3R - 223

REPORTS

DATE:
1997

EL PASO ENERGY

Certified Mail: #Z 295 387 297; #Z 295 387 296

February 27, 1998

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for 57 groundwater impacted locations that were identified during our pit closure project of 1994/1995.

Of the 57 reports, EPFS hereby requests your approval for closure of 11 of these locations. The 11 reports for which EPFS requests closure, are in 2 separate binders entitled "Request for Closure".

After you have had an opportunity to review these updates, EPFS would like to schedule a meeting with you to discuss issues related to closure criteria for some of the more complex locations that are currently being addressed.

If you have any questions regarding this information, please call me at 505/599-2141. I will contact you within the next quarter to schedule a meeting.

Sincerely,

Sandra D. Miller
Environmental Manager

xc: Mr. Bill Liesse, BLM w/o enclosures
Mr. Denny Foust, NMOCD - Aztec w/enclosures; **Certified Mail #Z 295 387 298; #Z 295 387 299**
Ms. Charmaine Tso, Navajo EPA w/enclosures; **Certified Mail #Z 295 387 292**

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project Groundwater Report
Annual Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP ENVIRONMENTAL

MILES FEDERAL #1A (CH)
Meter/Line ID - 94810

SITE DETAILS

Legals - Twn: 26N **Rng:** 7W **Sec:** 5 **Unit:** F
NMOCD Hazard Ranking: 40 **Land Type:** FEDERAL
Operator: LOUIS DREYFUS NATURAL GAS

PREVIOUS ACTIVITIES

Site Assessment: May-94 **Excavation:** Jun-94 (50 cy) **Soil Boring:** Sep-95
Monitor Well: Sep-95 **Geoprobe:** Feb-97

1997 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 11/5/96. Groundwater analytical data are presented in Table 1.
Geoprobe - Attempt to collect groundwater samples with Geoprobe. Encountered refusal with Geoprobe due to sandstone at approximately 25 feet below ground surface.
Well Point Installation - Groundwater samples were collected from temporary monitoring wells. In addition, groundwater gradient was determined using the temporary monitoring wells.

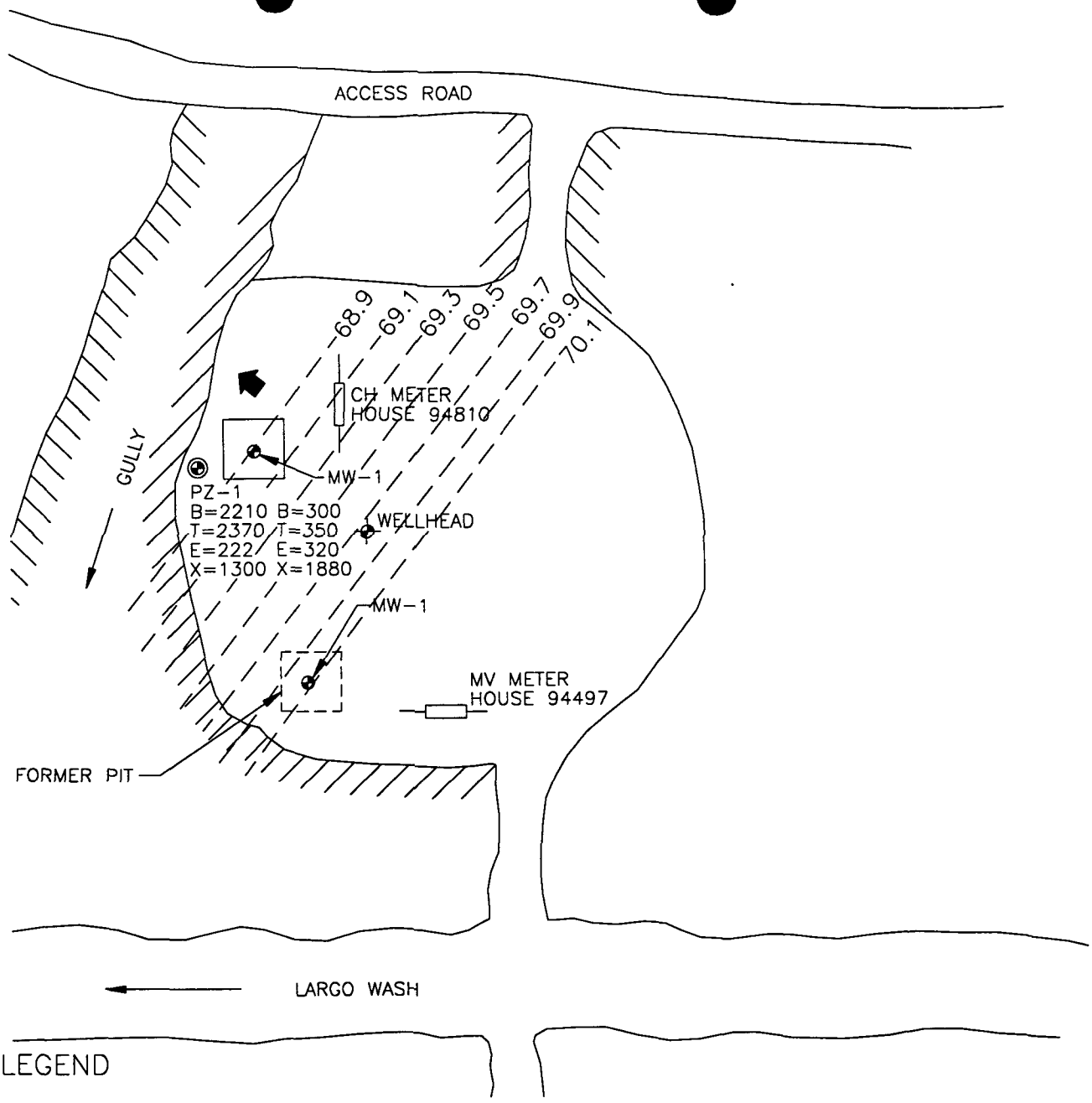
CONCLUSIONS

Approximately 0.14 feet of product has been measured in MW-1, and product has been present since quarterly sampling was initiated. Quarterly sampling has been discontinued at MW-1, due to the presence of product. Based on groundwater levels collected from Wellpoint data, the groundwater flow trends to the northwest on this site, as presented in Figure 1. One groundwater sample collected from PZ-1, which is slightly cross-gradient of MW-1, was in excess of standards for benzene, toluene, and total xylenes. Groundwater samples collected from the up-gradient monitoring well located at the Miles Fed 1A MV pit have been below standards for 4 consecutive quarters.

Collection of a downgradient groundwater sample may be difficult due to the proximity of MW-1 to a gully.

RECOMMENDATIONS

- Initiate product removal at MW-1.
- Discontinue quarterly sampling at MW-1 until product removal is complete.
- Confirm groundwater gradient.
- Following removal of product at MW-1, this site may be a candidate for risk based closure, due to the remote location of the site.



LEGEND

PZ-1	APPROXIMATE PIEZOMETER LOCATION AND NUMBER
MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
B	BENZENE (ug\L)
T	TOLUENE (ug\L)
E	ETHYL BENZENE (ug\L)
X	XYLENE (ug\L)
ug\L	MICROGRAMS PER LITER
70.1	GROUNDWATER POTENTIOMETRIC SURFACE
	APPROXIMATE GROUNDWATER GRADIENT

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:
MILES FED 1A (CH)
94810

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 1
1/22/98	0	

COL. 17520AK-002

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960921	94810	Miles Fed 1A (CH)	11/05/96	1	Sample 4 - 1st Quarter	= 1050	= 1630	= 391	= 2620	= 5691
970074	94810	Miles Fed 1A (CH)	2/7/97	1	Sample 4 - 2nd Quarter	= 671	= 809	= 439	= 2550	= 4469
970395	94810	Miles Fed 1A (CH)	5/6/97	1	Sample 4 - 3rd Quarter	300	350	320	1880	2850

03-72 Blanco

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page | of |

PHILIP ENVIRONMENTAL
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG PITS
Project Number 14509 Phase 6000 77
Project Location Miles Federal 1-A (CH) 94810

Elevation
Borehole Location QF-S5-T26-R7
GWL Depth 29.3 BGS
Logged By CM CHANCE
Drilled By K Padilla
Date/Time Started 9/21/95 - 0902
Date/Time Completed 9/21/95 - 1210

Well Logged By CM Chance
Personnel On-Site K Padilla, F. Rivera, D. Charlie
Contractors On-Site
Client Personnel On-Site
Drilling Method 4 1/4" ID HSA / 8 1/4 ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ	BH	S HS	Drilling Conditions & Blow Counts
0				Backfill to 12'						
15	1	15-17	3"	DK gry clayey SAND, vf-f sand, v. loose, dry			0	120	2298/1918	0909 hr
20	2	20-22	18"	AA			12	128	1995/1637	0915
25	3	25-26	5"	AA			8	362	1258/1066	0926
				Br SANDSTONE, f-med sand, + vf sand, mod. cemented						Drlg v. hard w/ 8 1/4
										GW@29.3'
30	4	30-31	4"	Br SAND, vf-f sand, dense, saturated			20-30	580	8/NA	0940
35				CTNGS - gry clayey SAND, f sand, saturated						Refusal@34' w/ 8 1/4 augers
				TDB 34'						
40				C						

Comments: GW@29.3BGS. No lab sample due to high PID readings. Pull 4 1/4 I.D @30' & go back down w/ 8 1/4 I.D. Augers. Add 25 gal potable water to BH to help drill. Well installed.

Geologist Signature Cory Chance

BLANCO
03-72

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH-1
Well # MW-1
Page 1 of 1

Project Name EPNG Pits

Project Number 14509 Phase 6001.77
Project Location Miles Federal 1-A (cw) 94810

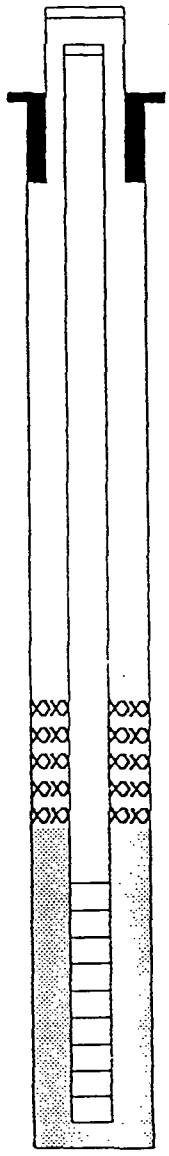
Elevation
Well Location QF-S5-T26-R7
GWL Depth 29.3 BGS
Installed By K. Padilla

Date/Time Started 9/21/95 - 1235
Date/Time Completed 9/21/95 - 1400

On-Site Geologist CM Chance
Personnel On-Site E. Rivera, D. Charlie
Contractors On-Site
Client Personnel On-Site

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		NA
Bottom of Protective Casing		NA
Top of Permanent Borehole Casing		NA
Bottom of Permanent Borehole Casing		NA
Top of Concrete		NA
Bottom of Concrete		NA
Top of Grout	Cement slurry	0'
Bottom of Grout	w/ 5% bentonite	18'
Top of Well Riser	4" Sch 40 Flush	+2'
Bottom of Well Riser	Thread PVC	23'
Top of Well Screen	4" Sch 40 Flush	23'
Bottom of Well Screen	Thread 0.01 slot PVC	33'
Top of Peltonite Seal	Enviroplug	18'
Bottom of Peltonite Seal	Bentonite Pellets	20'
Top of Gravel Pack	10-20 Co.	20'
Bottom of Gravel Pack	Silica Sand	33'
Top of Natural Cave-In		33'
Bottom of Natural Cave-In		34'
Top of Groundwater		29.3'
Total Depth of Borehole		34'



Top of Protective Casing NA
Top of Riser +2'
Ground Surface 0'

Top of Seal 18'
Top of Gravel Pack 20'
Top of Screen 23'
Bottom of Screen 33'
Bottom of Borehole 34'

Comments: 25gal potable water added to BH while drilling. Bentonite hydrated w/5gal potable water GW had visible discoloration + odor. Locking well cap + padlock placed on well.

Geologist Signature Cory Chance

WELLPOINTS

TEMPORARY PIEZOMETER INSTALLATION

Borehole # _____
Well # PZ- 1
Page 1 of 1

Philip Services Corp.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPFS GW PITS
Project Number 17520 Phase 6006
Site Location Miles Fed 1A (CH) 94810

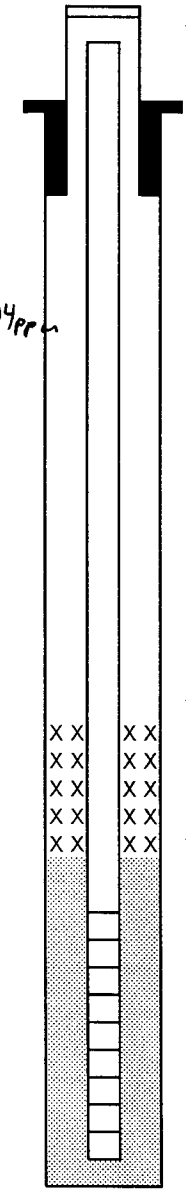
Elevation _____
Well Location Ltr F -S 5 -T26 -R7
GWL Depth _____
Installed By K Padilla

Date/Time Started 11/3/97
Date/Time Completed 11/3/97

On-Site Geologist C CHANCE
Personnel On-Site D Charley
Contractors On-Site _____
Client Personnel On-Site _____

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	PZ1 18' ± SW° From MW1	
Bottom of Protective Casing	sample 24-25:	
Top of Permanent Borehole Casing	lt Br SS, F-med sand, v. dense, dry	
Bottom of Permanent Borehole Casing	Odor PID = 1504 ppm	
Top of Concrete	Mod. Cemented	
Bottom of Concrete	CMC 373	
Top of Grout		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing NA
Top of Riser (survey elev.) _____
Ground Surface 0

Top of Seal NA
Top of Gravel Pack NA
Top of Screen 18.5
Bottom of Screen 28.5
Bottom of Borehole 29

Comments Note: MW1 has 0.2' of product

Geologist Signature _____

MWINSTAL.wk1

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

Wellpoints

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez DATE: 11/3/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
971180	11/3/97	0930	Water	CMC372	2	VG		✓					Fogelson 4-1 Com#14 Z220 PZ2
971181	↓	~	↓	Trip Blank	1	TB		✓					TRIP BLANK
971182	↓	1320	↓	CMC373	2	VG		✓					Miles Fed 1A(CH) 94810 PZ1
	cmc			CMC374	2	VG		✓					" PZ2

CONTRACT LABORATORY P. O. NUMBER

RECEIVED NOV 12 1997

NOTE: No HCL in CMC372 (reacted w/GW)

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	11/3/97 1501	Cory Chavez	Cory Chavez	11/4/97 0920	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME 0920 11/4/97	RECEIVED OF LABORATORY BY: (Signature) John Fowler

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS Cool + Intact
Temp. 41°C

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

White - Testing Laboratory Canary - EPNG Lab Pink - Field Sampler

FM-08-0565 A (Rev. 05-94)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	Trip Blank	971181
MTR CODE | SITE NAME:	73220	Fogelsen 4-1 Com. #14
SAMPLE DATE | TIME (Hrs):	11/3/97	0930
PROJECT:	Well Points	
DATE OF BTEX EXT. | ANAL.:	11/5/97	11/5/97
TYPE | DESCRIPTION:	Trip Blank	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/10/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC373	971182
MTR CODE | SITE NAME:	94810	Miles Fed. #1A(CH)
SAMPLE DATE | TIME (Hrs):	11/3/97	1320
PROJECT:	Well Points	
DATE OF BTEX EXT. | ANAL.:	11/6/97	11/6/97
TYPE | DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2210	PPB	50	D		
TOLUENE	2370	PPB	50	D		
ETHYL BENZENE	222	PPB	50	D		
TOTAL XYLENES	1300	PPB	50	D		
TOTAL BTEX	6102	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Fowler Date: 11/10/97

971182BTEXWP,11/7/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 971158 to 971159, 871175 to 971176, 971178 to 971183, 971185 to 971189

QA/QC for 11/5/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	46.1	92.3	75 - 125 %	X	
Toluene	Standard	50.0	46.1	92	75 - 125 %	X	
Ethylbenzene	Standard	50.0	46.1	92	75 - 125 %	X	
m & p - Xylene	Standard	100	92.4	92.4	75 - 125 %	X	
o - Xylene	Standard	50.0	46.0	92	75 - 125 %	X	

SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	25.0	23.4	93.5	39 - 150	X	
Toluene	Standard	25.0	23.6	94	46 - 148	X	
Ethylbenzene	Standard	25.0	23.3	93	32 - 160	X	
m & p - Xylene	Standard	50.0	47.1	94	Not Given	X	
o - Xylene	Standard	25.0	23.4	94	Not Given	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	46.4	92.8	75 - 125 %	X	
Toluene	Standard	50.0	46.2	92.4	75 - 125 %	X	
Ethylenzene	Standard	50.0	46.1	92.1	75 - 125 %	X	
m & p - Xylene	Standard	100	91.9	91.9	75 - 125 %	X	
o - Xylene	Standard	50.0	46.1	92	75 - 125 %	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	46.2	92.4	75 - 125 %	X	
Toluene	Standard	50.0	46.4	92.7	75 - 125 %	X	
Ethylbenzene	Standard	50.0	45.4	90.7	75 - 125 %	X	
m & p - Xylene	Standard	100	90.6	90.6	75 - 125 %	X	
o - Xylene	Standard	50.0	45.5	91.1	75 - 125 %	X	

Narrative: Acceptable.

Benzene	Standard	50.0	45.3	90.7	75 - 125 %	X
Toluene	Standard	50.0	44.8	89.5	75 - 125 %	X
Ethylbenzene	Standard	50.0	44.0	88.0	75 - 125 %	X
m & p - Xylene	Standard	100	87.0	87.0	75 - 125 %	X
o - Xylene	Standard	50.0	44.2	88.4	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 971179	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 971179	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	46.6	93.2	75 - 125 %	X	
Toluene	50	<1	46.3	93	75 - 125 %	X	
Ethylbenzene	50	<1	46.2	92	75 - 125 %	X	
m & p - Xylene	100	<2	92.1	92.1	75 - 125 %	X	
o - Xylene	50	<1	46.2	92	75 - 125 %	X	

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (1 analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

10/5/97 TRIP BLANK	SOURCE	PPB (3 analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: _____ Approved By: John Fowler Date: 11/10/97

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

A 2668

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	BLOOMFIELD PIPELINE			BTXE	GENERAL CHEMISTRY	8 RCRA METALS	
Samplers: (Signature) Bonnie Bird	Date: 11-5-96						
MATRIX Date Time Comp. GRAB Sample Number							
WATER 11-5-96 1542 X 960721		2	4°C	X	X	X	MILES FEDERAL 1A (CHACRA) MC 9481C

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Bonnie Bird	11-5-96 1635				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Hopper	11/6/96 0800		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960921
MTR CODE | SITE NAME:	94810	Miles Fed 1A (CH) MW-1
SAMPLE DATE | TIME (Hrs):	11/5/96	1542
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	11/6/96	11/6/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1050	PPB	10	D		
TOLUENE	1630	PPB	10	D		
ETHYL BENZENE	391	PPB	10	D		
TOTAL XYLENES	2620	PPB	10	D		
TOTAL BTEX	5690	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 108 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Taylor Date: 11/12/96

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	960921
DATE SAMPLED:	11/05/96
TIME SAMPLED (Hrs):	1542
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	94810
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Miles Federal 1A (Chacra)

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.5	Units	11/06/96
Alkalinity as $C0_3$	0.0	PPM	11/06/96
Alkalinity as $HC0_3$	735	PPM	11/06/96
Calcium as Ca	233	PPM	11/06/96
Magnesium as Mg	42	PPM	11/06/96
Total Hardness as $CaC0_3$	755	PPM	11/06/96
Chloride as Cl	64	PPM	11/06/96
Sulfate as $S0_4$	3,440	PPM	11/06/96
Fluoride as F	1.4	PPM	11/06/96
Nitrate as $N0_3$-N	<0.6	PPM	11/06/96
Nitrite as $N0_2$-N	<0.6	PPM	11/06/96
Ammonium as NH_4^+	<1.1	PPM	11/06/96
Phosphate as PO_4	<0.6	PPM	11/06/96
Potassium as K	3.8	PPM	11/06/96
Sodium as Na	1590	PPM	11/06/96
Total Dissolved Solids	5,710	PPM	11/06/96
Conductivity	6,420	umhos/cm	11/06/96
Anion/Cation %	0.8%	%, <5.0 Accepted	11/07/96

Lab Remarks:

Reported By: mh Approved By: _____ Date: 11/12/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960921
SAMPLE DATE:	11/05/96
SAMPLE TIME (Hrs):	1542
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	94810
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Miles Fed 1A (CH) MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	0.015	0.100
BARIUM	0.03	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.002	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	<.003	0.050
SILVER	0.0012	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: _____ Approved By: _____ Date: 12/18/96

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 960921
Date Sampled: 11/05/96

Date Reported: 12/16/96

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	30.6	32.4	94%
Barium	75.5	64.9	116%
Cadmium	2.75	2.38	116%
Chromium	5.07	4.76	107%
Lead	28.8	29.7	97%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.81	4.32	111%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.58	0.55	5.3%
Cadmium	ND	ND	NA
Chromium	0.002	0.002	0.0%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	115	100	105%
Barium	580	1520	1000	94%
Cadmium	ND	9.53	10.0	95%
Chromium	2.3	51.6	50.0	99%
Lead	ND	40.2	50.0	80%
Mercury	ND	1.82	2.00	91%
Selenium	ND	47.9	50.0	96%
Silver	ND	49.6	50.0	99%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

ND: Not Detected at stated detection level. NA: Not Applicable.

Reported By: mh Approved By: [signature] Date: 12/18/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MILES FEDERAL 1A (CH)

Meter Code 94810

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 35.49
Initial Depth to Water (feet) 30.58
Height of Water Column in Well (feet) 4.91
Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		3.3	9.8
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-5-96	1358										15.6	6.66	6020		
11-5-96	1405						5.0	5.0			15.4	6.56	6020		
11-5-96	1417						5.0	10.0			15.9	6.93	6010		
11-5-96	1426						3.0	13.0			15.9	7.04	6020	1.5	

Comments 0.48' OF FREE FLOATING HYDROCARBON. STRONG HYDROCARBON SMELL

Developer's Signature Dennis Bird Date 11-5-96 Reviewer Jan Lee Date 11/24/96

El Paso Natural Gas Company

A 2219

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	BLOOMFIELD PIPELINE			BTXE				X 10 X 20
Samplers: (Signature) Dennis Bird	Date: 2-7-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	2-7-97	1350		X	970074	6-2	4°C	X				MIDS FEDERAL 1-A (CH) MC 9480

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	2-7-97 1717				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Hopper	2/10/97 1010		

Carrier Co: | Carrier Phone No. | Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970074
MTR CODE | SITE NAME:	94810	Miles Federal 1-A (CH) MW-1
SAMPLE DATE | TIME (Hrs):	2/7/97	1350
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	2/13/97	2/13/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q		
BENZENE	671	PPB	10	D		
TOLUENE	809	PPB	10	D		
ETHYL BENZENE	439	PPB	10	D		
TOTAL XYLENES	2550	PPB	10	D		
TOTAL BTEX	4470	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Fowler Date: 2-19-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MILES FEDERAL 1-A (CHACRA)

Meter Code 94810

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removed
☐ Stabilization of Indicator Parameters
☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 35.49
Initial Depth to Water (feet) 30.05
Height of Water Column in Well (feet) 5.44
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		3.6	10.8
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other O.O. CHEMETS KIT

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
2-7-97	1301										12.1	4.70	6110		
2-7-97	1308						5.0	5.0			12.9	4.12	6260		
2-7-97	1322						5.0	10.0			12.4	6.91	6220		
2-7-97	1341						5.0	15.0			12.2	7.13	6180	1.5	

Comments 0.14' OF FREE FLOATING HYDROCARBON. STRONG HYDROCARBON SMELL.

Developer's Signature Dennis Bird Date 2-7-97 Reviewer John Taylor Date 2-19-97

El Paso Natural Gas Company

A 1941

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	BLOOMFIELD PIPELINE			BTXE			
Samplers: (Signature) Dennis Bird	Date: 5-6-97						

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	5-6-97	1407		X	970395	62	4°C	X				MILES FEDERAL 1-A (CH) NC 9481O

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	5-6-97 1637				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Hoppen	5/7/97 1100		

Carrier Co:

Carrier Phone No.

Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

6-11-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970395
MTR CODE | SITE NAME:	94810	Miles Fed 1-A (CH) MW-1
SAMPLE DATE | TIME (Hrs):	5/6/97	1407
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	5/14/97	5/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	300	PPB	10	D		
TOLUENE	350	PPB	10	D		
ETHYL BENZENE	320	PPB	10	D		
TOTAL XYLENES	1880	PPB	10	D		
TOTAL BTEX	2850	PPB				

The Surrogate Recovery was at 98.9 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used
The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Faulk Date: 6/3/97

970395,6/2/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MICES FEDERAL 1-A (CH)

Meter Code 94810

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removed
☐ Stabilization of Indicator Parameters
☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 35.49
Initial Depth to Water (feet) 30.18
Height of Water Column in Well (feet) 5.31
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		3.5	10.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Methods of Development

Pump		Bailer	
☐	Centrifugal	☒	Bottom Valve
☐	Submersible	☐	Double Check Valve
☐	Peristaltic	☐	Stainless-steel Kemmerer

☐ Other

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
5-6-97	1315										20.6	6.83	6210		
5-6-97	1325						5.0	5.0			19.5	6.75	6350		
5-6-97	1342						5.0	10.0			19.5	6.95	6470	0.5	

Comments 0.14' OF FREE FLOATING HYDROCARBON. STRONG HYDROCARBON SMELL.

Developer's Signature Dennis Bird Date 5-6-97 Reviewer J.P. Date 5/27/97

MILES FEDERAL #1A (MV)
Meter/Line ID - 94497

SITE DETAILS

Legals - Twn: 26N **Rng:** 7W **Sec:** 5 **Unit:** F
NMOCD Hazard Ranking: 40 **Land Type:** FEDERAL
Operator: LOUIS DREYFUS NATURAL GAS

SITE ACTIVITIES

Site Assessment: May-94 **Excavation:** Jun-94 (70 cy) **Soil Boring:** Sep-95
Monitor Well: Sep-95

The pit was excavated to 11 feet beneath ground surface (bgs). The headspace soil reading from the excavation bottom was 602 ppm. Soil analytical were as follows; benzene - <0.50 mg/kg, total BTEX – 124 mg/kg, and TPH 10,100 mg/kg.

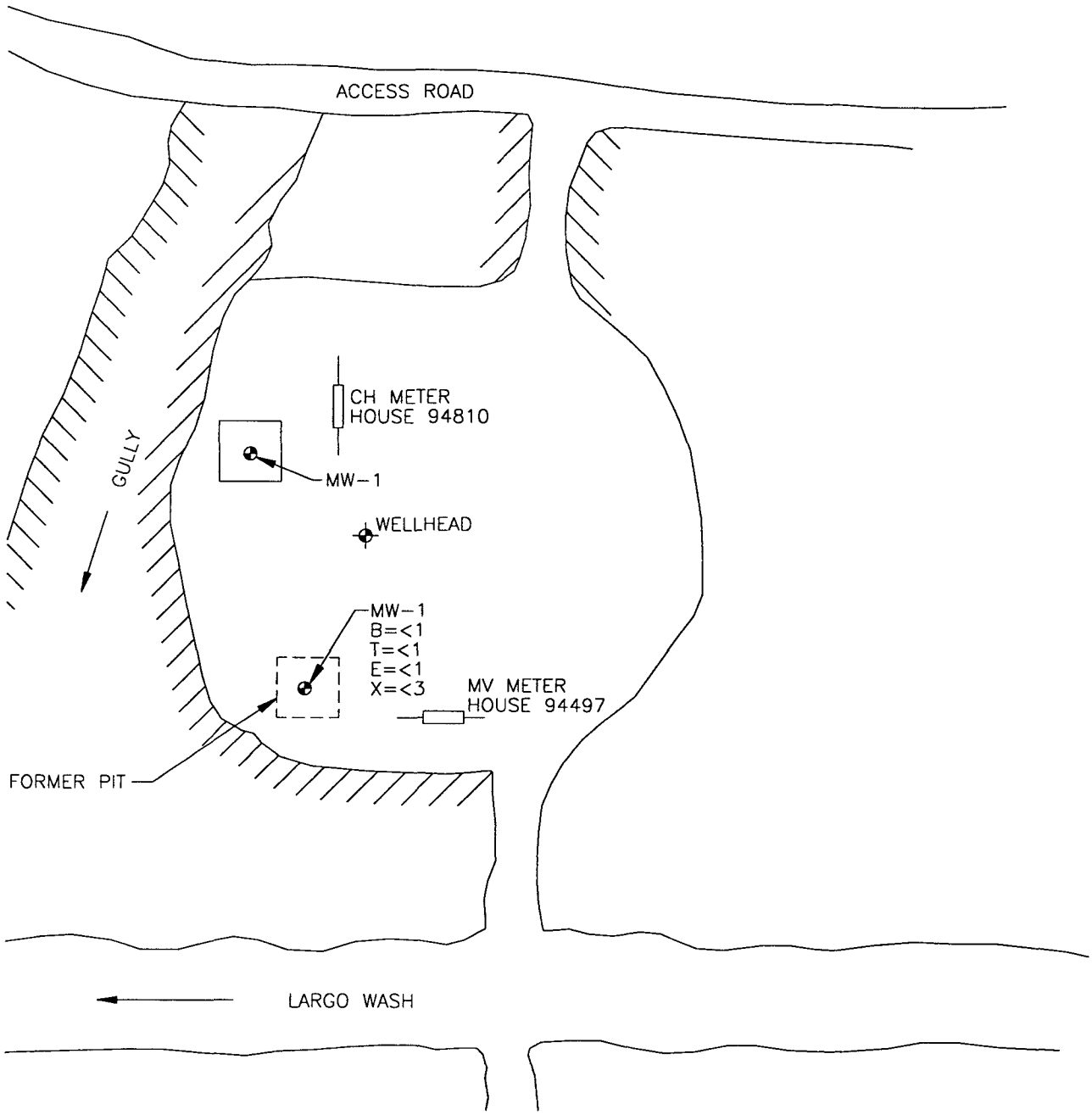
One soil boring was drilled in the center of the former pit and a monitoring well was installed. One soil sample was collected from 25-27 feet bgs. Soil analytical were as follows; benzene - <1 mg/kg, total BTEX – 201 mg/kg, TPH – 5160 mg/kg. Initial groundwater analytical were as follows; benzene – 5.9 ppb, toluene – 70.1 ppb, ethyl benzene – 68.2 ppb, total xylenes – 977 ppb. Groundwater samples have been collected for four consecutive quarters, and have been below standards since quarterly sampling was initiated on 11/5/96, as presented in Table 1. A site map is presented in Figure 1.

CONCLUSIONS

MW-1 has been sampled for 4 consecutive clean quarters. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

- EPFS requests closure at this site.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



LEGEND

⊕ MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
B	BENZENE (ug\L)
T	TOLUENE (ug\L)
E	ETHYL BENZENE (ug\L)
X	XYLENE (ug\L)
ug\L	MICROGRAMS PER LITER

NOT TO SCALE

N

PHILIP SERVICES CORP.

TITLE:
MILES FED 1A (MV)
94497

DWN: TMM	DES.: CC	PROJECT NO.: 17520	
CHKD: CC	APPD:	EPFS GW PITS	
DATE: 1/22/98	REV.: 0	FIGURE 1	

COL. 17520AK-001

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 94497 Location: Miles Federal 1-A (MV)
Operator #: 1758 Operator Name: Louis Dreyfus Nat Gas P/L District: Blanco
Coordinates: Letter: F Section 5 Township: 26 Range: 7
Or Latitude _____ Longitude _____
Pit Type: Dehydrator ___ Location Drip: ✓ Line Drip: ___ Other: _____
Site Assessment Date: 5/19/94 Area: 03 Run: 72

SITE ASSESSMENT

NMOCD Zone: (From NMOCD Maps)
Inside [X] (1)
Outside [ ] (2)

Land Type:
BLM [X] (1)
State [ ] (2)
Fee [ ] (3)
Indian _____

Depth to Groundwater
Less Than 50 Feet (20 points) [X] (1)
50 Ft to 99 Ft (10 points) [ ] (2)
Greater Than 100 Ft (0 points) [ ] (3)

Wellhead Protection Area :
Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? [ ] (1) YES (20 points) [X] (2) NO (0 points)

Horizontal Distance to Surface Water Body
Less Than 200 Ft (20 points) [X] (1)
200 Ft to 1000 Ft (10 points) [ ] (2)
Greater Than 1000 Ft (0 points) [ ] (3)
Name of Surface Water Body Largo Canyon
(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)
Distance to Nearest Ephemeral Stream [ ] (1) < 100'(Navajo Pits Only)
[ ] (2) > 100'

TOTAL HAZARD RANKING SCORE: 40 **POINTS**

REMARKS

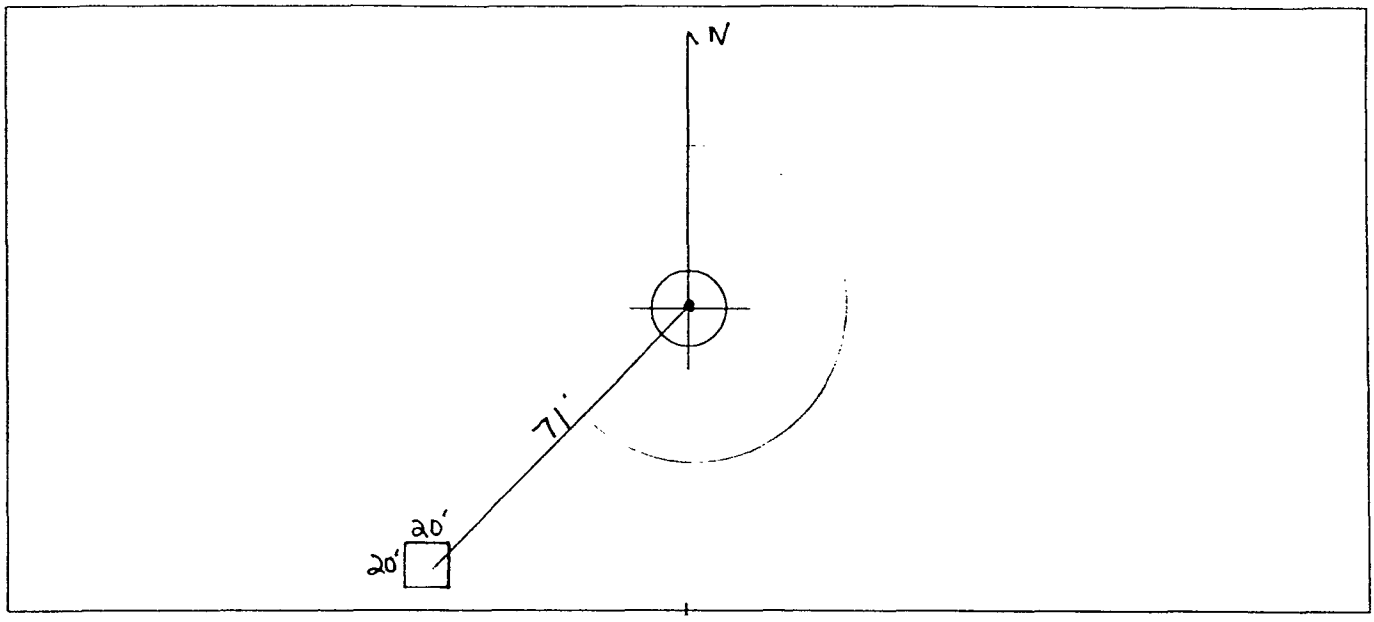
Remarks : Redline Valv. - Inside
4 pits. Close 1. Soil wet. No standing liquid

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 225° Footage from Wellhead 71'

b) Length : 20' Width : 20' Depth : 4'



REMARKS

Remarks :

Pictures @ 1055 (9-12)

Dump Truck

Completed By:

Cory Chase
Signature

5/19/94
Date

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960920	94497	Miles Fed 1A (MV)	11/05/96	1	Sample 4 - 1st Quarter	< 1	< 1	= 1.38	= 6.51	= 10
970073	94497	Miles Fed 1A (MV)	2/7/97	1	Sample 4 - 2nd Quarter	< 1	< 1	< 1	= 1.64	< 6
970394	94497	Miles Fed 1A (MV)	5/6/97	1	Sample 4 - 3rd Quarter	< 1	< 1	< 1	= 1.77	< 6
970852	94497	Miles Fed 1A (MV)	8/12/97	1	Sample 4 - 4th Quarter	< 1	< 1	< 1	< 3	< 6

PHASE I EXCAVATION

FIE. , PIT REMEDIATION/CLOSU . FORM

GENERAL

Meter: 94497 Location: Miles Federal 1-A (MV)

Coordinates: Letter: F Section 5 Township: 26 Range: 7

Or Latitude _____ Longitude _____

Date Started : 6-3-94 Area: 03 Run: 72

FIELD OBSERVATIONS

Sample Number(s): ~~KPH 94~~ KP-6-3-94 KPH 82 _____ _____

Sample Depth: 12' Feet

Final PID Reading 602 PID Reading Depth 11 Feet

	Yes	No	
Groundwater Encountered	☐ (1)	☒ (2)	Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation	☒ (1)	Approx. Cubic Yards 70
Onsite Bioremediation	☐ (2)	
Backfill Pit Without Excavation	☐ (3)	

Soil Disposition:

Envirotech	☐ (1)	☒ (3)	Tierra
Other Facility	☐ (2)	Name:	_____

Pit Closure Date: 6-3-94 Pit Closed By: B.E.I

REMARKS

Remarks : Some line markers on location. Started Remediating to 12. Soil Real Dark And Lots of SAND Pit Started Caveing in So Took Sample At 11'. Soil Still the Same Dark gray And Lot's of SAND. Closed Pit Pid 602.

Signature of Specialist: Kelly Pachella

(SP3191) 04/07/94

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER: 11957
PROJECT NAME: Pit Closure Project # 24324
SAMPLERS: (Signature) Kelly Padilla
DATE: 6-3-94

LAB ID	DATE	TIME	MATRIX	SAMPLE NUMBER	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020		Seq			REMARKS
94 5349	6-3-94	1006	soil	KP #82	1	VC	X	X		74			
94 5350	6-3-94	1423	soil	KP #83	1	VC	X	X		75			

CONTRACT LABORATORY P. O. NUMBER

REQUESTED ANALYSIS

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Kelly Padilla	6-3-94 1700	Brenda Liess	Brenda Liess	6/6/94 0900	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144
FAX: 505-599-2261

White - *Testing Laboratory* Canary - *EPNG Lab* Pink - *Field Sampler*

40

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KP 82	94534 9
MTR CODE | SITE NAME:	94497	N/A Miles Fed # 1-A
SAMPLE DATE | TIME (Hrs):	6-3-94	1006
SAMPLED BY:	N/A Phase I	
DATE OF TPH EXT. | ANAL.:	6-6-94	6/6/94
DATE OF BTEX EXT. | ANAL.:	6/9/94	6/10/94
TYPE | DESCRIPTION:	VC	Brown Sand & Clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.50	MG/KG	20			
TOLUENE	19	MG/KG	20			
ETHYL BENZENE	6.3	MG/KG	20			
TOTAL XYLENES	98	MG/KG	20			
TOTAL BTEX	124	MG/KG				
TPH (418.1) 10,100	~~10080~~ 9/10/94	MG/KG			1.05	28
HEADSPACE PID	602	PPM				
PERCENT SOLIDS	90.5	%				

– TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 76 % for this sample All QA/QC was acceptable.

Narrative: ATI results attached.

DF = Dilution Factor Used

Approved By: [signature] Date: 7/14/94

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)

CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 406331

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	945349	NON-AQ	06/03/94	06/09/94	06/10/94	20
08	945350	NON-AQ	06/03/94	06/09/94	06/10/94	20
09	945351	NON-AQ	06/03/94	06/09/94	06/10/94	1

PARAMETER	UNITS	07	08	09
BENZENE	MG/KG	<0.50	<0.50	<0.025
TOLUENE	MG/KG	19	<0.50	<0.025
ETHYLBENZENE	MG/KG	6.3	5.2	<0.025
TOTAL XYLENES	MG/KG	98	81	<0.025
SURROGATE:				
BROMOFLUOROBENZENE (%)		76	370*	99

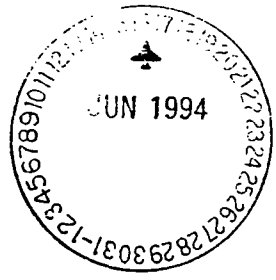
*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **406331**

June 15, 1994



El Paso Natural Gas Co.
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On **06/08/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure

PHASE II SOIL BORING

03-72 Blanco

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

PHILIP ENVIRONMENTAL
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG PITS
Project Number 14509 Phase 6000 77
Project Location Miles Federal 1-A (MV) 94497

Elevation
Borehole Location QF- S5 - T26- R7
GWL Depth
Logged By CM CHANCE
Drilled By K Padilla
Date/Time Started 9/20/95 - 1005
Date/Time Completed 9/20/95 - 1320

Well Logged By CM Chance
Personnel On-Site K Padilla, F. Rivera, J. Johnson
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 1/4" ID HSA / ~~8 1/4~~ ID HSA cmc 9/20/95
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ	BH	S HS	Drilling Conditions & Blow Counts
0				Backfill to 11'						
5										
10										
15	1	15-17	12"	Br sandy SILT, vF sand, v. loose, dry			0	5	49/488	-1010hrs
20	2	20-22	5"	DK gry silty CLAY, v. soft, low plastic, dry			0	20	1020/2162	-1015
25	3	25-27	18"	DK gry clayey SAND, vf-f sand, v. loose, moist			2	9	893/618	-1022 -GW@27.8' BGS
30	4	30-32	0"	No Recovery - SS Wet			2	4	NA	-1030 ~~GW @ 27.8~~ cmc 9/20/95
35				CTNGS - Br SAND, vF-F saturated						
40				AA TOB 40'						

Comments: CMC 118 (25-27') sent to lab (BTEX, TPH). Sample bagged iced prior to containerization. GW @ 27.8' after setting 15 min. Will pull 4¼ augers & go back down w/ ~~8¼~~ ID augers
cmc 9/20/95

Geologist Signature Cory Chance

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH-1
Well # MW-1
Page 1 of 1

Project Name EPNG Pits
Project Number 14509 Phase 6001.77
Project Location Miles Federal 1-A(MV) 94497

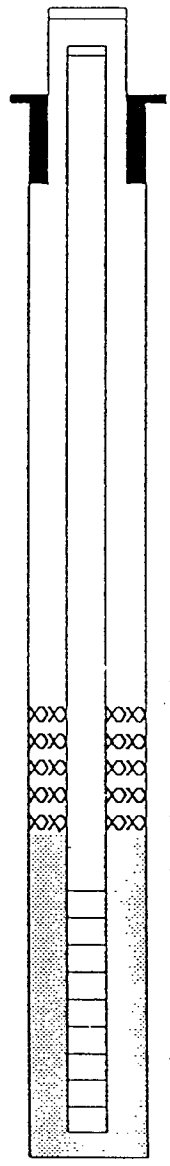
Elevation
Well Location
GWL Depth 27.8' BGS
Installed By K. Padilla

Date/Time Started 9/20/95 - 1315
Date/Time Completed 9/20/95 - 1530

On-Site Geologist C M Chance
Personnel On-Site F. Rivera, J. Johnson
Contractors On-Site
Client Personnel On-Site

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		NA
Bottom of Protective Casing		NA
Top of Permanent Borehole Casing		NA
Bottom of Permanent Borehole Casing		NA
Top of Concrete		NA ~~0'~~ 9/20/95
Bottom of Concrete		NA
Top of Grout	Cement slurry	0'
Bottom of Grout	w/5% bent	18'
Top of Well Riser	4" SCH 40 Flush	+3'
Bottom of Well Riser	Thread PVC	23'
Top of Well Screen	4" SCH 40 Flush	23'
Bottom of Well Screen	Thread 0.01 slot PVC	38'
Top of Peltonite Seal	Enviroplug	18'
Bottom of Peltonite Seal	Pellets	20'
Top of Gravel Pack	10-20 Co.	20'
Bottom of Gravel Pack	Silica Sand	38'
Top of Natural Cave-In		38'
Bottom of Natural Cave-In		~~38~~
Top of Groundwater		27.8'
Total Depth of Borehole		40'



Top of Protective Casing NA
Top of Riser +3'
Ground Surface 0'
Top of Seal 18'
Top of Gravel Pack 20'
Top of Screen 23'
Bottom of Screen 38'
Bottom of Borehole 40'

Comments: Bentonite hydrated w/ SgW potable water. GW has no odor or visible discoloration.

Geologist Signature C M Chance

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez DATE: 9/20/95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID		PID HS PPM	SEQUENCE #	REMARKS
947512	9/20/95	1022	SOIL	CMC118	1	VG	✓	✓			618	110	Bagged & Iced 25-27' Miles Federal 1-A (MV) 94497

CONTRACT LABORATORY P. O. NUMBER

CMC 9/20/95

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	9/20/95 1630	Julie Diddle	Julie Diddle	9/21/95 9:10	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

505-599-2144 FAX: 505-599-2261

White - *Testing Laboratory* Canary - *EPNG Lab* Pink - *Field Sampler*

FM-08-0565 A (Rev. 05-94)

EPNG Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC118	947512
MTR CODE | SITE NAME:	94497	Miles Federal 1-A MV
SAMPLE DATE | TIME (Hrs):	09-20-95	
PROJECT:	Phase II Drilling	
DATE OF TPH EXT. | ANAL.:	9-22-95	9/22/95 mdl 9/20/96
DATE OF BTEX EXT. | ANAL.:	9/21/95	9/26/95
TYPE | DESCRIPTION:	VG	Light grey sand & clay

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 1	MG/KG	2	D		
TOLUENE	12.2	MG/KG	2	D		
ETHYL BENZENE	16.8	MG/KG	2	D		
TOTAL XYLENES	172	MG/KG	2	D		
TOTAL BTEX	201	MG/KG	2	D		
TPH (418.1)	5750	MG/KG			2.13	28
HEADSPACE PID	618	PPM				
PERCENT SOLIDS	55	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 103 % for this sample All QA/QC was acceptable.

Narrative:
ATI Results for mod 8015 attached (4200).

DF = Dilution Factor Used

Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED

CLIENT : EL PASO NATURAL GAS ATI I.D.: 510301

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE/PHASE II

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	947512	NON-AQ	09/20/95	10/03/95	10/04/95	10
02	947516	NON-AQ	09/21/95	10/03/95	10/04/95	1
03	947524	NON-AQ	09/22/95	10/03/95	10/04/95	10

PARAMETER	UNITS	01	02	03
FUEL HYDROCARBONS	MG/KG	3100	57	2000
HYDROCARBON RANGE		C6-C14	C6-C14	C6-C14
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
FUEL HYDROCARBONS	MG/KG	1100	120	250
HYDROCARBON RANGE		C14-C36	C14-C36	C16-C32
HYDROCARBONS QUANTITATED USING		DIESEL	DIESEL	DIESEL
SURROGATE:				
O-TERPHENYL (%)		120	101	110

Analytical**Technologies,**Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 510301

October 9, 1995

El Paso Natural Gas
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE/PHASE II 24324

Attention: John Lambdin

On **10/03/95**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

Kimberly D. McNeill
Project Manager

John Epley for
H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

GROUNDWATER ANALYSIS

PHILIP ENVIRONMENTAL Well Development and Purging Data

☑ Development ☐ Purging Well Number MW-1

Serial No. WDPD- Page 1 of 1

Project Name EPNG Pits Project Manager CM Chance Project No. 14509

Client Company EPNG Phase.Task No. 6003.77

Site Name Miles Federal 1-A (MV) 94497 Site Address QF-S5-T26-R7

Development Criteria

☑ 3 to (5) Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

Pump	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 41.48 TOR
Initial Depth to Water (feet) 30.75 TOR
Height of Water Column in Well (feet) _____
Diameter (inches): Well ____ Gravel Pack ____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		7.0 x 5	35.0
Gravel Pack			
Drilling Fluids			
Total			35.0

Instruments

	Serial No. (If applicable)
☑ pH Meter	9206
☐ DO Monitor	
☑ Conductivity Meter	9206
☑ Temperature Meter	9206
☐ Other _____	

Water Disposal

Kutz

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C) °F	pH	Conductivity (µmhos/cm) x1000	Dissolved Oxygen (mg/L)	Comments
9/27/95	1311						5	5			68.3	7.35	16.23		DK br, silty
	1320						5	10			66.2	7.54	18.52		AA
	1328						5	15			64.2	7.59	9.45		AA
	1336						5	20			64.7	7.45	9.62		AA
	1346						5	25			66.9	7.45	10.05		less silt
	1354						5	30			64.5	7.36	9.95		Br, slightly silty
	1404						5	35			64.0	6.79	9.85		AA
	1417						5	40			64.8	6.83	9.89		AA
						30.78									

Circle the date and time that the development criteria are met.

Comments No visible product or odor on EWLI. Ending water depth taken after sampling.

Developer's Signature(s) Cory Chance Date 9/27/95 Reviewer _____ Date _____

Form A0101 Rev. 03/21/94

PHILIP ENVIRONMENTAL Water Sampling Data

Location No. _____

Serial No. WSD- _____

Group List Number _____

Sample Type: ☑ Groundwater ☐ Surface Water ☐ Other _____ Date 9/27/95

Project Name EPNG Pits Project No. 14509

Project Manager CM Chance Phase.Task No. 6003 .77

Site Name Miles Federal 1-A (MV) 94497 QF-55-T26-R7

Sampling Specifications

Requested Sampling Depth Interval (feet) Upper 3'

Requested Wait Following Development/Purging (hours) NA

Initial Measurements

Time Elapsed From Final Development/Purging (hours) .5 hr

Initial Water Depth (feet) 30.75'

Nonaqueous Liquids Present (Describe) None

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	
	See Development Form											

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
BTEX	2	V	40		✓	HCl, 4°C	✓		CMC 121 1444 hr
TDS	1	P	250		✓	4°C	✓		CMC 121 1444 hr

Filter Type _____ Chain-of-Custody Form Number EPNG COC

Comments Water has no odor or visible product. Samples sent to EPNG's lab for Analysis

Signature Cory Chance Date 9/27/95 Reviewer _____ Date _____

Form A0202 Rev 02/24/94

El Paso Natural Gas Company

Phase II MW

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez

DATE: 9/27/95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID	TDS		SEQUENCE #	REMARKS
947560	9/27/95	1444	Water	CMC121	3	W		✓		✓		3	Miles Federal 1-A (MV) 94497
947561	↓	NA	↓	CMC122	1	B		✓				3	Trip Blank

CONTRACT LABORATORY P. O. NUMBER

Cory 9/27/95

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	9/27/95 1730	Julie Dietle	Julie Dietle	9/28/95 9:20	
				30	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144
FAX: 505-599-2261

White - *Testing Laboratory* Canary - *EPNG Lab* Pink - *Field Sampler*

FM-08-0565 A (Rev. 05-94)

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	947560
FIELD ID:	CMC 121
MTR CODE:	94497
SAMPLE DATE:	9/27/95
SAMPLE TYPE:	W [MW]
SITE NAME:	Miles Federal 1-A (MV)
PROJECT:	Phase II MW
DATE OF BTEX ANALYSIS:	9/28/95

FIELD COMMENTS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WQCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	3776		None
BENZENE (PPB)	5.9		10
TOLUENE (PPB)	70.1		740
ETHYL BENZENE (PPB)	68.2		750
TOTAL XYLENES (PPB)	977	D (X5)	620
SURROGATE % RECOVERY	98%/99%	Allowed Range 80 to 120 %	

NOTES:

Approved By: John Labrie

9-3-95
Date

El Paso Natural Gas Company

A 2667

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	BLOOMFIELD PIPELINE	Dennis Bird	11-5-96

	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE	Requested Analysis: General Chemistry	Requested Analysis: Metals	Requested Analysis:	Remarks
	11-5-96	1332		X	960920	G-2		X	X	X		MILES FEDERAL 1A (MOBIL VENTURE) MC. 94497
	11-5-96	—		X	—	G-1		X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	11-5-96 1698				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marsha Hopper	11/6/96 0820		

Carrier Co:

Carrier Phone No.

Air Bill No.:

Date Results Reported / by: (Signature)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960920
MTR CODE | SITE NAME:	94497	Miles Fed 1A (MV) MW-1
SAMPLE DATE | TIME (Hrs):	11/5/96	1332
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	11/6/96	11/6/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	1.38	PPB				
TOTAL XYLENES	6.51	PPB				
TOTAL BTEX	7.89	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 106 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 11/12/96

960918.XLS,11/11/96

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	960920
DATE SAMPLED:	11/05/96
TIME SAMPLED (Hrs):	1332
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	94497
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Miles Federal 1A (Mesa Verde)

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.5	Units	11/06/96
Alkalinity as $C0_3$	0.0	PPM	11/06/96
Alkalinity as $HC0_3$	576	PPM	11/06/96
Calcium as Ca	195	PPM	11/06/96
Magnesium as Mg	34	PPM	11/06/96
Total Hardness as $CaC0_3$	626	PPM	11/06/96
Chloride as Cl	21	PPM	11/06/96
Sulfate as $S0_4$	2,060	PPM	11/06/96
Fluoride as F	1.3	PPM	11/06/96
Nitrate as $N0_3$-N	<0.6	PPM	11/06/96
Nitrite as $N0_2$-N	<0.6	PPM	11/06/96
Ammonium as NH_4^+	<0.6	PPM	11/06/96
Phosphate as PO_4	<0.6	PPM	11/06/96
Potassium as K	2.8	PPM	11/06/96
Sodium as Na	910	PPM	11/06/96
Total Dissolved Solids	3,510	PPM	11/06/96
Conductivity	4,150	umhos/cm	11/06/96
Anion/Cation %	0.8%	%, <5.0 Accepted	11/07/96

Lab Remarks:

Reported By: mh Approved By: John Faulkner Date: 11/12/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960920
SAMPLE DATE:	11/05/96
SAMPLE TIME (Hrs):	1332
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	94497
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Miles Fed 1A (MV) MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.04	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.002	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	<.003	0.050
SILVER	<.0005	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: _____ Approved By: _____ Date: 12/18/96

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 960920
Date Sampled: 11/04/96

Date Reported: 12/16/96

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	30.6	32.4	94%
Barium	75.5	64.9	116%
Cadmium	2.75	2.38	116%
Chromium	5.07	4.76	107%
Lead	28.8	29.7	97%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.81	4.32	111%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.58	0.55	5.3%
Cadmium	ND	ND	NA
Chromium	0.002	0.002	0.0%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	115	100	105%
Barium	580	1520	1000	94%
Cadmium	ND	9.53	10.0	95%
Chromium	2.3	51.6	50.0	99%
Lead	ND	40.2	50.0	80%
Mercury	ND	1.82	2.00	91%
Selenium	ND	47.9	50.0	96%
Silver	ND	49.6	50.0	99%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

ND: Not Detected at stated detection level. NA: Not Applicable.

Reported By: mh Approved By: John Garcia Date: 12/18/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MILES FEDERAL 1A (MV)

Meter Code 94497

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 41.48
Initial Depth to Water (feet) 30.67
Height of Water Column in Well (feet) 10.81
Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		7.2	21.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other O.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-5-96	1223										16.1	6.99	3710		
11-5-96	1229						5.0	5.0			15.6	6.93	3760		
11-5-96	1247						5.0	10.0			15.3	6.97	4010		
11-5-96	1254						5.0	15.0			15.4	7.00	4070		
11-5-96	1300						5.0	20.0			15.6	7.02	4000		
11-5-96	1308						5.0	25.0			15.4	7.02	420	1.0	

Comments

Developer's Signature Dennis Bird Date 11-5-96 Reviewer Jon Zeda Date 11/12/96

El Paso Natural Gas Company

A 2218

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	BLOOMFIELD PIPELINE			BTX			X1
Samplers: (Signature) Dennis Bird	Date: 2-7-97						

MATRIX	Date	Time	Comp.	GRAB	Sample Number						
WATER	2-7-97	1325		X	970073	6-2	4°C	X			MILLS FEDERAL 1-E (MV) MC 2-7-97

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	2-7-97 1715				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marion Kleppen	2/10/97 1010		

Carrier Co: | Carrier Phone No. | Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970073
MTR CODE | SITE NAME:	94497	Miles Federal 1-A (MV) MW-1
SAMPLE DATE | TIME (Hrs):	2/7/97	1225
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	2/13/97	2/13/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	1.64	PPB				
TOTAL BTEX	1.64	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 95.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Kalda Date: 2-19-97

970073.XLS,2/18/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MICES FEDERAL 1-A MESA VERDE

Meter Code 94497

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump		Bailer	
☐	Centrifugal	☒	Bottom Valve
☐	Submersible	☐	Double Check Valve
☐	Peristaltic	☐	Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 41.48
Initial Depth to Water (feet) 30.22
Height of Water Column in Well (feet) 11.26
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		7.4	22.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
2-7-97	1125										12.7	7.52	3350		
2-7-97	1131						5.0	5.0			13.5	6.96	3560		
2-7-97	1137						5.0	10.0			13.2	6.99	3630		
2-7-97	1146						5.0	15.0			13.1	7.11	3770		
2-7-97	1153						5.0	20.0			12.3	7.19	3690		
2-7-97	1201						5.0	25.0			11.8	7.23	3820	0.5	

Comments

Developer's Signature Dennis Bird Date 2-7-97 Reviewer John Fields Date 2-19-97

El Paso Natural Gas Company

A 1940

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	BLOOMFIELD PIPELINE			BTXE				
Samplers: (Signature) Dennis Bird	Date: 5-6-97							

Matrix	Date	Time	Comp.	GRAB	Sample Number							
WATER	5-6-97	1250		X	970394	G-2	4°C	X				MILES FEDERAL 1A (MV) MC 94497

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	5-6-97 1632				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Madonna Hopper	5/7/97 1100		

Carrier Co: | Carrier Phone No. | Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

5-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970394
MTR CODE | SITE NAME:	94497	Miles Fed 1-A MW-1
SAMPLE DATE | TIME (Hrs):	5/6/97	1250
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	5/13/97	5/13/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPM				
TOLUENE	<1	PPM				
ETHYL BENZENE	<1	PPM				
TOTAL XYLENES	1.77	PPM				
TOTAL BTEX	1.77	PPM				

The Surrogate Recovery was at 93.4 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Gordon Date: 5/16/97

970394,5/15/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MIGES FEDERAL 1-A (MV)

Meter Code 94497

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump	Bailer
☐ Centrifugal	☒ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 41.48
Initial Depth to Water (feet) 30.64
Height of Water Column in Well (feet) 10.84
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.2	21.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other AQ CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulativ	Increment	Cumulative					
5-6-97	1205										21.2	6.85	3190		
5-6-97	1211						5.0	5.0			18.6	7.05	3406		
5-6-97	1218						5.0	10.0			18.2	7.13	3450		
5-6-97	1227						5.0	15.0			18.3	7.27	3730		
5-6-97	1234						5.0	20.0			18.0	7.21	3700		
5-6-97	1244						5.0	25.0			18.8	7.23	3750	0.5	

Comments

Developer's Signature Dennis Bird Date 5-6-97 Reviewer John Zuhl Date 5/16/97

Sample 4 - 4th Qtr

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

A 2053

Project No.	Project Name	Samplers: (Signature)	Date
	BLOOMFIELD PIPELINE	Dennis Bird	8-12-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE			Remarks
WATER	8-12-97	1118		X	970852	G-1	4°C	X			MILES FEDERAL 1A (MV) MC 94497
WATER	8-12-97	—		X	—	G-1	4°C	X			TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	8-12-97 1637				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Hoppe	8/13/97 0750		

Carrier Co: | Carrier Phone No. | Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970852
MTR CODE | SITE NAME:	94497	Miles Federal #1A (MV)
SAMPLE DATE | TIME (Hrs):	8/12/97	1118
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	8/14/97	8/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 8/27/97

970852BTEX,8/25/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MILES FEDERAL 1A (MV)

Meter Code 94497

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other

Methods of Development

Pump		Bailer	
☐	Centrifugal	☒	Bottom Valve
☐	Submersible	☐	Double Check Valve
☐	Peristaltic	☐	Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 41.48
Initial Depth to Water (feet) 30.55
Height of Water Column in Well (feet) 10.93
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		7.2	21.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
8-12-97	1014										17.8	6.64	3510		
8-12-97	1021						5.0	5.0			16.6	6.96	3540		
8-12-97	1029						5.0	10.0			16.3	7.06	3720		
8-12-97	1042						5.0	15.0			16.7	7.10	3780		
8-12-97	1056						5.0	20.0			16.5	7.11	3800		
8-12-97	1105						5.0	25.0			16.5	7.18	3790	1.0	

Comments

Developer's Signature Dennis Bird Date 8-12-97 Reviewer John Falkner Date 8/27/97