GW - 355

MONITORING REPORTS

DATE:

2/1996

ENRON
Transwestern Pipeline Company

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

February 29, 1996

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

RE: Annual Report of Groundwater Remediation Activities
Transwestern Pipeline Company Bell Lake Plant
Lea County, New Mexico

Dear Bill,

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

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

Sincerely,

Larry Campbell

Larry Campbell
Division Environmental Specialist

LC/gcr

xc w/attachments: Wayne Price — NMOCD Hobbs District Office
George Robinson — Cypress Engineering Services

Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant
Lea County, New Mexico

Submitted to:
New Mexico Oil Conservation Division

February 29, 1996

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

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

Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company

Bell Lake Plant

I. Groundwater Assessment & Monitoring Activities

Installation of Three Additional Groundwater Monitor Wells

Transwestern Pipeline Company (Transwestern) has completed the additional assessment activities which were proposed in association with the remediation plan submitted to the NMOCD in July, 1995. During December, 1995, three additional groundwater monitor wells were installed downgradient of the existing monitor wells. The location of the three monitor wells is indicated on an attached figure, Figure 1, as MW-7, MW-8, and MW-9. A boring log and completion diagram for each of the three additional wells is included in Attachment #1.

A summary of soil sample analyses for soil samples collected from the three additional monitor well borings is included in Table 3. The laboratory report for soil sample analyses is included in Attachment #3.

The primary objective of the three additional monitor wells was to establish the downgradient extent of affected groundwater. However, as evidenced by the results of groundwater sample analyses, the downgradient extent has yet to be established. The results of groundwater sample analyses are discussed in greater detail in a subsequent section of this report.

Installation of Three Soil Vapor Extraction Wells

In accordance with the remediation plan submitted to the NMOCD, during December 1995, three soil vapor extraction (SVE) wells were installed in the immediate vicinity of the petroleum hydrocarbon release areas. The location of the three SVE wells is indicated on an attached figure, Figure 1, as SVE-1, SVE-2, and SVE-3. A boring log and completion diagram for each of the three SVE wells is included in Attachment #2.

A summary of soil sample analyses for soil samples collected from the three SVE well borings is included in Table 3. The laboratory report for soil sample analyses is included in Attachment #3.

The primary objective of the three additional SVE wells was for the removal of residual petroleum hydrocarbons from the subsurface in the immediate vicinity of the former release areas. A secondary objective of these wells was to provide for additional groundwater monitor points subsequent to the removal of residual hydrocarbons. Unexpectedly, two of the SVE wells, SVE-1 and SVE-3, confirmed the presence of PSH at the water table.

4th Quarter 1995 Groundwater Sampling Event

Transwestern has completed one quarterly sampling event since obtaining approval from the NMOCD for Transwestern's proposed remediation plan. The 4th quarter 1995 sampling event was completed during the week of December 12, 1995.

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 and soil vapor extraction (SVE) well. Two SVE wells, SVE-1 and SVE-3, indicated the presence of PSH. Table 1 presents a summary of groundwater surface elevation information. A groundwater surface elevation map is included as Figure 1. In addition, a figure indicating the estimated area with PSH present at the water table is included as Figure 2.

Groundwater samples were collected from the nine monitor wells and one SVE well which did not contain PSH. Groundwater samples were delivered to a lab for analysis by EPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, ground water samples were delivered to the lab for analysis for total dissolved solids (TDS) and major ions. A summary of field measured parameters and laboratory results for groundwater analyses is included in Table 2. A BTEX distribution map is included as Figure 3.

Results/Conclusions from Groundwater Sampling Events

Direction and Velocity of Groundwater Flow

A water table elevation map based on measurements obtained during the 4th quarter sampling event is included as Figure 1, attached. The apparent direction of groundwater flow presented in Figure 1 is consistent with water table elevation maps previously developed for this site. The hydraulic gradient, as estimated from the information presented in Figure 1, is approximately 0.0016 ft/ft over the site area. However, it is apparent that the gradient is greater downgradient of the release area. In this area, the gradient is approximately 0.0027 ft/ft.

Using hydraulic conductivity information obtained during previous assessment activities (average of 2.06 ft/day) and assuming an effective porosity of 20%, the estimated velocity of groundwater flow is 6.0 ft/yr to 10.2 ft/yr for the gradients of 0.0016 ft/ft and 0.0027 ft/ft, respectively. Based on this information, the groundwater flow velocity is relatively low, primarily due to the relatively low hydraulic gradient.

Lateral Extent of Phase Separated Hydrocarbon

As previously stated, two of the SVE wells, SVE-1 and SVE-3, unexpectedly confirmed the presence of PSH at the water table in two separate areas. The volume and lateral extent of PSH in these two areas is apparently relatively small as indicated in Figure 2. Information for this conclusion is based upon the thickness of accumulated PSH in the SVE well casings, 1.44 ft. and 0.30 ft. in SVE-1 and SVE-3, respectively, and based upon information obtained during previous assessment activities. Information obtained during previous assessment activities confirmed that no PSH was present at the water table at the location of soil borings DP-1, DP-2, BP-3, and BP-4 as indicated on the attached Figure 2.

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

Condition of Affected Groundwater

The condition of affected groundwater at previously existing monitor wells has not changed significantly from previous sampling events as evidenced by the information presented in Table 2. Elevated concentrations of benzene continues to be the primary concern. A sufficient history of constituent concentrations has yet to be developed in order to evaluate natural attenuation processes.

Downgradient Extent of Affected Groundwater

As evidenced by the sample results for downgradient monitor wells MW-8 and MW-9, the downgradient extent of affected groundwater has yet to be established. This is somewhat surprising considering the relatively low groundwater flow velocities calculated for this site. The significance of this issue will continue to be evaluated as additional sample events are completed.

Planned Changes to the Groundwater Monitoring Program

Field Filtering of Groundwater Samples

Due to inconsistencies in the measured levels of total dissolved solids (TDS) relative to the presence of BTEX compounds and relative to the location of the monitor wells, there is a concern that the elevated levels of TDS may partially be due to turbid samples. Therefore, during the 2nd quarter 1996 sampling event, Transwestern will collect two samples for TDS analysis, one of which will be field filtered and one not filtered prior to analysis by a laboratory. This should provide valuable information regarding inconsistencies in elevated levels of TDS.

Installation of Additional Downgradient Groundwater Monitor Wells

Groundwater is apparently affected by benzene above NMWQCC standards beyond the most downgradient monitor wells MW-8 and MW-9. As a result, Transwestern will propose the installation of one or more additional groundwater monitor wells in order to establish the downgradient extent of affected groundwater. However, Transwestern will defer such a proposal until July, 1996. This will allow sufficient time for Transwestern to collect and evaluate groundwater samples from the 1st and 2nd quarter 1996 sampling events prior to selecting appropriate downgradient monitor well locations.

II. Summary of Remediation Activities

Remediation Activities Completed During 1995

The following remediation activities were completed during 1995: 1) Transwestern prepared and obtained approval from the NMOCD for a groundwater remediation plan, 2) Transwestern prepared and submitted an air permit application to the NMED for emissions from the proposed remediation system, and 3) Transwestern installed three SVE wells in accordance with the remediation plan.

Current Status of Remediation Activities

Remediation activities, other than groundwater monitoring, are currently on hold pending approval of Transwestern's permit application for air emissions from the SVE system. Transwestern has been informed that, due to a backlog of work at the NMED Air Pollution Control Bureau, the permit application is not likely to be processed until the April/May 1996 timeframe. The remediation system will be placed in service as soon as practicable after obtaining the air permit.

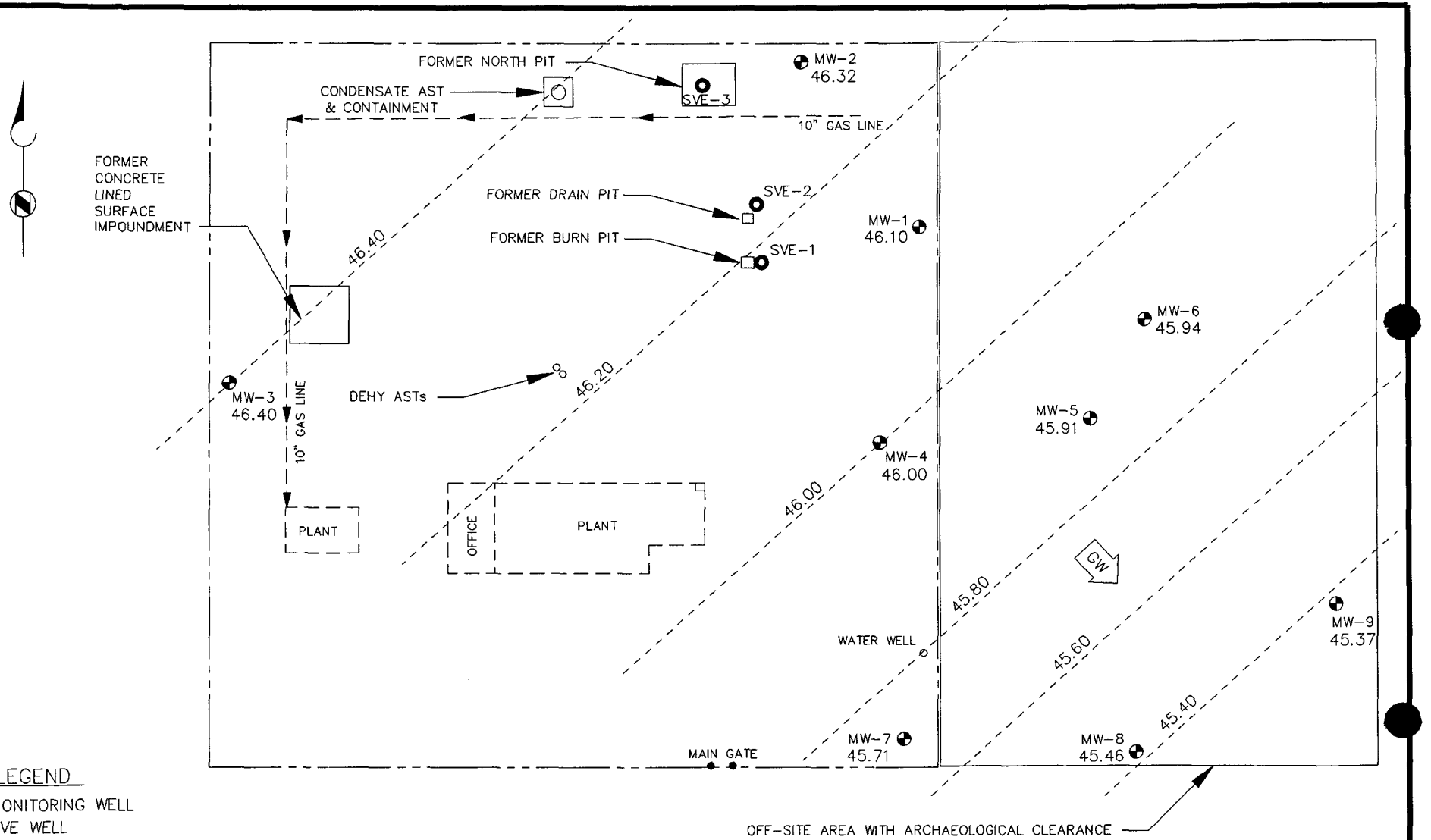
Remediation Activities Planned for 1996

Transwestern anticipates implementation and startup of the SVE remediation system in April or May, 1996. During preparation of the initial remediation plan, Transwestern anticipated that the SVE system would be operated for approximately six months in order to achieve its objective. However, in light of the recently confirmed presence of PSH, Transwestern now anticipates that the SVE system will operate for a period of nine to twelve months.

Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Figures



LEGEND

- MONITORING WELL
- SVE WELL
- 46.00 GROUNDWATER ELEVATION (FT. ABOVE DATUM AT 3500 FT. MSL)
- GW GROUNDWATER FLOW DIRECTION

CYPRESS ENGINEERING SERVICES, INC. HOUSTON, TEXAS	0 50 100 SCALE: 1" = 100'	TITLE: GROUNDWATER ELEVATION MAP DECEMBER 12, 1995	DATE: 02/26/96
SUBMITTED: ____ DATE: ____	DRAWN BY: GCR DATE ____	CLIENT: TRANSWESTERN PIPELINE COMPANY	PROJECT NUMBER
APPROVED: ____ DATE: ____	CHK'D BY: ____ DATE ____	SITE LOCATION: BELL LAKE PLANT JAL, NEW MEXICO	FIGURE NUMBER: 1
REV. / DESCRIPTION / BY / DATE	APPROVED: ____ DATE ____		

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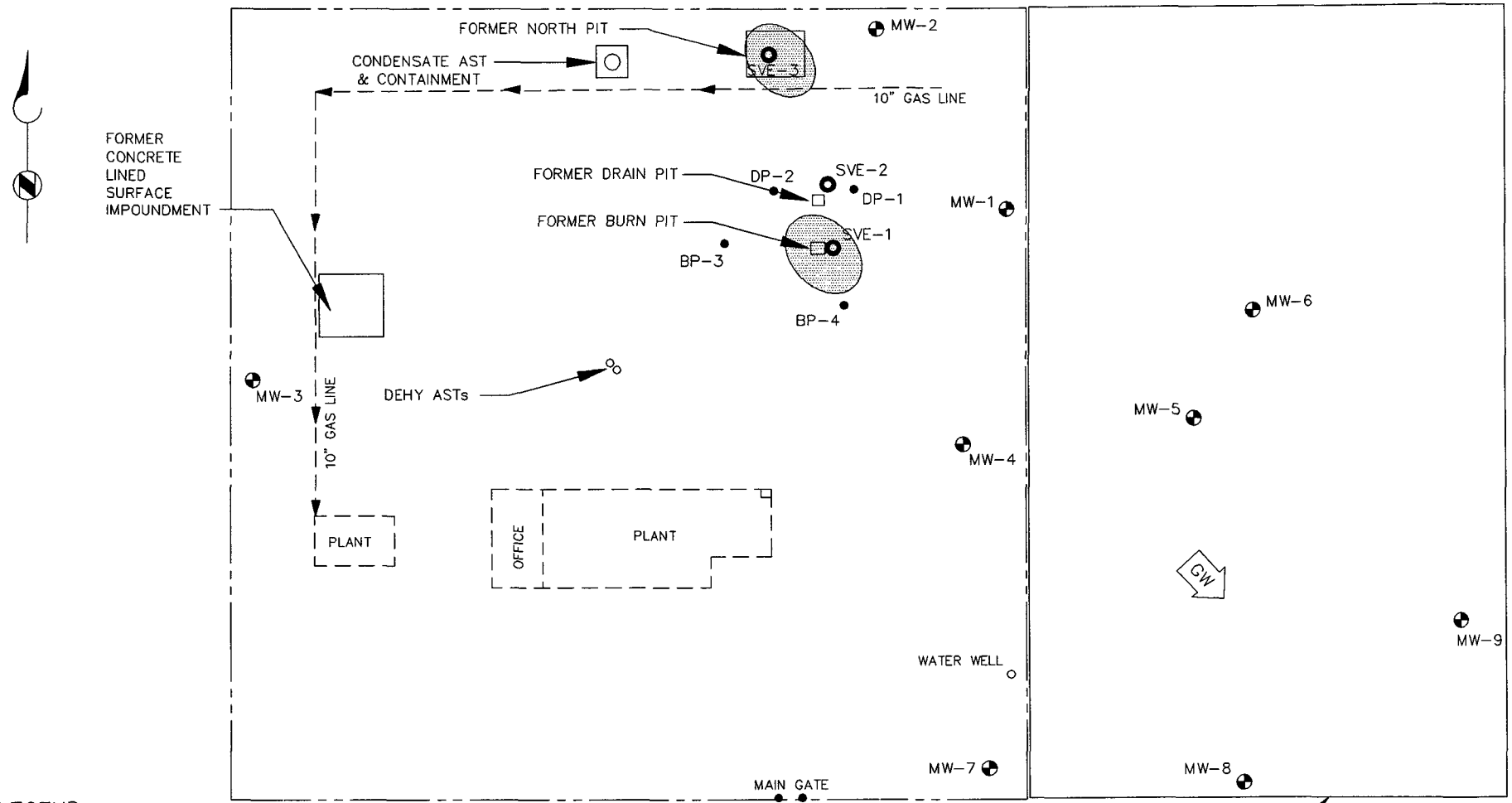

LEGEND

- MONITORING WELL
- SVE WELL
- SOIL BORING LOCATION
- GW GROUNDWATER FLOW DIRECTION
- ESTIMATED AREA OF PHASE SEPARATED HYDROCARBON

CYPRESS ENGINEERING SERVICES, INC. HOUSTON, TEXAS		0 50 100 SCALE: 1" = 100'	TITLE: ESTIMATED AREA OF PSH
SUBMITTED: ____ DATE: ____		DRAWN BY: GCR DATE ____	CLIENT: TRANSWESTERN PIPELINE COMPANY
APPROVED: ____ DATE: ____		CHK'D BY: ____ DATE ____	SITE LOCATION: BELL LAKE PLANT JAL, NEW MEXICO
REV.	DESCRIPTION / BY / DATE	APPROVED: ____ DATE ____	DATE: 02/26/96 PROJECT NUMBER: FIGURE NUMBER: 2

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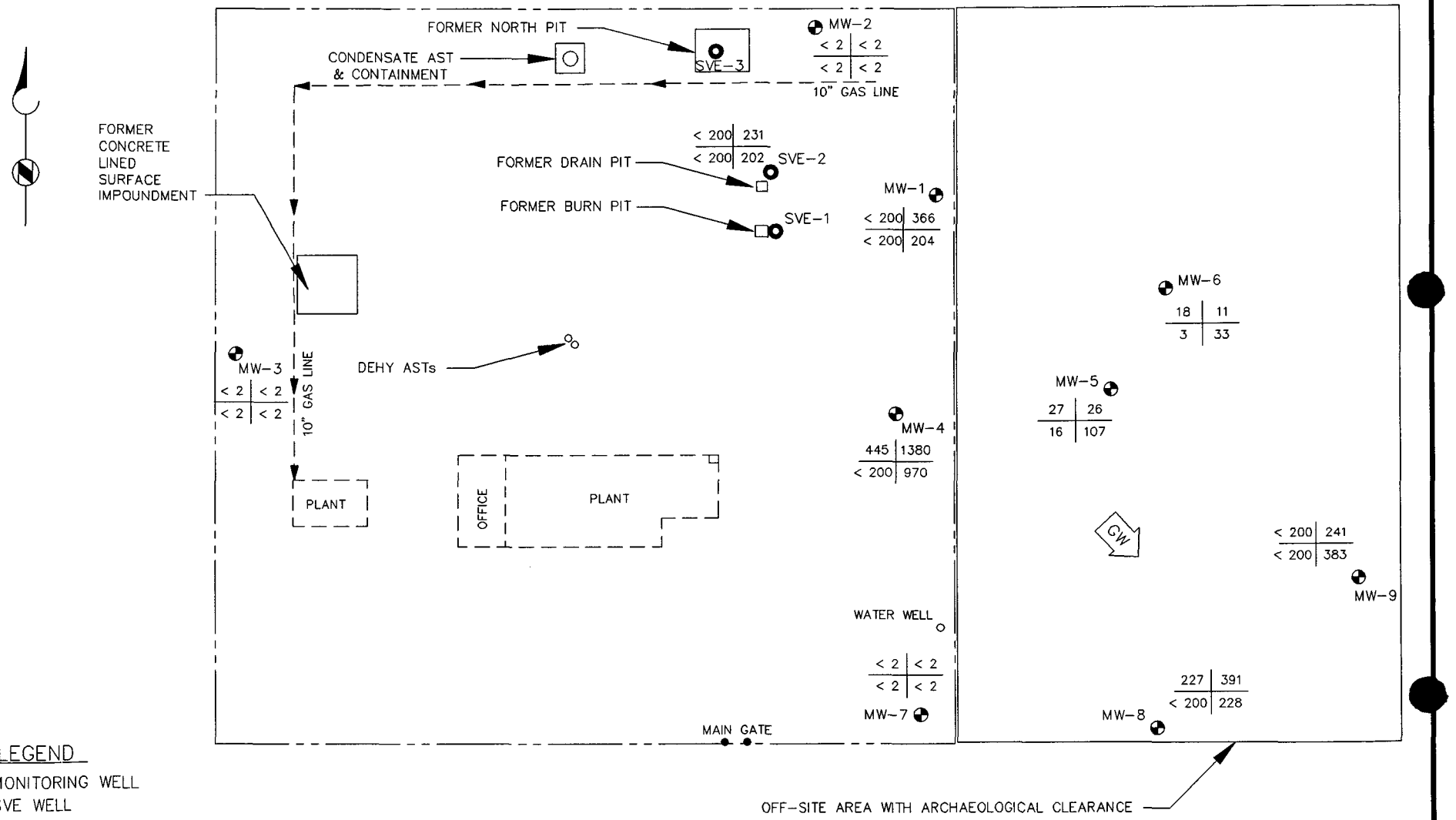

LEGEND

- MONITORING WELL
- SVE WELL
- GW GROUNDWATER FLOW DIRECTION
- B | T / E | X BTEX CONCENTRATION (ppb)

CYPRESS ENGINEERING SERVICES, INC. HOUSTON, TEXAS		0 50 100 SCALE: 1" = 100'	TITLE: BTEX DISTRIBUTION MAP DECEMBER 1995
SUBMITTED: ____ DATE: ____		DRAWN BY: GCR DATE ____	CLIENT: TRANSWESTERN PIPELINE COMPANY
APPROVED: ____ DATE: ____		CHK'D BY: ____ DATE ____	SITE LOCATION: BELL LAKE PLANT JAL, NEW MEXICO
	REV. / DESCRIPTION / BY / DATE	APPROVED: ____ DATE ____	DATE: 02/26/96 PROJECT NUMBER: FIGURE NUMBER: 3

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Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Tables

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

Well	Top of Casing (ft)	Sampling Date 11/93		Sampling Date 12/94		Sampling Date 5/95		Sampling Date 12/95		
		Depth to Water (ft)	Groundwater Surface Elevation (ft)	Depth to Water (ft)	Groundwater Surface Elevation (ft)	Depth to Water (ft)	Groundwater Surface Elevation (ft)	Depth to Hydrocarbon (HC) (ft)	Depth to Water or HC/Water Interface (ft)	Groundwater Surface Elevation (ft)
MW-1	3635.37	88.97	3546.40	89.38	3545.99	89.18	3546.19	(1)	89.27	3546.10
MW-2	3634.63	88.02	3546.61	88.15	3546.48	88.23	3546.40	(1)	88.31	3546.32
MW-3	3639.64	92.96	3546.68	93.08	3546.56	93.17	3546.47	(1)	93.24	3546.40
MW-4	3636.05			89.90	3546.15	89.97	3546.08	(1)	90.05	3546.00
MW-5	3635.31			89.33	3545.98	89.36	3545.95	(1)	89.40	3545.91
MW-6	3634.66			88.65	3546.01	88.70	3545.96	(1)	88.72	3545.94
MW-7	3635.89							(1)	90.18	3545.71
MW-8	3635.28							(1)	89.82	3545.46
MW-9	3633.58							(1)	88.21	3545.37
SVE-1	3637.06							90.68	92.12	3546.09
SVE-2	3636.49							(1)	90.18	3546.31
SVE-3	3636.44							90.00	90.30	3546.38

NOTES:
(1) Not applicable since no measurable thickness of hydrocarbon is present
(2) Corrections to ground water surface elevation for presence of hydrocarbon is calculated assuming a specific gravity of 0.8

Table 2. Summary of Ground Water Analyses
TW Bell Lake Gas Plant

Well	Sampling Date	TDS (mg/L)	Alk., total (mg/L)	pH (units)	DO (mg/l)	BTEX (ug/L)				Major Ions (mg/L)								
						Benzene	Toluene	Ethylbenzene	Total xylenes	Chloride	Sulfate	Sulfite	N-Nitrate	N-Nitrite	Calcium	Magnesium	Potassium	Sodium
NMWQCC Standard		1000	none	6-9	none	10	750	750	620	250	600	none	10	none	none	none	none	none
MW-1	10/93					**24**	29	32	82									
	12/94	**7100**		8.8		**92**	50	54	<111		140		.06[b]					
	5/95	**5800**	1290	8.8		8	13	9	29	**2620**	78.3	2.0	0.37	0.04	62.7	114	12.6	1400
	12/95	**5640**	[c]	**9.55**	<1	<200	366	<200	204	**2500**	176	3.0	**30**	0.02	34.3	75.8	9.48	2400
MW-2	10/93	**9200**				<5[a]	<5[a]	<5[a]	<5[a]									
	12/94	**2600**		7.2		6	5	<2	<4		51		<0.05[b]					
	5/95	**1500**	445	7.4		3	<2	<2	<2	**512**	73.6	0.50	<0.10	0.01	79.8	43.1	5.4	195
	12/95	**1420**	[c]	8.26	2	<2	<2	<2	<2	**470**	89	<1.0	10	0.02	132	46.2	5.89	3060
MW-3	10/93	**1500**				<5[a]	<5[a]	<5[a]	<5[a]									
	12/94	320		7.3		<2	<2	<2	<4		31		3.6[b]					
	5/95	380	210	7.7		<2	<2	<2	<2	14.5	43.4	0.50	3.3	<0.01	54.7	17.6	7.1	20.5
	12/95	334	[c]	7.79	9	<2	<2	<2	<2	17.0	35	<1.0	6.7	0.01	68	15.8	6.69	20.6
MW-4	12/94	**4700**		**9.7**		18	71	4	160		70		<0.05[b]					
	5/95	**5200**	2180	**10.0**		**300**	**1300**	<2	**800**	**1700**	104	17.5	<0.10	<0.01	<0.10	0.76	4.9	1650
	12/95	**6600**	[c]	**10.7**	<1	**445**	**1380**	<200	**970**	**1900**	90	21.0	**103**	<0.01	74.2	4.25	6.15	1880
MW-5	12/94	**9500**		**9.3**		9	20	4	64		49		<0.05[b]					
	5/95	**7400**	1690	**9.0**		**51**	109	16	219	**4070**	12.4	4.5	<0.10	0.01	4.8	2.0	13.8	2690
	12/95	**7580**	[c]	**10.4**	<1	**27**	26	16	107	**3650**	24	3.0	**53**	0.06	6.13	1.98	11.8	2590
MW-6	12/94	**4700**		8.5		<2	3	<2	<6		150		<0.05[b]					
	5/95	**5400**	1070	**9.2**		**28**	26	4	57	**2670**	78.3	2.5	0.59	0.04	11.1	4.6	14.4	1320
	12/95	**4770**	[c]	**9.13**	2	**18**	11	3	33	**2500**	92	2.0	**44.2**	0.03	68.8	11.8	17	1560

a - EPA Method 8240
b - Nitrate + Nitrite
c - Result not available, compound/constituent was not reported by the laboratory
d - No sample, phase separated hydrocarbon present
e - Questionable due to the silty nature of the sample

Table 2. Summary of Ground Water Analyses
TW Bell Lake Gas Plant

Well	Sampling Date	TDS (mg/L)	Alk., total (mg/L)	pH (units)	DO (mg/l)	BTEX (ug/L)				Major Ions (mg/L)								
						Benzene	Toluene	Ethylbenzene	Total xylenes	Chloride	Sulfate	Sulfite	N-Nitrate	N-Nitrite	Calcium	Magnesium	Potassium	Sodium
NMWQCC Standard		1000	none	6-9	none	10	750	750	620	250	600	none	10	none	none	none	none	none
MW-7	12/95	**4040**	[c]	7.15	6	<2	<2	<2	<2	**2150**	88	2.0	**17.5**	0.023	419	155	31.2	954
MW-8	12/95	**2840**	[c]	8.76	1	**227**	391	<200	228	**1140**	71	2.0	**24.5**	0.07	66.3	13	15.8	979
MW-9	12/95	**11700**[e]	[c]	7.17	10[e]	**<200**	241	<200	383	**4500**	7	3.0	**38.3**	<0.01	388	168	32	3030
SVE-1	12/95	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
SVE-2	12/95	**2670**	[c]	**9.5**	<1	**<200**	231	<200	202	**1500**	43	3.0	**31.9**	0.03	317	25.2	26.8	1720
SVE-3	12/95	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]	[d]
Water Well	5/95	900	144	8.2		<2	<2	<2	<2	100	356	0.50	<0.10	<0.01	38.7	23.2	5.3	194
	12/95	825	[c]	8.53	8	<2	<2	<2	<2	106	345	<1.0	1.7	<0.01	38	22.2	5.32	186

a - EPA Method 8240
b - Nitrate + Nitrite
c - Result not available, compound/constituent was not reported by the laboratory
d - No sample, phase separated hydrocarbon present
e - Questionable due to the silty nature of the sample

Table 3. Summary of Soil Analyses
TW Bell Lake Gas Plant

Well	Sampling Date	Sample interval (ft. bgs)	TPH (mg/kg)	BTEX (ug/kg) Benzene	Toluene	Ethylbenzene	Xylenes (total)
MW-7	12/95	90'-100'	<10	<2	<2	<2	<2
MW-8	12/95	90'-100'	13	<2	<2	<2	<2
MW-9	12/95	90'-100'	<10	<2	<2	<2	<2
SVE-1	12/95	50'-52'	5750	<2	90	59	142
		86'-88	6570	<2	107	66	145
SVE-2	12/95	50'-52'	<10	<2	<2	<2	<2
		86'-88	<10	<2	<2	<2	<2
SVE-3	12/95	50'-52'	1530	<2	42	14	107
		86'-88	14	<2	<2	<2	<2

Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #1

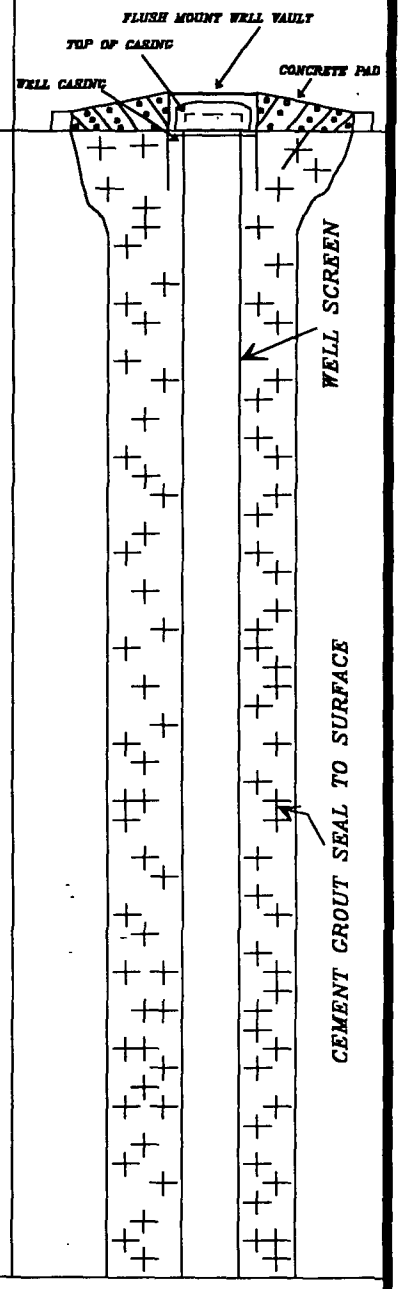
Boring Logs and Completion Diagrams for Soil Borings Drilled During December 1995

Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
		Enron Operations Bell Lake Facility MONITOR WELL # 7									
0	SM	0'–30': Light Tan Caliche, mixed with tan to white fine grained well sorted sandstone with little or no moisture.			Split Spoon Sampler			NO	0		
5									5		
10									10		
15									15		
20									20		
25		At 27', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone.							25		
30									30		
35		30'–100.6': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist. Water @ 90'? T.D. 100.6' Screened Interval 100–85.0' 10/20 Sand Filter Pack 100'–82.8' Bentonite Seal 82.8' –80.3' Cement Grout to Surface. Sampled Composite Drill Cuttings 90'–100, took head space reading with PID after 30 minutes Solar Irradiation, 4.7 PPM, PID Calibrated 100 PPM Isobutylene.							35		
40									40		
45									45		
50									50		
55									55		
60									60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 12/07/95 Well No.: MW-7

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

Comments: Monitor Well 7 was drilled in compliance with NMED Regulations.

Driller: Harrison Drilling, Inc., Mr. Paul Brow, Mr. Donnie Raza Logged By: C.M. Barnhill, NMED Certified Scientist I–053

REMARKS: GPS Coordinates: 32 Degrees, 14 Minutes, 53 Seconds North, 103 Degrees, 31 Minutes, 13 Seconds West. GPS Elevation 3801'

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 #7	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70	SM	30'–100.6': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @90' Screened Interval 100'–85' 10/20 Sand Filter Pack 100'–82.8' Bentonite Seal 82.8'–80.3' Cement Grout to Surface. T.D. 100.6'				Very Moist @ 90'		NO
80								
90								
100								

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL

70 | 80 | 90 | 100

T.D. 100.6'

Water @ 90'

Cement Grout to Surface
0.010 Slotted Screen
Bentonite Seal
10/20 Sand Filter Pack

REMARKS: Page 2 of Monitor Well # 7

CMB
ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

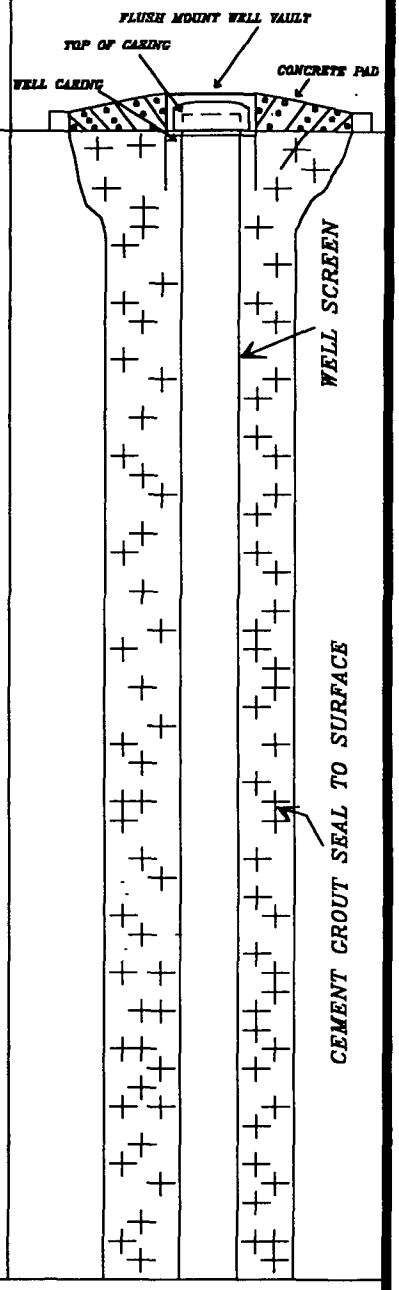
FIGURE NO.
2 of 2

Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
		Enron Operations Bell Lake Facility MONITOR WELL # 8									
0	SM	0'–43': Light Tan Caliche, mixed with tan to white fine grained well sorted sandstone with little or no moisture.			Split Spoon Sampler			NO	0		
5									5		
10									10		
15									15		
20									20		
25		At 35', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone.							25		
30									30		
35		43'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist. Water @ 90'? T.D. 100.0' Screened Interval 100–85.0' 10/20 Sand Filter Pack 100'–82.1' Bentonite Seal 82.0' –79.9' Cement Grout to Surface. Sampled Composite Drill Cuttings 90'–100, took head space reading with PID after 30 minutes Solar Irradiation, 13.8 PPM, PID Calibrated 100 PPM Isobutylene.							35		
40									40		
45									45		
50									50		
55									55		
60									60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 12/06/95 Well No.: MW-8

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

Comments: Monitor Well 8 was drilled in compliance with NMED Regulations.

Driller: Harrison Drilling, Inc., Mr. Paul Brow, Mr. Donnie Raza Logged By: C.M. Barnhill, NMED Certified Scientist I-053

REMARKS: GPS Coordinates: 32 Degrees, 14 Minutes, 54 Seconds North, 103 Degrees, 31 Minutes, 12 Seconds West. GPS Elevation 3749'

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 #8	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70 80 90 100	SM	43'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @90' Screened Interval 100'–85' 10/20 Sand Filter Pack 100'–82.1' Bentonite Seal 82.0'–79.9' Cement Grout to Surface. T.D. 100.6'				Very Moist @ 90'		NO

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL

70 80 90 100

T.D. 100.0'

Water @ 90'

Cement Grout to Surface
0.010 Slotted Screen
Bentonite Seal
10/20 Sand Filter Pack

REMARKS: Page 2 of Monitor Well # 8

CMB
ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

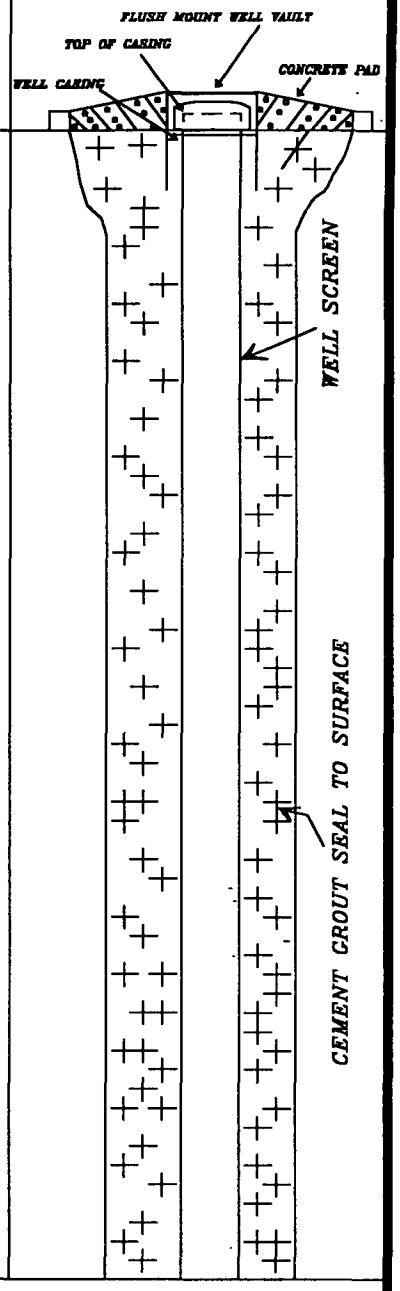
FIGURE NO.
2 of 2

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 # 9	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
0–60	SM	0'–45': Light Tan Caliche, mixed with tan to white fine grained well sorted sandstone with little or no moisture. At 34'–36', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone. 45'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist. Water @ 90'? T.D. 100.0' Screened Interval 100–85.0' 10/20 Sand Filter Pack 100'–82.6' Bentonite Seal 82.6' –80.0' Cement Grout to Surface. Sampled Composite Drill Cuttings 90'–100, took head space reading with PID after 30 minutes Solar Irradiation, 144.4 PPM, PID Calibrated 100 PPM Isobutylene.			Split Spoon Sampler			NO	0–60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 12/06/95 Well No.: MW-9

Size: 4 1/4" I.D. 8" O.D. Hollow Stem Auger Casing 2" Schedule 40 PVC Top of Casing Elevation: Unknown

Comments: Monitor Well 9 was drilled in compliance with NMED Regulations.

Driller: Harrison Drilling, Inc., Mr. Paul Brow, Mr. Donnie Raza Logged By: C.M. Barnhill, NMED Certified Scientist I–053

REMARKS: GPS Coordinates: 32 Degrees, 14 Minutes, 55 Seconds North, 103 Degrees, 31 Minutes, 10 Seconds West. GPS Elevation 3530'

CMB Environmental & Geological

FIGURE NO. 1 OF 2

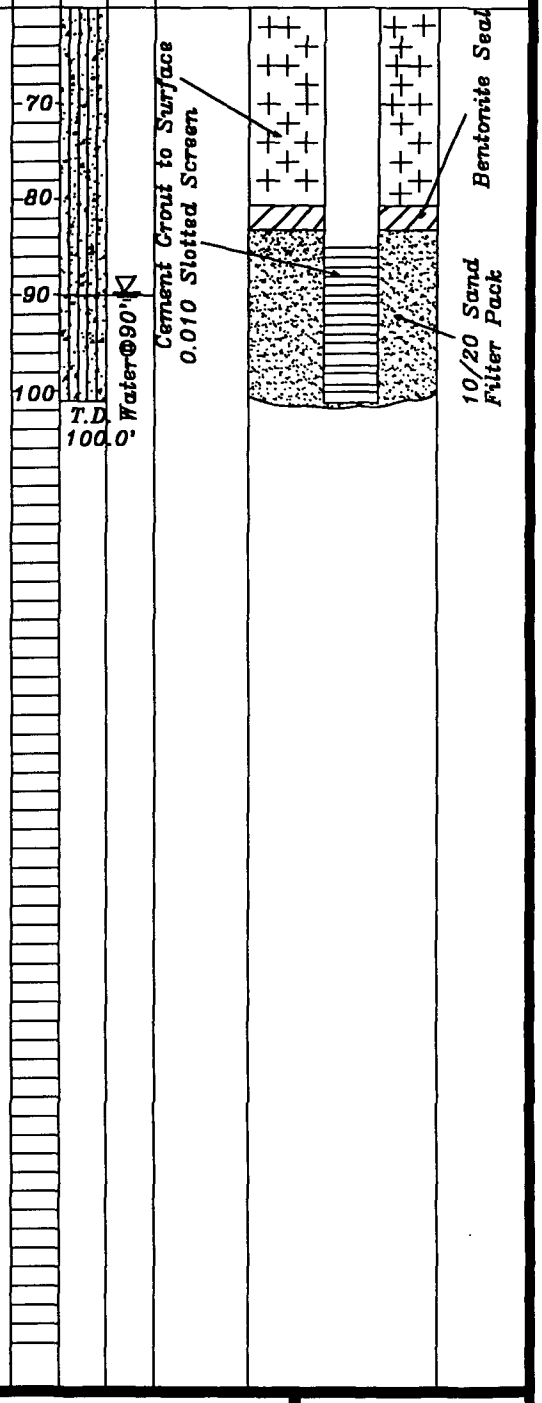
Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility Monitor Well #9	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70 80 90 100	SM	45'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @90' Screened Interval 100'–85' 10/20 Sand Filter Pack 100'–82.6' Bentonite Seal 82.6'–80.0' Cement Grout to Surface. T.D. 100.0'				Very Moist @ 90'		NO

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL



REMARKS: Page 2 of Monitor Well # 9

CMB
ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

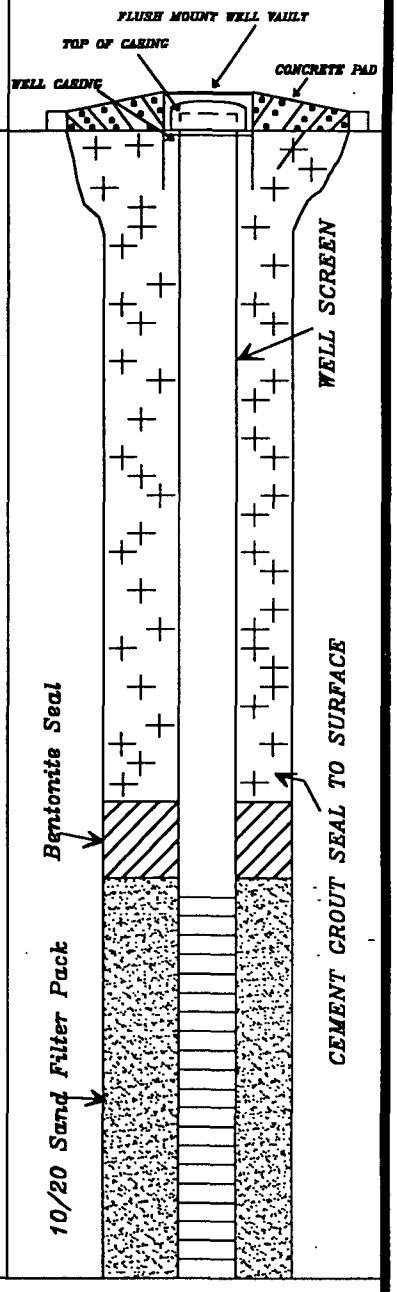
FIGURE NO.
2 of 2

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 / SVE# 1	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
0–60	SM	0'–5' Backfill; @ 10' Hit old pit, very contaminated soil with strong odor. Gray Black, green color. Sand med. grained mixed with gravel to 2 inches. At 15' white to tan sand mixed with caliche as in other wells. At 21' Green Gray Black, highly contaminated sand, fine grained, well sorted. This lithology continues to 36'. Sand has strong odor. At 36–38', 2' thick calcite cemented Sandstone layer. Drilling is harder. Sand is white to tan well sorted fine grained sandstone. Sand is highly contaminated. At 50'–52' Split Spoon Sample, rec. 1.0', Sand, lt. brown, fine gr., well sorted. 50'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist at 85'. @ 97' Gray Black, highly contaminated sand with strong odor. Water @ 90'? T.D. 100.0' Screened Interval 100–40.0' 10/20 Sand Filter Pack 100'–37.8' Bentonite Seal 37.8' –34.8' Cement Grout to Surface. Split Spoon Sample 86'–88' Recovered 1.0', Took (86'–88') head space reading with PID after 30 minutes Solar Irradiation, 1230 PPM, PID Calibrated 100 PPM Isobutylene.	40	SVE–1	Split Spoon Sampler	NO	762.8 PPM	YES	0–60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 12/07/95 Well No.: SVE–1

Size: 4 1/4" I.D., 8" O.D. Hollow Stem Auger Casing 2" Schedule 40 PVC Top of Casing Elevation: Unknown

Comments: SVE Well 1 was drilled in compliance with NMED Regulations.

Driller: Harrison Drilling, Inc., Mr. Paul Brow, Mr. Donnie Raza Logged By: C.M. Barnhill, NMED Certified Scientist I–053

REMARKS: GPS Coordinates: 32 Degrees, 14 Minutes, 51 Seconds North, 103 Degrees, 31 Minutes, 17 Seconds West. GPS Elevation 3579'

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 SVE Well #1	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO	DEPTH, FT.	STRATIGRAPHY	WATER LEVEL
70	SM	50'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @90'						YES	70		
80		Split Spoon Sample 86'–88' Recovered 1.0', at 97' gray black highly contaminated sand.	50	SVE–1 86'–88'	Split Spoon	Very Moist @ 90'	1230 PPM		80		
90		Screened Interval 100'–40' 10/20 Sand Filter Pack 100'–37.8' Bentonite Seal 37.8'–34.8' Cement Grout to Surface.							90		Water@90'
100		T.D. 100.0'							100	T.D. 100.0'	

0.010 Slotted Screen

10/20 Sand Filter Pack

REMARKS: Page 2 of Monitor / SVE Well # 1

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ROSWELL, NEW MEXICO

FIGURE NO.

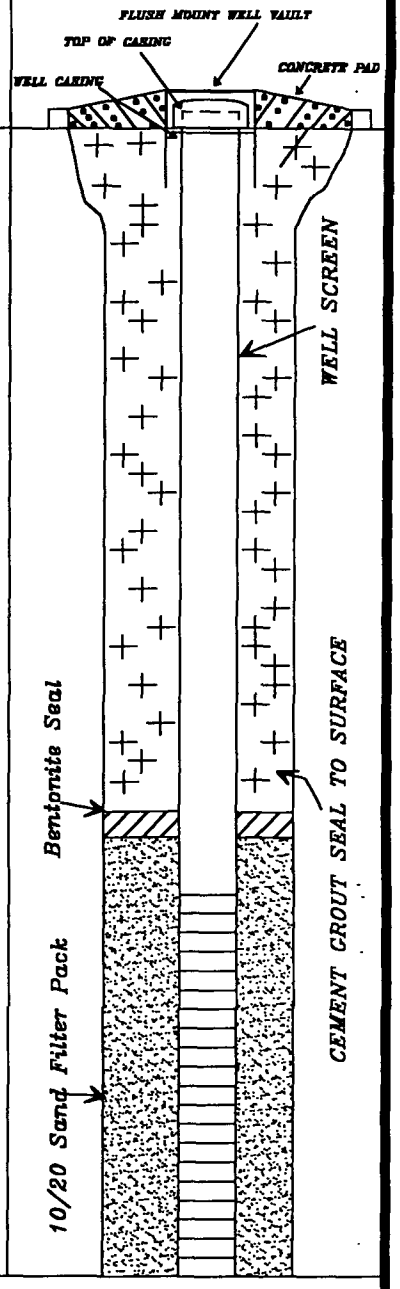
2 of 2

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 / SVE# 2	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'–4' Backfill; @ 4' Hit old pit, very contaminated soil with strong odor. Gray Black, green color. Sand med. grained mixed with gravel to 2 inches. At 10' white to tan sand mixed with caliche as in other wells.			Split Spoon Sampler			YES	0		
5									5		
10									10		
15		At 4'–10' Green Gray Black, highly contaminated sand, fine grained, well sorted. 10'–20' Lt. Tan Sand, fine gr. @37'. Auger Refusal							15		
20		At 37'–39', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone.							20		
25		At 50'–52' Split Spoon Sample, rec. 1.0', Sand, lt. brown, fine gr., well sorted.							25		
30		40'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist at 85'. strong odor. Water @ 90'? T.D. 100.0'							30		
35									35		
40									40		
45		Screened Interval 100–40.0' 10/20 Sand Filter Pack 100'–37.1' Bentonite Seal 37.1' –35.6' Cement Grout to Surface.							45		
50		Split Spoon Sample 86'–88' Recovered 1.0', Took (86'–88') head space reading with PID after 30 minutes Solar Irradiation, 18.7 PPM, PID Calibrated 100 PPM Isobutylene.	50	SVE–2		NO	75.6 PPM (50'–52')		50		
55									55		
60									60		



Client: Enron Operations Job No.: Bell Lake Facility Date Drilled: 12/08/95 Well No.: SVE–2

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

Comments: SVE Well 2 was drilled in compliance with NMED Regulations.

Driller: Harrison Drilling, Inc., Mr. Paul Brow, Mr. Donnie Raza Logged By: C.M. Barnhill, NMED Certified Scientist I–053

REMARKS: GPS Coordinates: 32 Degrees, 14 Minutes, 56 Seconds North, 103 Degrees, 31 Minutes, 15 Seconds West. GPS Elevation 3481'

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 SVE Well # 2	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70	SM	40'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @90' Split Spoon Sample 86'–88' Recovered 1.0', at T.D.' Strong Odor & contaminated sand. Screened Interval 100'–40' 10/20 Sand Filter Pack 100'–37.1' Bentonite Seal 37.1'–35.6' Cement Grout to Surface. T.D. 100.0'	50	SVE–1 86'–88'	Split Spoon	Very Moist @ 90'	18.7 PPM (86'–88')	YES
80								
90								
100								

DEPTH, FT. | STRATIGRAPHY | WATER LEVEL

70 | 80 | 90 | 100

T.D. 100.0'

Water @90'

0.010 Slotted Screen

10/20 Sand Filter Pack

REMARKS: Page 2 of Monitor / SVE Well # 2

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ENVIRONMENTAL & GEOLOGICAL

ROSWELL, NEW MEXICO

FIGURE NO.

2 of 2

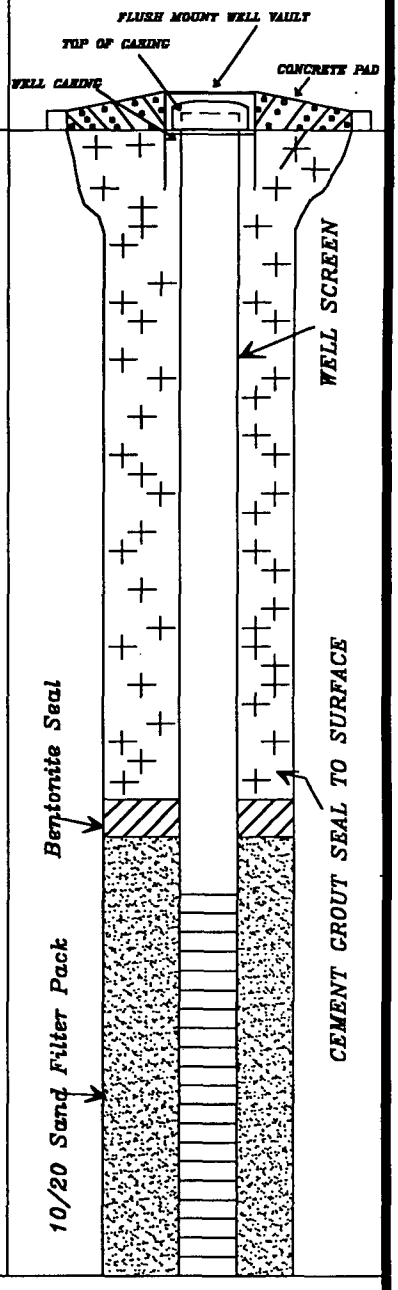
Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION Enron Operations Bell Lake Facility MONITOR WELL / SVE# 3	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
0	SM	0'–15' Backfill; @ 15' Hit old pit, very contaminated soil with strong odor. Gray Black, green color. Sand med. grained mixed with gravel to 1" inch. At 15' white to tan sand mixed with caliche as in other wells.			Split Spoon Sampler			YES
15		At 15' Green Gray Black, highly contaminated sand, fine grained, well sorted. This lithology continues to 37'. Sand has strong odor.						
20		At 37'–39', 2' thick calcite cemented Sandstone layer, Drilling is harder. Sand is white to tan well sorted fine grained sandstone. Sand is highly contaminated. At 50'–52' Split Spoon Sample, rec. 1.0', Sand, lt. brown, fine gr., well sorted.						
40		40'–100.0': Light Brown, well sorted, fine grained, clean Sandstone, little or no fines, slightly moist at 85'. @ TD' Sand is highly contaminated sand with strong odor. Water @ 90'? T.D. 100.0'						
50		Screened Interval 100–40.0' 10/20 Sand Filter Pack 100'–37.11' Bentonite Seal 37.1' –35.0' Cement Grout to Surface. Split Spoon Sample 86'–88' Recovered 1.0', Took (86'–88') head space reading with PID after 30 minutes Solar Irradiation, 21.4 PPM, PID Calibrated 100 PPM Isobutylene.	50	SVE–1		NO	258 PPM (50'–52')	

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: 12/09/95 Well No.: SVE–3

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

Comments: SVE Well 3 was drilled in compliance with NMED Regulations.

Driller: Harrison Drilling, Inc., Mr. Paul Brow, Mr. Donnie Raza Logged By: C.M. Barnhill, NMED Certified Scientist I–053

REMARKS: GPS Coordinates: 32 Degrees, 14 Minutes, 57 Seconds North, 103 Degrees, 31 Minutes, 15 Seconds West. GPS Elevation 3635'

CMB Environmental & Geological

FIGURE NO. 1 OF 2

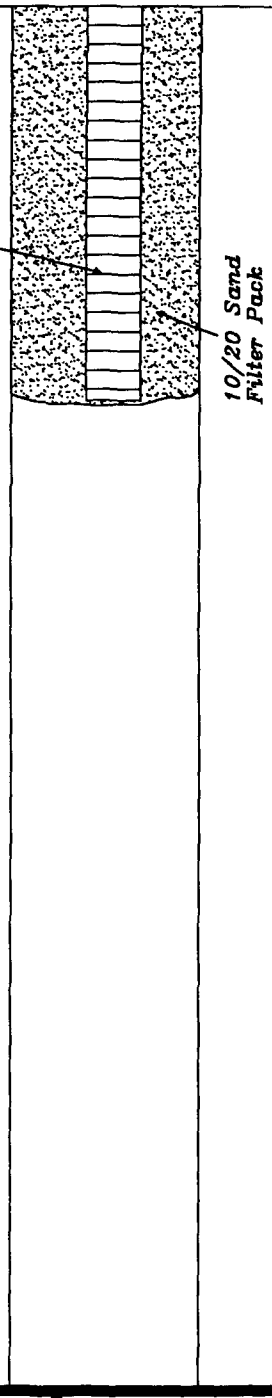
Monitor Well / Boring Log

Monitor Well Details

Monitor Well Set? (YES) NO

DEPTH, FT.	SYMBOL(USCS)	SAMPLE DESCRIPTION	SPT BLOWS	SAMPLE NO.	SAMPLING TOOL	MOISTURE	CONTAMINATION: ORGANIC VAPOR CONC. (PPM)	CONTAMINATION: VISIBLE Y=YES N=NO
70	SM	40'–100.0': Light Brown, well sorted, fine grained, sandstone, little or no fines, slightly moist. Water @90'						YES
80		Split Spoon Sample 86'–88' Recovered 1.0', at T.D.' Strong Odor & contaminated sand.	50	SVE–1 86'–88'	Split Spoon	Very Moist @ 90'	21.4 PPM (86'–88')	
90		Screened Interval 100'–40' 10/20 Sand Filter Pack 100'–37.11' Bentonite Seal 37.11'–35.0' Cement Grout to Surface. T.D. 100.0'						
100								

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



REMARKS: Page 2 of Monitor / SVE Well # 3

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ENVIRONMENTAL & GEOLOGICAL
ROSWELL, NEW MEXICO

FIGURE NO.
2 of 2

Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #2

Lab Reports for the December 1995 Groundwater Sampling Event

NATIONAL ENVIRONMENTAL TESTING, INC.

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

ANALYTICAL AND QUALITY CONTROL REPORT

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

01/05/1996

NET Job Number: 95.09524

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

Sample Number	Sample Description	Date Taken	Date Received
288086	MONITOR WELL #6	12/12/1995	12/16/1995
288087	MONITOR WELL #9	12/12/1995	12/16/1995
288088	MONITOR WELL #8	12/12/1995	12/16/1995
288089	MONITOR WELL #5	12/12/1995	12/16/1995
288090	MONITOR WELL #4	12/13/1995	12/16/1995
288091	MONITOR WELL #7	12/13/1995	12/16/1995
288092	SVE-2	12/13/1995	12/16/1995
288093	MW-1	12/14/1995	12/16/1995
288094	MW-2	12/14/1995	12/16/1995
288095	MW-3	12/14/1995	12/16/1995
288096	DEEP WATER WELL	12/14/1995	12/16/1995
288108	TRIP BLANK		12/18/1995

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

Holding Times: All holding times were within method criteria.

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

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

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

OCEAN GROUP

ANALYTICAL REPORT

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

01/05/1996
Job No.: 95.09524

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/16/1995

288086 MONITOR WELL #6
Taken: 12/12/1995 15:20

Chloride	2500		mg/L
N-Nitrate	44.2		mg/L
N-Nitrite	0.03		mg/L
Sulfate	92		mg/L
Sulfite	2.0		mg/L
TPH (Aqueous)	<0.5		mg/L
Calcium, ICP	68.8		mg/L
Magnesium	11.8		mg/L
Potassium	17.0		mg/L
Sodium	1560		mg/L
Total Dissolved Solids	4770		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	18		ug/L
Ethylbenzene	3		ug/L
Toluene	11		ug/L
Xylenes, Total	33		ug/L
SURR: a,a,a-TFT	80		% Rec

288087 MONITOR WELL #9
Taken: 12/12/1995 11:30

Chloride	4500		mg/L
N-Nitrate	38.3		mg/L
N-Nitrite	<0.01		mg/L
Sulfate	7.0		mg/L
Sulfite	3.0		mg/L
TPH (Aqueous)	2.1		mg/L
Calcium, ICP	388		mg/L
Magnesium	168		mg/L
Potassium	32.0		mg/L
Sodium	3030		mg/L
Total Dissolved Solids	11700		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<200	EDL	ug/L
Ethylbenzene	<200	EDL	ug/L
Toluene	241		ug/L
Xylenes, Total	383		ug/L
SURR: a,a,a-TFT	81		% Rec

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL REPORT

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

01/05/1996
Job No.: 95.09524

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/16/1995

288088 MONITOR WELL #8
Taken: 12/12/1995 12:40

Chloride	1140		mg/L
N-Nitrate	24.5		mg/L
N-Nitrite	0.07		mg/L
Sulfate	71		mg/L
Sulfite	2.0		mg/L
TPH (Aqueous)	<0.5		mg/L
Calcium, ICP	66.3		mg/L
Magnesium	13.0		mg/L
Potassium	15.8		mg/L
Sodium	979		mg/L
Total Dissolved Solids	2840		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	227		ug/L
Ethylbenzene	<200	EDL	ug/L
Toluene	391		ug/L
Xylenes, Total	228		ug/L
SURR: a,a,a-TFT	107		% Rec

288089 MONITOR WELL #5
Taken: 12/12/1995 15:50

Chloride	3650		mg/L
N-Nitrate	53.0		mg/L
N-Nitrite	0.06		mg/L
Sulfate	24		mg/L
Sulfite	3.0		mg/L
TPH (Aqueous)	0.9		mg/L
Calcium, ICP	6.13		mg/L
Magnesium	1.98		mg/L
Potassium	11.8		mg/L
Sodium	2590		mg/L
Total Dissolved Solids	7580		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	27		ug/L
Ethylbenzene	16		ug/L
Toluene	26		ug/L
Xylenes, Total	107		ug/L
SURR: a,a,a-TFT	97		% Rec

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL REPORT

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

01/05/1996
Job No.: 95.09524

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/16/1995

288090 MONITOR WELL #4
Taken: 12/13/1995 08:25

Chloride	1900		mg/L
N-Nitrate	103		mg/L
N-Nitrite	<0.01		mg/L
Sulfate	90		mg/L
Sulfite	21.0		mg/L
TPH (Aqueous)	9.3		mg/L
Calcium, ICP	74.2		mg/L
Magnesium	4.25		mg/L
Potassium	6.15		mg/L
Sodium	1880		mg/L
Total Dissolved Solids	6600		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	445		ug/L
Ethylbenzene	<200	EDL	ug/L
Toluene	1380		ug/L
Xylenes, Total	970		ug/L
SURR: a,a,a-TFT	128		% Rec

288091 MONITOR WELL #7
Taken: 12/13/1995 09:25

Chloride	2150		mg/L
N-Nitrate	17.5		mg/L
N-Nitrite	0.023		mg/L
Sulfate	88		mg/L
Sulfite	2.0		mg/L
TPH (Aqueous)	<0.5		mg/L
Calcium, ICP	419		mg/L
Magnesium	155		mg/L
Potassium	31.2		mg/L
Sodium	954		mg/L
Total Dissolved Solids	4040		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<2		ug/L
Ethylbenzene	<2		ug/L
Toluene	<2		ug/L
Xylenes, Total	<2		ug/L
SURR: a,a,a-TFT	116		% Rec

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL REPORT

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

01/05/1996
Job No.: 95.09524

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/16/1995

288092 SVE-2
Taken: 12/13/1995 14:30

Chloride	1500		mg/L
N-Nitrate	31.9		mg/L
N-Nitrite	0.03		mg/L
Sulfate	43		mg/L
Sulfite	3.0		mg/L
TPH (Aqueous)	<0.5		mg/L
Calcium, ICP	317		mg/L
Magnesium	25.2		mg/L
Potassium	26.8		mg/L
Sodium	1720		mg/L
Total Dissolved Solids	2670		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<200	EDL	ug/L
Ethylbenzene	<200	EDL	ug/L
Toluene	231		ug/L
Xylenes, Total	202		ug/L
SURR: a,a,a-TFT	123		% Rec

288093 MW-1
Taken: 12/14/1995 08:35

Chloride	2500		mg/L
N-Nitrate	30.0		mg/L
N-Nitrite	0.02		mg/L
Sulfate	176		mg/L
Sulfite	3.0		mg/L
TPH (Aqueous)	0.7		mg/L
Calcium, ICP	34.3		mg/L
Magnesium	75.8		mg/L
Potassium	9.48		mg/L
Sodium	2400		mg/L
Total Dissolved Solids	5640		mg/L
EPA-8020 AQ (PRESERVED)			
Benzene	<200	EDL	ug/L
Ethylbenzene	<200	EDL	ug/L
Toluene	366		ug/L
Xylenes, Total	204		ug/L
SURR: a,a,a-TFT	112		% Rec

EDL - Elevated Detection Limit due to matrix interference.

ANALYTICAL REPORT

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

01/05/1996
Job No.: 95.09524

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/16/1995

288094 MW-2
Taken: 12/14/1995 10:45

Chloride	470	mg/L
N-Nitrate	10.0	mg/L
N-Nitrite	0.02	mg/L
Sulfate	89	mg/L
Sulfite	<1.0	mg/L
TPH (Aqueous)	<0.5	mg/L
Calcium, ICP	132	mg/L
Magnesium	46.2	mg/L
Potassium	5.89	mg/L
Sodium	3060	mg/L
Total Dissolved Solids	1420	mg/L
EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	3	ug/L
SURR: a,a,a-TFT	79	% Rec

288095 MW-3
Taken: 12/14/1995 12:20

Chloride	17	mg/L
N-Nitrate	6.7	mg/L
N-Nitrite	0.01	mg/L
Sulfate	35	mg/L
Sulfite	<1.0	mg/L
TPH (Aqueous)	<0.5	mg/L
Calcium, ICP	68.0	mg/L
Magnesium	15.8	mg/L
Potassium	6.69	mg/L
Sodium	20.6	mg/L
Total Dissolved Solids	334	mg/L
EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
SURR: a,a,a-TFT	103	% Rec

ANALYTICAL REPORT

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

01/05/1996
Job No.: 95.09524

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/16/1995

288096 DEEP WATER WELL
Taken: 12/14/1995 14:50

Chloride	106	mg/L
N-Nitrate	1.7	mg/L
N-Nitrite	<0.01	mg/L
Sulfate	345	mg/L
Sulfite	<1.0	mg/L
TPH (Aqueous)	<0.5	mg/L
Calcium, ICP	38.0	mg/L
Magnesium	22.2	mg/L
Potassium	5.32	mg/L
Sodium	186	mg/L
Total Dissolved Solids	825	mg/L
EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
SURR: a,a,a-TFT	78	% Rec

288108 TRIP BLANK
Taken:

EPA-8020 AQ (PRESERVED)		
Benzene	<2	ug/L
Ethylbenzene	<2	ug/L
Toluene	<2	ug/L
Xylenes, Total	<2	ug/L
SURR: a,a,a-TFT	99	% Rec

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 95.09524

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
N-Nitrate	kwo	12/18/1995	SM-4500NO	1.04	1.0	104	NA
N-Nitrite	jar	12/16/1995	E-354.1	0.048	0.050	96	NA
Sulfate	grd	01/03/1996	E-375.4	9.4	10.0	94	NA
TPH (Aqueous)	bss	12/26/1995	E-418.1	96	97	99	NA
Calcium, ICP	des	12/18/1995	E-200.7	11.1	11.0	101	NA
Calcium, ICP	des	12/19/1995	E-200.7	11.2	11.0	102	NA
Magnesium	des	12/18/1995	S-6010A	10.2	10.0	102	NA
Potassium	des	12/18/1995	S-6010A	10.0	10.0	100	NA
Potassium	des	12/19/1995	S-6010A	9.83	10.0	98	NA
Sodium	des	12/18/1995	S-6010A	10.3	10.0	103	NA
Sodium	des	12/19/1995	S-6010A	9.98	10.0	100	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	12/10/1995	S-8020M	19	20	95	NA
Ethylbenzene	tcc	12/10/1995	S-8020M	20	20	100	NA
Toluene	tcc	12/10/1995	S-8020M	20	20	100	NA
Xylenes, Total	tcc	12/10/1995	S-8020M	57	60	95	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	12/13/1995	S-8020M	19	20	95	NA
Ethylbenzene	tcc	12/13/1995	S-8020M	20	20	100	NA
Toluene	tcc	12/13/1995	S-8020M	20	20	100	NA
Xylenes, Total	tcc	12/13/1995	S-8020M	63	60	105	NA
EPA-8020 AQ (PRESERVED)			S-8020M				

Method References and Codes

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

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

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

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

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

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

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification (CCV)

JOB NUMBER: 95.09524

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Benzene	tcc	12/19/1995	S-8020M	20	20	100	NA
Ethylbenzene	tcc	12/19/1995	S-8020M	19	20	95	NA
Toluene	tcc	12/19/1995	S-8020M	21	20	105	NA
Xylenes, Total	tcc	12/19/1995	S-8020M	62	60	103	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	tcc	12/20/1995	S-8020M	17	20	85	NA
Ethylbenzene	tcc	12/20/1995	S-8020M	19	20	95	NA
Toluene	tcc	12/20/1995	S-8020M	19	20	95	NA
Xylenes, Total	tcc	12/20/1995	S-8020M	60	60	100	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bwb	01/02/1996	S-8020M	19	20	95	NA
Ethylbenzene	bwb	01/02/1996	S-8020M	23	20	115	NA
Toluene	bwb	01/02/1996	S-8020M	23	20	115	NA
Xylenes, Total	bwb	01/02/1996	S-8020M	64	60	107	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bwb	01/03/1996	S-8020M	18	20	90	NA
Ethylbenzene	bwb	01/03/1996	S-8020M	21	20	105	NA
Toluene	bwb	01/03/1996	S-8020M	22	20	110	NA
Xylenes, Total	bwb	01/03/1996	S-8020M	60	60	100	NA
EPA-8020 AQ (PRESERVED)			S-8020M				
Benzene	bwb	01/04/1996	S-8020M	19	20	95	NA
Ethylbenzene	bwb	01/04/1996	S-8020M	20	20	100	NA

Method References and Codes

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

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

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

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

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

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

D: ASTM Method

M: Method has been modified

*: Other Reference

QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 95.09524

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
Toluene	bwb	01/04/1996	S-8020M	20	20	100	NA
Xylenes, Total	bwb	01/04/1996	S-8020M	61	60	102	NA

Method References and Codes

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

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

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

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

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

D: ASTM Method

M: Method has been modified

*: Other Reference

NET®

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.09524

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
Chloride	01/03/1996	<5.0	mg/L	5.0	NA
N-Nitrate	12/18/1995	<0.10	mg/L	0.10	NA
N-Nitrite	12/16/1995	<0.01	mg/L	0.01	NA
Sulfate	01/03/1996	<5.0	mg/L	5.0	NA
Sulfite	01/03/1996	1.0	mg/L	0.50	NA
TPH (Aqueous)	12/26/1995	<0.5	mg/L	0.5	NA
Calcium, ICP	12/18/1995	<0.50	mg/L	0.50	NA
Magnesium	12/18/1995	<0.10	mg/L	0.10	NA
Potassium	12/18/1995	<0.50	mg/L	0.50	NA
Sodium	12/18/1995	<0.50	mg/L	0.50	NA
Total Dissolved Solids	12/17/1995	<10	mg/L	10	NA
Total Dissolved Solids	12/18/1995	<5	mg/L	5	NA
Total Dissolved Solids	12/19/1995	<5	mg/L	5	NA
Total Dissolved Solids	12/20/1995	<5	mg/L	5	NA
EPA-8020 AQ (PRESERVED)					
Benzene	12/10/1995	<2	ug/L	2	NA
Ethylbenzene	12/10/1995	<2	ug/L	2	NA
Toluene	12/10/1995	<2	ug/L	2	NA
Xylenes, Total	12/10/1995	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	12/13/1995	<2	ug/L	2	NA
Ethylbenzene	12/13/1995	<2	ug/L	2	NA
Toluene	12/13/1995	<2	ug/L	2	NA
Xylenes, Total	12/13/1995	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	12/19/1995	<2	ug/L	2	NA
Ethylbenzene	12/19/1995	<2	ug/L	2	NA
Toluene	12/19/1995	<2	ug/L	2	NA
Xylenes, Total	12/19/1995	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	12/20/1995	<2	ug/L	2	NA
Ethylbenzene	12/20/1995	<2	ug/L	2	NA
Toluene	12/20/1995	<2	ug/L	2	NA
Xylenes, Total	12/20/1995	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/02/1996	<2	ug/L	2	NA
Ethylbenzene	01/02/1996	<2	ug/L	2	NA
Toluene	01/02/1996	<2	ug/L	2	NA

Advisory Control Limits for Blanks

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

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

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

NET®

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.09524

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
Xylenes, Total	01/02/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/03/1996	<2	ug/L	2	NA
Ethylbenzene	01/03/1996	<2	ug/L	2	NA
Toluene	01/03/1996	<2	ug/L	2	NA
Xylenes, Total	01/03/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/03/1996	<2	ug/L	2	NA
Ethylbenzene	01/03/1996	<2	ug/L	2	NA
Toluene	01/03/1996	<2	ug/L	2	NA
Xylenes, Total	01/03/1996	<2	ug/L	2	NA
EPA-8020 AQ (PRESERVED)					
Benzene	01/04/1996	<2	ug/L	2	NA
Ethylbenzene	01/04/1996	<2	ug/L	2	NA
Toluene	01/04/1996	<2	ug/L	2	NA
Xylenes, Total	01/04/1996	<2	ug/L	2	NA

Advisory Control Limits for Blanks

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

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

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

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 95.09524

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
Chloride	540	500	108	
N-Nitrate	1.0	1.0	100	
N-Nitrite	0.049	0.05	98	
Sulfate	9.1	10.0	91	
TPH (Aqueous)	44	50	88	
Calcium, ICP	10.5	11.0	96	
Magnesium	9.42	10.0	94	
Potassium	9.33	10.0	93	
Sodium	9.55	10.0	96	
Total Dissolved Solids	1978	2000	99	
Total Dissolved Solids	1926	2000	96	
Total Dissolved Solids	2003	2000	100	
Total Dissolved Solids	2000	2000	100	
EPA-8020 AQ (PRESERVED)				
Benzene	25	20	125	
Ethylbenzene	23	20	115	
Toluene	22	20	110	
Xylenes, Total	71	60	118	
EPA-8020 AQ (PRESERVED)				
Benzene	16	20	80	
Ethylbenzene	22	20	110	
Toluene	23	20	115	
Xylenes, Total	61	60	102	
EPA-8020 AQ (PRESERVED)				
Benzene	16	20	80	
Ethylbenzene	22	20	110	
Toluene	23	20	115	
Xylenes, Total	63	60	105	

Advisory Control Limits for LCS

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

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

JOB NUMBER: 95.09524

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
Chloride	1900	4500	4550	2500	104	106	1.9	
Chloride	1500	4250	4200	2500	110	108	1.8	
N-Nitrate	44.2	49.4	49.8	5.0	104	112	7.4	RHT
N-Nitrate	30.0	50.7	50.2	20.0	104	101	2.4	AHT
N-Nitrite	0.01	0.06	0.06	0.050	100	100	0	
N-Nitrite	<0.01	0.054	0.054	0.050	108	108	0	
Sulfate	35	58	57	20.0	115	110	4.4	
Sulfate	62	82	83	20.0	100	105	4.9	
Calcium, ICP	68.8	79.5	79.5	11.0	97	97	0	
Magnesium	11.8	22.5	23.8	10.0	107	120	12	
Potassium	17.0	27.0	28.7	10.0	100	117	16	
Sodium	1560	10.0	10.0	10.0	-15499	-15499	0	
EPA-8020 AQ (PRESERVED)								
Benzene	<200	2780	2367	2000	139	118	16	
Ethylbenzene	<200	2290	1910	2000	115	96	18	
Toluene	<200	2210	1900	2000	111	95	15	
Xylenes, Total	<200	7560	6250	6000	126	104	19	
EPA-8020 AQ (PRESERVED)								
Benzene	382	498	508	200	58	63	8.3	
Ethylbenzene	285	474	458	200	95	87	8.8	
Toluene	28	258	245	200	115	109	5.8	
Xylenes, Total	282	848	844	600	94	94	0.6	
EPA-8020 AQ (PRESERVED)								
Benzene	<2	14	16	20	70	80	13	
Ethylbenzene	<2	18	22	20	90	110	20	
Toluene	<2	19	23	20	95	115	19	
Xylenes, Total	<2	53	63	60	88	105	17	

AHT - Analyzed out of holding time.
RHT - Received out of holding time.

Advisory Control Limits for MS/MSDs

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

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

QUALITY CONTROL REPORT
DUPLICATES

JOB NUMBER: 95.09524

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	RPD	SPIKE SAMPLE RESULT	SPIKE RESULT	SPIKE AMOUNT	% REC.	FLAG
Sulfite	3.0	3.0	0.0	NA	NA	NA	NA	RHT
Sulfite	21.0	21.0	0.0	NA	NA	NA	NA	RHT
Total Dissolved Solids	974	1000	2.5	NA	NA	NA	NA	
Total Dissolved Solids	7580	7520	0.8	NA	NA	NA	NA	
Total Dissolved Solids	1010	1100	8.5	NA	NA	NA	NA	
Total Dissolved Solids	334	316	5.5	NA	NA	NA	NA	

RHT - Received out of holding time.

Advisory Control Limits for Spikes

The spike recovery should be 75-125% if the spike amount is greater than or equal to one fourth of the sample result value.

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

Advisory Control Limits for Duplicates

The RPD for the sample and duplicate should be less than 20.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: Enron Operations Corp. Environmental Affairs Dept.
ADDRESS: Rm 3AC 3142 PO Box 1188 Houston Tx 77251-1188
PHONE: 713-646-7327 FAX: 713-646-7867
PROJECT NAME/LOCATION: Enron Bell Lake Facility
PROJECT NUMBER:
PROJECT MANAGER: MR. George Robinson, P.E.

REPORT TO: MR. George Robinson
INVOICE TO: Enron Operations
P.O. NO.:
NET QUOTE NO.:

Clayton M Barnhill / Sandy Sharp

SAMPLED BY
Clayton M Barnhill (PRINT NAME) Clayton M Barnhill 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 (2 40ml VOAs)	TPH (1 glass 40z Jar)	TDS (1 plastic 40z Jar)	Chloride, Sulfate, N-Nitrate, Ca	Na, Mg, K, Fe, Mn, Silica	Silica (1 plastic 40z Jar)
		(2) 40ml VOAs, 1 glass 4oz., 1 Plastic Qt, 1 pint #20														
		1 Glass 40z Jar per well.														
12/14/95	3:20 pm	Monitor Well #6														
12/14/95	11:30 am	Monitor Well #9														
12/12/95	12:40 pm	MW-8														
12/12/95	3:50 pm	MW-5														
12/13/95	8:25 am	MW-4														
12/13/95	9:25 am	MW-7														
12/13/95	2:30 pm	~~SVE-1~~ SVE-2														
12/14/95	8:35 am	MW-1														
12/14/95	10:45 am	MW-2														
12/14/95	12:40 pm	MW-3														
12/14/95	2:50 pm	Deep Water Well														
		(NO PINT PLASTIC BOTTLE)														

To assist us in selecting the proper method

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

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

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

COMMENTS

dlw 12/26

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? ~~YES / NO~~ N/A

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

TEMPERATURE UPON RECEIPT: 1°C Bottles supplied by NET? (YES) / NO

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

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Clayton M Barnhill	12/15/95	3:05 pm			12/16/95	10:00 AM	RB Dowitt

METHOD OF SHIPMENT

REMARKS: Please Send Copy of Report to MR. George Robinson, P.E.

OCEAN

Annual Report of Groundwater Remediation Activities

Transwestern Pipeline Company
Bell Lake Plant

Attachment #3

Lab Reports for Soil Samples Collected During the December 1995 Field Activities

NATIONAL ENVIRONMENTAL TESTING, INC.

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

ANALYTICAL AND QUALITY CONTROL REPORT

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

12/21/1995

NET Job Number: 95.09362

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

Sample Number	Sample Description	Date Taken	Date Received
287490	MW-8 90'-100' GRAB SAMPLE SOIL	12/06/1995	12/12/1995
287491	MW-9 90'-100' GRAB SAMPLE SOIL	12/06/1995	12/12/1995
287492	MW-7 90'-100' GRAB SAMPLE SOIL	12/07/1995	12/12/1995
287493	SVE-1 50-52' S;LIT SPPON GRAB S	12/07/1995	12/12/1995
287494	SVE-1 86-88' SPLIT SPPON GRAB S	12/07/1995	12/12/1995
287495	SVE-3 86-88' SPLIT SPPON GRAB S	12/09/1995	12/12/1995
287496	SVE-3 50-52' SPLIT SPPON GRAB S	12/09/1995	12/12/1995
287497	SVE-2 50-52' SPLIT SPPON GRAB S	12/09/1995	12/12/1995
287498	SVE-2 86-88' SPLIT SPPON GRAB S	12/09/1995	12/12/1995

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

Holding Times: All holding times were within method criteria.

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

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

Analysis Comments: No Unusual Comments

Gregory K. Horton
Project Manager

OCEAN GROUP

ANALYTICAL REPORT

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

12/21/1995
Job No.: 95.09362

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/12/1995

287490 MW-8 90'-100' GRAB SAMPLE SOIL CUTTI
Taken: 12/06/1995 10:05

TPH (Nonaqueous)	13	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	<2	ug/kg
Toluene	<2	ug/kg
Xylenes, Total	<2	ug/kg
SURR: a,a,a-TFT	87	% Rec

287491 MW-9 90'-100' GRAB SAMPLE SOIL CUTTI
Taken: 12/06/1995 15:55

TPH (Nonaqueous)	<10	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	<2	ug/kg
Toluene	<2	ug/kg
Xylenes, Total	<2	ug/kg
SURR: a,a,a-TFT	81	% Rec

287492 MW-7 90'-100' GRAB SAMPLE SOIL CUTTI
Taken: 12/07/1995 09:38

TPH (Nonaqueous)	<10	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	<2	ug/kg
Toluene	<2	ug/kg
Xylenes, Total	<2	ug/kg
SURR: a,a,a-TFT	83	% Rec

287493 SVE-1 50-52' S;LIT SPPON GRAB SOIL
Taken: 12/07/1995 14:00

TPH (Nonaqueous)	5750	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	59	ug/kg
Toluene	90	ug/kg
Xylenes, Total	142	ug/kg
SURR: a,a,a-TFT	49	% Rec

ANALYTICAL REPORT

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

12/21/1995
Job No.: 95.09362

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/12/1995

287494 SVE-1 86-88' SPLIT SPPON GRAB SOIL
Taken: 12/07/1995 15:10

TPH (Nonaqueous)	6570	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	66	ug/kg
Toluene	107	ug/kg
Xylenes, Total	145	ug/kg
SURR: a,a,a-TFT	97	% Rec

287495 SVE-3 86-88' SPLIT SPPON GRAB SOIL
Taken: 12/09/1995 08:30

TPH (Nonaqueous)	14	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	<2	ug/kg
Toluene	<2	ug/kg
Xylenes, Total	<2	ug/kg
SURR: a,a,a-TFT	101	% Rec

287496 SVE-3 50-52' SPLIT SPPON GRAB SOIL
Taken: 12/09/1995 07:00

TPH (Nonaqueous)	1530	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	14	ug/kg
Toluene	42	ug/kg
Xylenes, Total	107	ug/kg
SURR: a,a,a-TFT	49	% Rec

287497 SVE-2 50-52' SPLIT SPPON GRAB SOIL
Taken: 12/09/1995 13:40

TPH (Nonaqueous)	<10	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	<2	ug/kg
Toluene	<2	ug/kg
Xylenes, Total	<2	ug/kg
SURR: a,a,a-TFT	70	% Rec

ANALYTICAL REPORT

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

12/21/1995
Job No.: 95.09362

Project Name: ENRON BELL LAKE FACILITY

Date Received: 12/12/1995

287498 SVE-2 86-88' SPLIT SPPON GRAB SOIL
Taken: 12/09/1995 14:10

TPH (Nonaqueous)	<10	ug/g
EPA 8020-NONAQ		
Benzene	<2	ug/kg
Ethylbenzene	<2	ug/kg
Toluene	<2	ug/kg
Xylenes, Total	<2	ug/kg
SURR: a,a,a-TFT	112	% Rec

QUALITY CONTROL REPORT
Continuing Calibration Verification
(CCV)

JOB NUMBER: 95.09362

PARAMETER	ANALYST	DATE ANALYZED	METHOD	CCV RESULT	CCV TRUE CONCENTRATION	% REC.	FLAG
TPH (Nonaqueous)	bss	12/15/1995	E-418.1	96.6	97	100	NA
EPA 8020-NONAQ			S-8020A				
Benzene	tcc	12/04/1995	S-8020A	17	20	85	NA
Ethylbenzene	tcc	12/04/1995	S-8020A	18	20	90	NA
Toluene	tcc	12/04/1995	S-8020A	18	20	90	NA
Xylenes, Total	tcc	12/04/1995	S-8020A	58	60	97	NA
EPA 8020-NONAQ			S-8020A				
Benzene	tcc	12/15/1995	S-8020A	20	20	100	NA
Ethylbenzene	tcc	12/15/1995	S-8020A	22	20	110	NA
Toluene	tcc	12/15/1995	S-8020A	23	20	115	NA
Xylenes, Total	tcc	12/15/1995	S-8020A	63	60	105	NA
EPA 8020-NONAQ			S-8020A				
Benzene	bwb	12/18/1995	S-8020A	21	20	105	NA
Ethylbenzene	bwb	12/18/1995	S-8020A	20	20	100	NA
Toluene	bwb	12/18/1995	S-8020A	22	20	110	NA
Xylenes, Total	bwb	12/18/1995	S-8020A	59	60	98	NA

Method References and Codes

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

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

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

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

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

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

D: ASTM Method

M: Method has been modified

*: Other Reference

NET®

QUALITY CONTROL REPORT
BLANKS

JOB NUMBER: 95.09362

PARAMETER	DATE ANALYZED	BLANK	UNITS	REPORTING LIMIT	FLAG
TPH (Nonaqueous)	12/15/1995	<10	ug/g	10	NA
EPA 8020-NONAQ					
Benzene	12/20/1995	<2	ug/kg	2	NA
Ethylbenzene	12/20/1995	<2	ug/kg	2	NA
Toluene	12/20/1995	<2	ug/kg	2	NA
Xylenes, Total	12/20/1995	<2	ug/kg	2	NA
EPA 8020-NONAQ					
Benzene	12/18/1995	<2	ug/kg	2	NA
Ethylbenzene	12/18/1995	<2	ug/kg	2	NA
Toluene	12/18/1995	<2	ug/kg	2	NA
Xylenes, Total	12/18/1995	<2	ug/kg	2	NA

Advisory Control Limits for Blanks

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

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

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

QUALITY CONTROL REPORT
Laboratory Control Sample
(LCS)

JOB NUMBER: 95.09362

PARAMETER	LCS RESULT	TRUE CONC.	LCS % REC.	FLAG
TPH (Nonaqueous)	1867	2110	89	
EPA 8020-NONAQ				
Benzene	18	20	90	
Ethylbenzene	21	20	105	
Toluene	22	20	110	
Xylenes, Total	59	60	98	

Advisory Control Limits for LCS

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

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

JOB NUMBER: 95.09362

PARAMETER	SAMPLE RESULT	MS RESULT	MSD RESULT	SPIKE AMOUNT	MS % REC.	MSD % REC.	MS/MSD RPD	FLAG
TPH (Nonaqueous)	13	117	116	125	83	82	1	
TPH (Nonaqueous)	14	118	114	125	83	80	3.9	
EPA 8020-NONAQ								
Benzene	<20	12	12	20	60	60	0	
Ethylbenzene	<20	14	14	20	70	70	0	
Toluene	<20	15	15	20	75	75	0	
Xylenes, Total	<20	45	47	60	75	78	4.3	

Advisory Control Limits for MS/MSDs

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

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

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY Enron Operations Corporation — Room 3AC-3142 PO Box 1188 Houston, Texas 77251-1188
ADDRESS Environmental Affairs Dept., CES Inc.
PHONE 713-646-7327 FAX 713-646-7867
PROJECT NAME/LOCATION Enron Bell Lake Facility
PROJECT NUMBER
PROJECT MANAGER Mr. George Robinson

REPORT TO: Mr. George Robinson
INVOICE TO: Enron
P.O. NO.
NET QUOTE NO.

CMB Environmental & Geological

SAMPLED BY Clayton M Barnhill
(PRINT NAME) Clayton M Barnhill 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: TPH by 418.1	BTEX 8020
12/6/95	10:05am	GRAB Sample Soil/Cuttings MW-8 90'-100'		X	X						X	X
12/6/95	3:35pm	GRAB Sample Soil/Cuttings MW-9 90'-100'		X	X						X	X
12/7/95	9:38AM	GRAB Sample Soil/Cuttings MW-7 90'-100'		X	X						X	X
12/7/95	2:00pm	Split Spoon GRAB Soil Sample 50-52' SVE-1		X	X						X	X
12/7/95	3:10pm	Split Spoon GRAB Soil Sample 86-88' SVE-1		X	X						X	X
12/9/95	8:30AM	Split Spoon GRAB Soil Sample 86'-88' SVE-3		X	X						X	X
12/9/95	7:00AM	Split Spoon GRAB Soil Sample 50-52' SVE-3		X	X						X	X
12/9/95	1:40pm	Split Spoon GRAB Soil Sample 50-52' SVE-2		X	X						X	X
12/9/95	2:10pm	Split Spoon GRAB Soil Sample 86'-88SVE-2		X	X						X	X

To assist us in selecting the proper method

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

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

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

COMMENTS

due 12/18

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

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

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Clayton M Barnhill	12/11/95	5pm			12/12/95	10:00 AM	DS Dewitt

METHOD OF SHIPMENT

REMARKS: