Volatile Organics Batch: 25456 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	80		20.0	0 *	600 *		39-150	39-150	25	Q2
Ethylbenzene	20.0	104		20.0	1095 *	1115 *	2	32-160	32-160	25	Q2
Toluene	20.0	102		20.0	0 *	0 *		46-148	46-148	25	Q2
m-p-Xylene	40.0	109		40.0	0 *	0 *		40-150	40-150	25	Q2
o-Xylene	20.0	118		20.0	35 *	10 *	111 *	40-150	40-150	25	Q2

5 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: LBV

Method: Water GC Aromatic/TPH Volatile Organics **Batch:** 25456

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
25456B1	92	90						
25456B2	94	92						
25456B3	95	92						
25456B4	93	90						
25456B5	96	91						
25456B6	103	97						
25456MS	98	97						
25456MSD	94	92						
25456S1	99	94						
LBV-001	94	92						
LBV-002	92	468 G1						
LBV-003	91	128						
LBV-004	97	5494 D						
LBV-005	103	105						
LBV-006	93	92						
LBV-007	104	98						
LCT-001	92	90						
LDM-001	96	93						
LDM-002	94	90						
LDU-001	92	92						
LDU-001DL	94	94						
LDU-002	86	85						
LDU-003	93	91						
LDU-003DL	92	90						
LDU-004	92	94						
LDU-005	92	81						
LDU-006	95	80						
LDU-007	91	79						
LDU-008	97	101						
LES-003	96	118						
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.

3/10/98 16:23:10

Report of Method Blank

Pace Analytical Services, Inc. - New Orleans

Organic Protocol - Single Batch

Lab ID: 25456B1

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

Method: Water GC Aromatic/TPH Volatile Organics **Batch:** 25456 **Units:** ug/l

Prep Factor: 1 **Leached:** n/a **Prepared:** **Analyzed:** 03-Mar-98 11:37 SLF

CAS Number	Parameter	Dilution	Result	Qu	Reporting 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 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 of Quality Control

Pace Analytical Services, Inc. - New Orleans

Multiple Parameters - Multiple Batches

Episode: LBV

Parameter Name	Batch	Blank	Units	LCS Spike	LCS %Rec	LCSD %Rec	MS Spike	MS %Rec	MSD %Rec	Dup RPD	QC Limits LCS	QC Limits MS/MSD	RPD Max	Qu
Chloride	25444	ND	mg/l	48.4	110		50.0	114		24 *	80-120	75-125	20	Q8
Total Dissolved Solids	25421	ND	mg/l							3			20	

=(Count([ParaCode])) -" parameter(s) reported"
* denotes recovery outside of QC limits.
Spike amounts are not corrected for moisture content of the spiked sample.

3/10/98 16:23:19

Report Qualifiers

Pace Analytical Services, Inc. - New Orleans

Single Episode

Episode: LBV

Qualifier	Qualifier Description
D1	The analysis was performed at a dilution due to the high analyte concentration.
G1	Interferences are present which caused poor surrogate recovery.
Q2	The matrix spike recoveries are poor due to the presence of matrix interferences. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q8	The sample and/or duplicate concentration reported is less than 5 times the reporting limit; therefore, the replicate precision RPD is not statistically valid.

Pace Analytical

388?46

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client Transwestern Pipeline c/o George Robinson	Report To: George Robinson	Turn around Time	Pace Client No.
Address 10735 West Little York Road, Suite 250	Bill To:	☐ 24 Hours	Pace Project Manager
Houston, TX 77040	P.O. # / Billing Reference	☐ 48 Hours ☐ 3-5 Days ☐ 1 Week 2 Weeks	Pace Project No.
Phone (713) 646-7327	Project Name / No. TWP Bell Lake	☐ Normal 14 Days	*Requested Due Date:

Sampled By (PRINT): Sandy Sharp

Sampler Signature: Sandy Sharp Date Sampled: 2/24/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA (HCL)	NaOH	$Na_2S_2O_3$	BTEX 8020	CL/TDS							REMARKS
1	MW-12	1500	H_2O		3	1			2			X	X							
2	MW-7	1635	"		3	1			2			X	X							
3	~~MW-3~~																			
4	~~MW-2~~																			
5	~~MW-1~~																			
6																				
7																				
8																				

Remarks (top): Rec 2/19/98 — 2s VOA BTEX — 1s Cl/TDS

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

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Sandy Sharp	2/24/98	0645	FEDEX		

Additional Comments

SAMPLE CONDITION

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

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical

38[illegible]47

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: TRANSWESTERN PIPELINE C/O 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: 10735 WEST LOOP SOUTH, SUITE 250 HOUSTON, TX 77042	Bill To:		Pace Project Manager
	P.O. # / Billing Reference		Pace Project No.
Phone: (713) 626-1320	Project Name / No.: TWP BELL LAKE		*Requested Due Date:

Sampled By (PRINT): SANDY SHARP

Sampler Signature: Sandy Sharp Date Sampled: 2/25/98

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4	HNO_3	VOA (HCL)	NaOH	$Na_2S_2O_3$	ANALYSES REQUEST: BTEX 8020	CHLORIDE 325	REMARKS
1	MW-3		H_2O	0930	3	1			2			X	X	
2	MW-2		(	1000	(	(			(			(	(	
3	MW-1		(	1040	(	(			(			(	(	
4	MW-9		(	1500	(	(			(			(	(	
5	TRIP BLANK		)		)	)			)			)	)	
6														
7														
8														

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

Additional Comments

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Sandy Sharp	2/26/98	0645			

SAMPLE CONDITION

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

SEE REVERSE SIDE FOR INSTRUCTIONS

Hall Environmental Analysis Laboratory, Inc.

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

1/23/98

Cypress Engineering
16300 Katy Freeway, Suite 210
Houston, TX 77094-1609

Dear Mr. George Robinson,

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

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

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

Sincerely,

Nancy McDuffie
Assistant Laboratory Manager

Project: 9801039/Enron/TWP Bell Lake Plant

Client : Cypress Engineering
Project: Enron/TWP Bell Lake Plant
Sample Matrix: Aqueous

Date Collected: 1/9,10/98
Date Received: 1/13/98
Date Extracted: NA

Volatile Organic Compounds
Units: PPB (µg/l)

	Sample Name:	**MW-10**	**MW-11**	**MW-12**
	Lab Code:	9801039-1	9801039-2	9801039-3
	Date Analyzed:	1/15/98	1/15/98	1/15/98
EPA Method 8021 Compound	MRL	Result	Result	Result
Benzene	0.5	49	360	nd
Toluene	0.5	37	320	nd
Ethylbenzene	0.5	4.3	19	nd
Total Xylenes	0.5	71	490	nd
BFB (Surrogate) Recovery		102	94	95
Dilution Factor		2	20	1

Client :	Cypress Engineering	**Date Collected**:	NA
Project:	Enron/TWP Bell Lake Plant	**Date Received**:	NA
Sample Matrix:	Aqueous	**Date Extracted**:	NA

Volatile Organic Compounds
Units: PPB (µg/l)

	Sample Name:	**Trip Blank**	**Reagent**
	Lab Code:	9801039-5	**Blank**
	Date Analyzed:	1/15/98	1/15/98
EPA Method 8021			
Compound	MRL	Result	Result
Benzene	0.5	nd	nd
Toluene	0.5	nd	nd
Ethylbenzene	0.5	nd	nd
Total Xylenes	0.5	nd	nd
BFB (Surrogate) Recovery		95	94
Dilution Factor		1	1

Client :	Cypress Engineering	**Date Collected:**	1/10/98
Project:	Enron/TWP Bell Lake Plant	**Date Received:**	1/13/98
Sample Matrix:	Non-Aqueous	**Date Extracted:**	1/13/98

Volatile Organic Compounds
Units: PPM (mg/kg)

	Sample Name:	**MW-10,11,12**	**Extraction**
	Lab Code:	9801039-4	**Blank**
	Date Analyzed:	1/15/98	1/15/98
EPA Method 8021			
Compound	MRL	Result	Result
Benzene	0.05	nd	nd
Toluene	0.05	nd	nd
Ethylbenzene	0.05	nd	nd
Total Xylenes	0.05	nd	nd
BFB (Surrogate) Recovery		86	101
Dilution Factor		1	1

Client : Cypress Engineering
Project: Enron/TWP Bell Lake Plant
Sample Matrix: Aqueous

Date Collected: 1/9,10/98
Date Received: 1/13/98
Date Extracted: NA

Test: See Below

HEAL Number	Sample ID	TDS	Cl µg/L
9801039-1	MW-10	5,930	3,600
9801039-2	MW-11	6,760	3,500
9801039-3	MW-12	413	180
9801039-1 Dup	MW-10 Dup	5,940	-
	Method	160.1	300.0
	MRL	1	0.1
	Date Analyzed	1/14	1/19

Hall Environmental Analysis Laboratory, Inc.

Client:	Cypress Engineering	**Date Collected:**	NA
Project:	Enron/TWP Bell Lake Plant	**Date Received:**	NA
Sample Matrix:	Aqueous, Non-Aqueous	**Date Extracted:**	1/13/98
		Date Analyzed:	1/15/98

Volatile Organic Compounds
Units: PPB (µg/l)
BS/BSD 1/15

EPA Method 8021

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Benzene	<0.5	20.0	20.1	101	19.3	97	4
Toluene	<0.5	20.0	19.9	100	19.1	96	4
Ethylbenzene	<0.5	20.0	19.7	99	19.0	95	4
Total Xylenes	<0.5	60.0	59.3	99	57.2	95	4

Volatile Organic Compounds
Units: PPM (mg/kg)
BS/BSD 1/15

EPA Method 8021

Compound	Sample Result	Amount Added	Blank Spike	BS %	BS Dup	BSD %	RPD
Benzene	<0.05	1.00	0.97	97	0.98	98	1
Toluene	<0.05	1.00	0.96	96	0.96	96	0
Ethylbenzene	<0.05	1.00	0.95	95	0.95	95	0
Total Xylenes	<0.05	3.00	2.86	95	2.88	96	1

Hall Environmental Analysis Laboratory

Client:	Cypress Engineering Service	**Project:**	Enron/TWP Bell Lake Pla
Address:	16300 Katy Freeway	**Project Number:**	
	Suite 210	**Project Manager:**	George Robinson
	Houston, TX 77094	**Date Collected:**	1/10/98
		Date Received:	1/13/98
Report Date:	1/16/98	**Sample Matrix:**	soil
Analysis Date:	1/16/98	**Extraction Date:**	1/15/98

EPA Method - 418.1

Final volume of Freon-113 used (ml)	20
Sample weight (g)	10

HEAL ID	Client ID	Absorbance	Dilution	T P H (mg/kg)
9801039-4	Monitor Wells 10, 11 ,12	0.006	1	<20

QA/QC

Ext Blk 1/15	N/A	-0.005	1	<20

Sample ID:	Sample Amount	Spike	Recovery	% Recovery
BS 1/15	<20	250	244	98

Sample ID:	Sample Amount	Duplicate	RPD
Ext Blk DUP 1/16	<20	<20	NA

Sincerely:

Andy Freeman
Semi-Volatiles Supervisor

Scott Hallenbeck
Laboratory Manager

4901 Hawkins NE, Suite A, Albuquerque, NM 87109
Voice (505) 345-3975, Fax (505) 345-4107

CHAIN-OF-CUSTODY RECORD

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

Client: CYPRESS ENGINEERING

Project Name: ENRON / TWP Bell Lake Plant

Address: 16300 KATY FREEWAY #210 HOUSTON, TEXAS 77094

Project #:

Project Manager: George Robinson

Phone #: (713) 646-7327

Sampler: CM Bonnette

Fax #: (713) 646-7867

Samples Cold?: ☒ Yes ☐ No

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HCl	HEAL No.
1/9/98	17:15	H_2O	MONITOR WELL 10	2 40mL VOAS		X	9801039-1
1/9/98	17:15	H_2O	MONITOR WELL 10	1 500mL PLASTIC			-1
1/10/98	14:00	H_2O	MONITOR WELL 11	2 40mL VOAS		X	-2
1/10/98	14:00	H_2O	MONITOR WELL 11	1 500mL PLASTIC			-2
1/10/98	14:15	H_2O	MONITOR WELL 12	2 40mL VOAS		X	-3
1/10/98	14:15	H_2O	MONITOR WELL 12	1 500mL PLASTIC			-3
1/10/98	9:30	SOIL	MONITOR WELLS 10, 11, 12	1 4oz JAR			-4
1/10/98	9:30	SOIL	MONITOR WELLS 10, 12	1 4oz JAR			-4
			TRIP BLANK	2 40mL VOAS			-5

ANALYSIS REQUEST

BTEX + MTBE (602/8020)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015 MOD (Gas/Diesel)	TPH (Method 418.1)	8010/8020 Volatiles	EDB (Method 504)	EDC (Method 8010)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8080 Pesticides / PCB's	8260 (VOA)	8270 (Semi-VOA)	BTEX 8021	TDS / CHLORIDE	Air Bubbles or Headspace (Y or N)
													X	X		
															X	
													X	X		
															X	
													X	X		
															X	
			X													
													X			
													X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
1/12/98	16:28		1/13
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: ANY QUESTIONS? PLEASE CALL - GEORGE ROBINSON PROJECT MANAGER