EPFS GROUNDWATER PITS
1997 ANNUAL GROUNDWATER REPORT

Denny L. Foust
DEPUTY OIL & GAS INSPECTOR

JUL 22 1998

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.

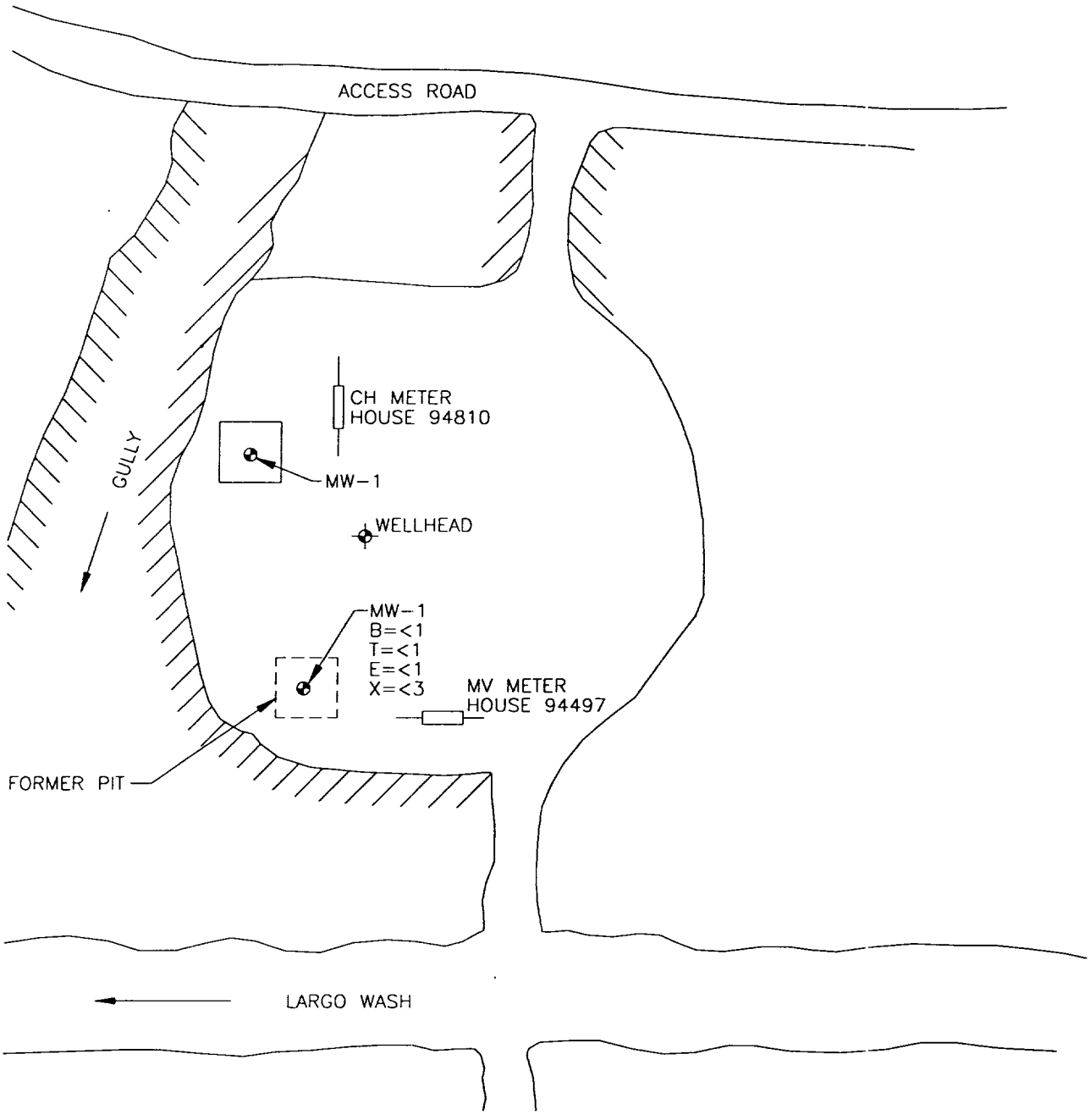
One soil boring was drilled in the center of the former pit and a monitoring well was installed. One soil sample was collected from 25-27 feet bgs. Soil analytical were as follows; benzene - <1 mg/kg, total BTEX – 201 mg/kg, TPH – 5160 mg/kg. Initial groundwater analytical were as follows; benzene – 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:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
1/22/98	0

PROJECT NO.: 17520
EPFS GW PITS

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

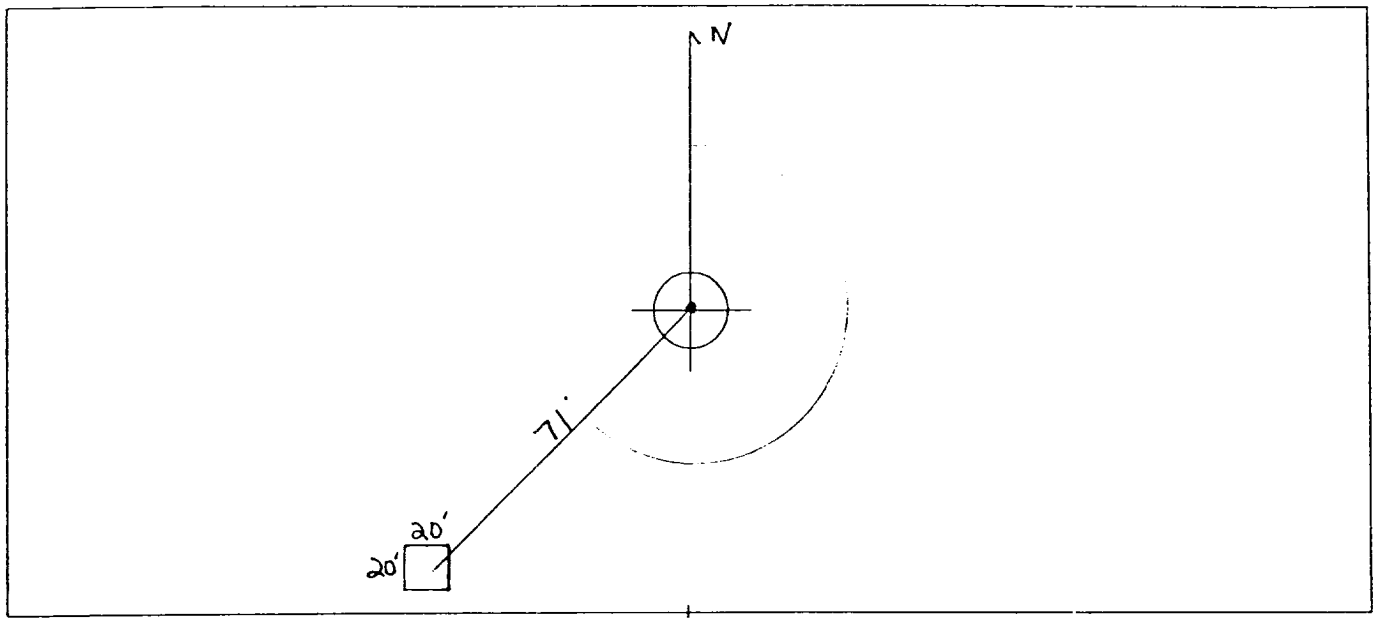
Remarks : Redline & Vuln. - Inside
4 pits. Close 1. Soil wet. No standing liquid

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

40

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KP82	945349
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~~ 7/10/94	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 –

ie ogate Recovery was at 76 % for this sample All QA/QC was acceptable.

ır. ve: ATI results attached.

: = Dilution Factor Used

ıoraved 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
)LUENE	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

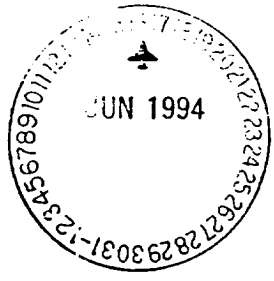
*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

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

03-72 Blanco

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

PHILIP ENVIRONMENTAL
4000 Monroe Road
Farmington, New Mexico 87401
(606) 326-2262 FAX (606) 326-2388

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

Elevation
Borehole Location QF- SS - 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 - 1300

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	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	49/486	1010hrs
20	2	20-22	5"	DK gry silty CLAY, v. soft, low plastic, dry			0	26	1030/2162	1015
25	3	25-27	18"	DK gry clayey SAND, vF-F sand, v. loose, moist			2	9	893/618	1027 GW@27.8' BGS
30	4	30-32	0"	No Recovery - SS. Wet			2	4	N/A	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 14500 Phase 600177
Project Location Miles Federal 1A(MV) 94497

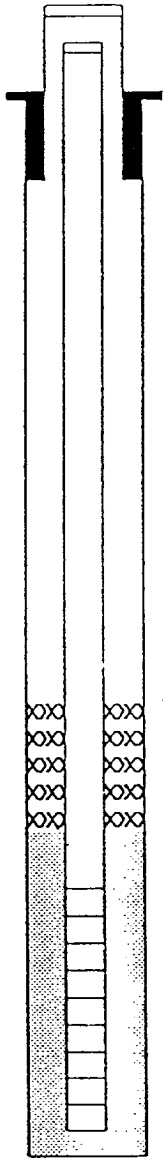
Elevation
Well Location
GWL Depth 27.8' BGS
Installed By K. Padilla

Date/Time Started 9/20/95 - 1315
Date/Time Completed 9/20/95 - 1520

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 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 Cory 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	REQUESTED ANALYSIS: 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 @ 5-22' Miles Federal 1-A (MV) 94497

CMC 9/20/95

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	9/20/95 1630	Julie A. Diddle	Julie A. 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)

EL Paso 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 mdv 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)	5760	MG/KG			2.13	28
HEADSPACE PID	618	PPM				
PERCENT SOLIDS	88	%				

-- 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: AT1 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.

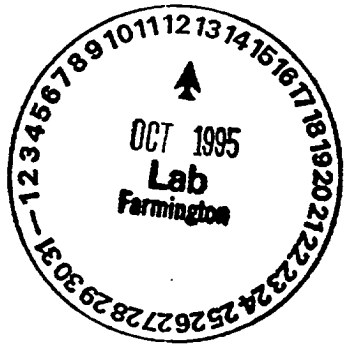
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



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 ±0.2°C °F	pH	Conductivity (µmhos/cm) x1000	Dissolved Oxygen (mg/L)	Comments
9/27/95	1311						5	5			68.2	7.35	16.22		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	6.82	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: Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/cm)	Water Collection Data: Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	Notes (Explain in Comments Below)
	See Development Form											

Sample Containers

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

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

Analytical Parameter List	Container: Number	Type	Volume (mL)	Field Filtered: Yes	No	Preserved	Cooled During Collection: Yes	No	Comments
BTEX	2	V	40		✓	HCl, 4°C	✓		CMC121 1444 hr
TDS	1	P	250		✓	4°C	✓		CMC121 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 CMance Date 9/27/95 Reviewer _____ Date _____

Form A0202 Rev. 02/24/94

El Paso Natural Gas Company

Phase II MW

CHAIN OF CUSTODY RECORD

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

Cory 9/27/95

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)	RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)
Cory Chavez	9/27/95 1730	Julie Dielde	Julie Dielde	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*

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: 8 RCRA METALS	Remarks
	11-5-96	1332		X	960920	6-2oz		X	X	X	MILES FEDERAL 1A (MOBIL VENTURE) MC. 94
	11-5-96	—		X	—	6-1		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 Hoffer	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	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 Fowler 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.

hod 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

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		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 O.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)			Increment	Cumulativ	Increment	Cumulative					
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: BLOOMFIELD PIPELINE

Samplers: (Signature) Dennis Bird

Date: 2-7-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE				Remarks
WATER	2-7-97	1225		X	970073	62	4°C	X				MUSS FEDERAL 1-A (MV) MC

X 1

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:
		Marlon Hepper	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: _____ 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 Removed
☐ 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		Gallons to be Removed
	Cubic Feet	Gallons	
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		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					
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

A 1940

El Paso Natural Gas Company

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 1-A (MV) MC 9449T

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:	
		Madon 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
Meter Code 94497

Site Name MILES FEDERAL 1-A (MV)

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ 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: 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 D.O. CHEMETS KIT

Methods of Development

Pump
☐ Centrifugal
☐ Submersible
☐ Peristaltic

Bailer
☒ Bottom Valve
☐ Double Check Valve
☐ 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	1205										21.2	6.85	3190		
5-6-97	1211						5.0	5.0			18.6	7.05	3400		
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 [signature] Date 5/16/97

Sample 4 - 4th Qtr

El Paso Natural Gas Company

A 2053

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: 8-12-97						

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	8-12-97	1118		X	970852	G-1	4°C	X				MILES FEDERAL 1A (MV) MC 9449T
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.

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	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 Labrie Date: 8/27/97

970852BTEX,8/25/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

V2

☐ Development
☒ Purging

Well Number MW-1

Site Name MILES FEDERAL 1A (MV)

Meter Code 94497

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removed
☐ 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		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.2	21.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other O.C. 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	Cumulative	Increment	Cumulative					
8-12-97	1014														
8-12-97	1021						5.0	5.0			17.8	6.64	3510		
8-12-97	1029						5.0	10.0			16.6	6.96	3540		
8-12-97	1042						5.0	15.0			16.3	7.06	3720		
8-12-97	1056						5.0	20.0			16.7	7.10	3780		
8-12-97	1105						5.0	25.0			16.5	7.11	3800		
											16.5	7.18	3790	1.0	

Comments

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