3R - 248

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**

El Paso Energy Corporation 614 Reilly Avenue Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119

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

EPFS GROUNDWATER PITS
1997 ANNUAL GROUNDWATER REPORT

W. D. HEATH B #5
Meter/Line ID - 87493

SITE DETAILS

Legals - Twn: 30N **Rng:** 9W **Sec:** 31 **Unit:** M
NMOCD Hazard Ranking: 30 **Land Type:** FEDERAL
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Apr-94 **Excavation:** May-94 (50 cy) **Soil Boring:** May-95
Monitor Well: May-95 **Geoprobe:** Jan-97

1997 ACTIVITIES

Geoprobe - Collected groundwater samples around former pit.
Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 4/10/96 and has continued into 1997. Groundwater analytical data are presented in Table 1.
Well Point Installation - Groundwater samples were collected from temporary monitoring wells. In addition, groundwater gradient was determined using the monitoring wells.

CONCLUSIONS

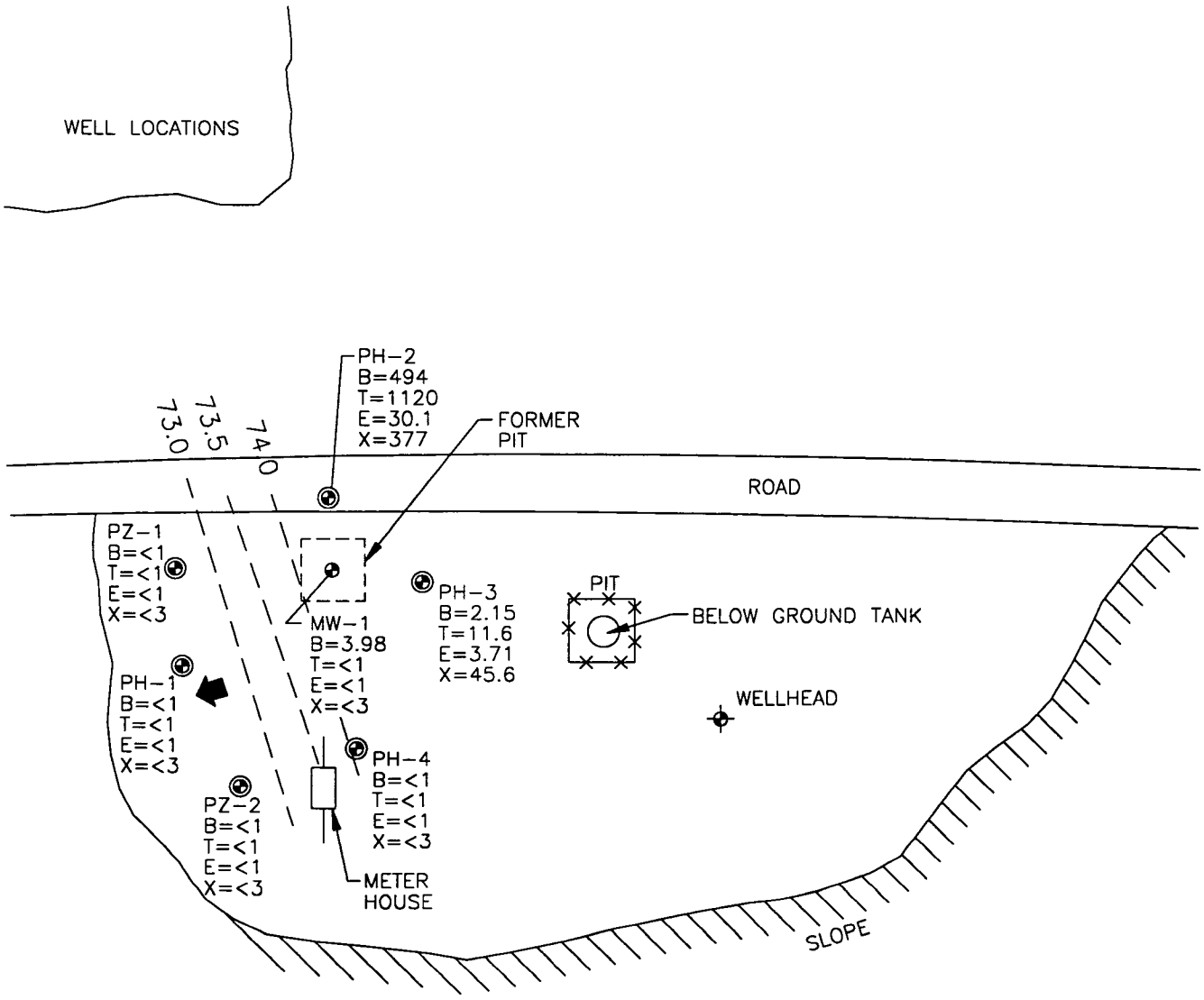
Based on groundwater levels collected from Well Point data, the groundwater flow trends to the east on this site, as presented in Figure 1.

Groundwater samples have been in excess of standards for benzene only, since quarterly sampling was initiated. Groundwater analytical data were below standards for BTEX after the sixth quarter of sampling, and have remained below standards the seventh quarter. Six groundwater samples were collected from temporary monitoring wells and Geoprobe up and down gradient of the former pit. The groundwater samples collected were below standards for BTEX. One groundwater sample collected cross-gradient of MW-1 was in excess of standards for benzene, and toluene.

Based on Well Point and Geoprobe data, there does not appear to have been any downgradient migration of contaminants.

RECOMMENDATIONS

- Quarterly sampling will continue at MW-1 until 4 consecutive clean quarters are achieved.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



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
73.0	GROUNDWATER POTENTIOMETRIC SURFACE
	APPROXIMATE GROUNDWATER GRADIENT

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:
WD HEATH B#5
87493

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 1
1/20/98	0	

COL. 17520BF-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960325	87493	W D Heath B-5	04/10/96	1	Sample 4 - 1st Qtr	= 61.9	8.24	23.3	9.47	103
960654	87493	W D Heath B-5	07/26/96	1	Sample 4 - 2nd Qtr	= 22.7	< 1	= 8.72	< 1	33
960869	87493	W D Heath B-5	10/18/96	1	Sample 4 - 3rd Quarter	= 9.42	< 1	= 2.81	< 3	= 16
970009	87493	W D Heath B-5	1/20/97	1	Sample 4 - 4th Qtr	< 1	< 1	= 5.03	< 3	= 10
970303	87493	W D Heath B-5	4/16/97	1	Sample 4 - 5th Quarter	= 29.1	= 1.29	= 6.22	= 2.2	= 39
970644	87493	W D Heath B-5	7/15/97	1	Sample 4 - 6th Quarter	= 9.06	< 1	= 2.48	< 3	= 12
971120	87493	W D Heath B-5	10/20/97	1	Sample 4 - 7th Quarter	= 3.98	< 1	< 1	< 3	= 4

RECORD OF SUBSURFACE EXPLORATION

10-83 Bloomfield

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

Borehole # BH-1
Well # MW1
Page 1 of 2

Project Name EPNG PITS
Project Number 14509 Phase 6000 77
Project Location WD Heath BH-5 87493

Elevation
Borehole Location
GWL Depth
Logged By CM Chance
Drilled By M. Donahue
Date/Time Started 5/26/95 - 0645
Date/Time Completed 5/26/95 - 0817

Well Logged By CM Chance
Personnel On-Site M. Donahue, K. Padilla
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 1/4 I.D. 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	MS	Drilling Conditions & Blow Counts
0				Backfill to 12'						
15	1	15-17	8"	Blk sandy CLAY, tr vF sand, soft, med plastic, sl moist, strong odor			10	79	650/903	-0657 hr
20	2	20-22	4"	DK grey silty CLAY, tr vf sand, soft, med plastic, odor			2	68	292/792	-0705
25	3	35-37	12"	Blk clayey SAND, abnt silt, soft, med dense, sl moist, strong odor			8	92	421/750	-0714
30	4	30-32	8"	Grey sandy CLAY, abnt vf-f sand, med stiff, low plastic, sl moist			10	95	28/52	-0729
35	5	35-37	20"	lt Br silty SAND, med dense, soft, saturated			-0	65	NA	-GW @ 33.7' -GW @ 32.5' after 15 min
40										

Comments: 30-32' sample submitted to lab CMC 28 (BTEX, TPH). Will set well at 42.5'
* GW < 50'. Assessment Form Loc > 100'.

Geologist Signature

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 2 of 2

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 W.D. Heath B#5 87493

Elevation
Borehole Location
GWL Depth
Logged By CM Chance
Drilled By M. Donahue
Date/Time Started
Date/Time Completed

Well Logged By CM Chance
Personnel On-Site M. Donahue, K. Padilla
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 1/4 I.D. 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	WS	Drilling Conditions & Blow Counts
40										-will set well @42.5'
				TDB 42.5'						
45										
50										
55										
60										
65										
70										
75										
80										

Comments:

Geologist Signature

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 6000.77
Project Location W. D. Heath B#5 87493

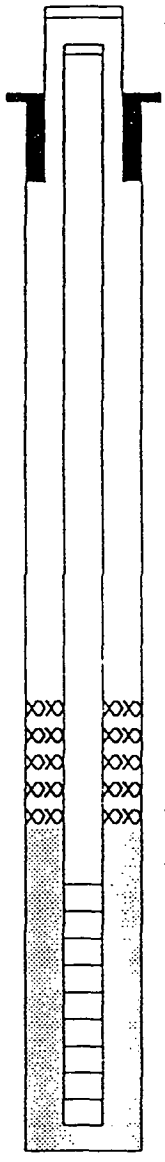
Elevation
Well Location
GWL Depth 32.5' BGS
Installed By K. Padilla, M. Donahue

Date/Time Started 5/26/95 - 0820
Date/Time Completed 5/26/95 - 1000

On-Site Geologist CM Chance
Personnel On-Site M. Donahue, K. Padilla, F. Rivera
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	~94# bags Type I-II Cement	0'
Bottom of Grout	~50# bags bentonite	21.5
Top of Well Riser	27.5'-sch 40 flush joint	+3'
Bottom of Well Riser	PVC	27.2
Top of Well Screen	15'-0.01 slot sch 40	27.2
Bottom of Well Screen	Flush joint PVC	42.2
Top of Peltonite Seal	2 - bags 50#	21.5
Bottom of Peltonite Seal	No 8 Enviroplug	23.5 ~~24.2~~
Top of Gravel Pack	12 - 50# bags	23.5 ~~24.2~~
Bottom of Gravel Pack	10-20 silica sand	42.5
Top of Natural Cave-In		NA
Bottom of Natural Cave-In		~~42.5~~ NA
Top of Groundwater		32.5
Total Depth of Borehole		42.5



Top of Protective Casing NA
Top of Riser +3'
Ground Surface 0'
Top of Seal 21.5'
Top of Gravel Pack 23.5'
Top of Screen 27.2
Bottom of Screen 42.2
Bottom of Borehole 42.5

Comments: 4" bottom cap. Locking well cap & padlock placed on well. Seal hydrated w/ 3 gal potable water

Geologist Signature

GEOPROBE

El Paso Natural Gas Company

A 1965

CHAIN OF CUSTODY RECORD

Geoprobe

Project No.	Project Name
16297	EPFS GW PITS

Samplers: (Signature) Cory Chavez

Date: 1/30/97 ~~1/29/97~~ CMC 1/30/97

	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTEX	Remarks
970038	~~1/29/97~~ 1/30/97	1300		✓	CMC286	2	4°C/HCl	✓	PH1 WD Heath BS 87493
	↓			-	Trip BLANK	1	↓	✓	Trip BLANK
970039		1400		✓	CMC287	2	↓	✓	PH2 WD Heath BS 87493
970040	↓	1545		✓	CMC288	2	↓	✓	PH3 ↓

Cory 1/30/97

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Cory Chavez	1/30/97 1700	Kelly Padilla		1-31-97 8:35	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
				1-31-97 0835	Angela Linnant
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	

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:	CMC286	970038
MTR CODE | SITE NAME:	87493	W D Heath B-5
SAMPLE DATE | TIME (Hrs):	1/30/97	1300
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	2/3/97	2/3/97
TYPE | DESCRIPTION:	PH1	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 98.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

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

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC287	970039
MTR CODE | SITE NAME:	87493	W D Heath B-5
SAMPLE DATE | TIME (Hrs):	1/30/97	1400
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	2/3/97	2/3/97
TYPE | DESCRIPTION:	PH2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	494	PPB	5	D		
TOLUENE	1120	PPB	5	D,D1		
ETHYL BENZENE	30.1	PPB	5	D		
TOTAL XYLENES	377	PPB	5	D		
TOTAL BTEX	2020	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 "D1" qualifier indicates that the analyte concentration exceeded the calibration curve limit.

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

Narrative:

Approved By: John Sullivan Date: 2-4-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC288	970040
MTR CODE | SITE NAME:	87493	W D Heath B-5
SAMPLE DATE | TIME (Hrs):	1/30/97	1645
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	2/3/97	2/3/97
TYPE | DESCRIPTION:	PH3	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.15	PPB				
TOLUENE	11.6	PPB				
ETHYL BENZENE	3.71	PPB				
TOTAL XYLENES	45.6	PPB				
TOTAL BTEX	63.1	PPB				

--BTEX is by EPA Method 8020--

The Surrogate Recovery was at 97.3 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: [signature] Date: 2-4-97

970040.XLS,2/4/97

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chance DATE:

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970106	2/13/97	0920	Water	CMC 303	2		X	X					PH 4 WD Heath B#5 87497
				TRIP BLANK	1		X	X					TRIP BLANK
	CMC 2/13/97			CMC 304	2		X	X					PH1 Sanders AHA 89620

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chance	2/13/97 1500	Cory Chance	Cory Chance	2/14/97 0930	
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 FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC303	970106
MTR CODE | SITE NAME:	87493	W D Heath B #5
SAMPLE DATE | TIME (Hrs):	2/13/97	920
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	2/19/97	2/19/97
TYPE | DESCRIPTION:	PH4	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 98.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 2-27-97

970106.XLS,2/26/97

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date	Receiving Temp. (°F)
	BLOOMFIELD P/L	Dennis Bird	4-10-96	30°

Contract Laboratory: EPFS

Lab ID	Date	Time	Matrix	Sample Number	Total No. of Containers	Chain of Custody Seals	Intact?	Composite or Grab	See Attached	Requested Analysis: BTXE	Requested Analysis: General Chemistry	Requested Analysis: 8 RCRA Metals	Remarks
	4/10/96	1502	WATER	960325	4			G		X	X	X	W.D. HEATH B-5 (mtr# 87493)
	4/10/96	1635	WATER	960326	4			G		X	X	X	SANDOVAL GC A #1A (mtr# 8962)
	4/10/96	1725	WATER	960327	4			G		X	X	X	JOHNSTON FEDERAL #3A
	4/10/96		WATER		1			G		X			TRIP BLANK (mtr# 89230)

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	4-11-96 0810				
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:	
		Maria Armenta	4/11/96 0825		

Results & Invoices to:

Charge Code

Date Results Reported / by: (Signature)

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960325
SITE NAME:	Bloomfield Pipeline
SAMPLE SITE:	W. D. Heath B-5 MW-1
SAMPLE DATE:	04/10/96
SAMPLE TIME (Hrs):	1502
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	04/12/96
SAMPLE TYPE:	Water

mtr# 87493

REMARKS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	61.9		10
TOLUENE	8.24		740
ETHYL BENZENE	23.3		750
TOTAL XYLENES	9.47		620
SURROGATE % RECOVERY	99.6	Allowed Range 80 to 120 %	

NOTES:

Reported By: mh Approved By: John Fowler Date: 4/19/96

EPFS

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPNG LAB ID:	960325
DATE SAMPLED:	04/10/96
TIME SAMPLED (Hrs):	1502
SAMPLED BY:	D. Bird
MATRIX:	Water
SAMPLE SITE NAME:	Bloomfield P/L
SAMPLE POINT:	W.D. Heath B-5, MW-1
METER CODE:	87493

FIELD REMARKS: None

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
pH	7.9	Units	04/15/96
Alkalinity as $C0_3$	0	PPM	04/15/96
Alkalinity as $HC0_3$	388	PPM	04/15/96
Calcium as Ca	464	PPM	04/15/96
Magnesium as Mg	64	PPM	04/15/96
Total Hardness as $CaC0_3$	1,422	PPM	04/15/96
Chloride as Cl	90	PPM	04/15/96
Sulfate as $S0_4$	2,983	PPM	04/15/96
Fluoride as F	1.5	PPM	04/15/96
Nitrate as $N0_3$-N	<0.1	PPM	04/15/96
Potassium as K	1.6	PPM	04/15/96
Sodium as Na	1,070	PPM	04/15/96
Total Dissolved Solids	5,230	PPM	04/15/96
Conductivity	5,240	umhos/cm	04/15/96
Anion/Cation %	2.6%	%, <5.0 Accepted	04/15/96

Lab Remarks:

Reported By: DS Approved By: John Sanchez Date: 4/19/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960325
LOCATION:	Bloomfield Pipeline
SAMPLE SITE:	W. D. Heath B-5
METER CODE:	87493
SAMPLE DATE:	04/10/96
SAMPLE TIME (Hrs):	1502
SAMPLED BY:	D. Bird

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<0.025	0.100
BARIUM	<0.5	1.00
CADMIUM	<0.0005	0.010
CHROMIUM	0.002	0.050
LEAD	<0.004	0.050
MERCURY	<0.00024	0.002
SELENIUM	<0.005	0.050
SILVER	0.0005	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 7080A, Barium (Atomic Absorption, Direct Aspiration), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

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: mh Approved By: John Labrier Date: 10/5/96

EPFS

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 960320 to 960323, 960325 to 960327, 960330 to 960334, 960340 to 960343, 960350 to 960353, 960355 to 960356, 960370 to 960373, and 960375 to 960378, 960380 & 960386

Date Reported: 05/10/96

TOTAL METALS

LABORATORY CONTROL SAMPLE

Analyte	Found Value (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	26.2	27.0	97%
Barium	309	315	98%
Cadmium	3.06	2.90	106%
Chromium	7.09	6.70	106%
Lead	35.9	39.5	91%
Mercury	1.79	1.75	102%
Selenium	36.7	31.0	118%
Silver	3.16	3.06	103%

LABORATORY CONTROL SAMPLE (2nd run)

Analyte	Found Value (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	NA	NA	NA
Barium	NA	NA	NA
Cadmium	2.76	2.90	95%
Chromium	7.34	6.70	110%
Lead	35.9	39.5	91%
Mercury	1.71	1.75	98%
Selenium	NA	NA	NA
Silver	NA	NA	NA

NA: Not Applicable. A second run was not required.

Reported By: m/1 Approved By: Date: 10/5/96

EPFS

EL PASO FIELD SERVICES

MEMORANDUM

To: John Lambdin

Date: May 3, 1996

From: Dennis Bird

Place: Laboratory Services

Subject: Bloomfield Pipeline Pit Monitor Wells

On Wednesday, April 10, 1996 I went to the Bloomfield Pipeline and sampled the following pit monitor wells. The following analytical parameters are to be performed on these groundwater samples: BTXE, 8 RCRA Metals, General Chemistry to include Nitrate as NO3 and dissolved oxygen. The samples were assigned the laboratory numbers 960325 to 960327. The dissolved oxygen results were taken at the time of sampling with a ChemMets kit. The Field Service Laboratory will be perfoming all of the analysis.

The following information was collected on each well.

Well Name	Monitor Well#	Pipe ID	Static Level	Total Depth	Gallons Bailed	Dissolved Oxygen
960325 W.D. Heath B-5	MW-1	2"	29.35'	44.21'	8.0	1.5 ppm
960326 Sandoval GC A1A	MW-1	2"	35.39'	39.20'	5.0	1.5 ppm
960327 Johnson Federal 3A	MW-1	4"	59.58'	70.38'	24.0	1.0 ppm

Sandoval GC A1A MW-1 had a hydrocarbon smell.

All bailing and sampling was done with disposable, one time use equipment and bottles. All samples were preserved on ice immediately after collection. The static level and total depth was measured from the top of the pipe.

Should you have any question or comments, please let me know.

Dennis P. Bird

Dennis P. Bird

cc: Nancy Prince
Sandra Miller

Sample 4- 2nd Qtr

El Paso Natural Gas Company

A 2597

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: 7-21-96						

	Date	Time	Comp.	GRAB	Sample Number						
	7-26-96	1142		X	960654	(3)	Y				M.W. NORTH PIPELINE MC #7493
	7-26-96	1307		X	960655	(3)	Y				SW CORNER OF MW PIPELINE MC #7620
	7-26-96	1307		X	960656	(3)	X				SW CORNER OF MW PIPELINE MC #7620
	7-26-96	1452		X	960657	(3)	Y				SW CORNER OF MW PIPELINE MC #7620
	7-26-96	—		X	—	(3-1)	X				FIELD BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	7-26-96 1625				
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:	
		Marlen Kloppe	7/29/96 0905		

Carrier Co:

Carrier Phone No.

Date Results Reported / by: (Signature)

Air Bill No.:

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960654
SITE NAME:	Bloomfield Pipeline
SAMPLE SITE:	W D Heath B-5 MW-1
METER CODE:	87493
SAMPLE DATE:	07/26/96
SAMPLE TIME (Hrs):	1142
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	07/30/96
SAMPLE TYPE:	Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	22.7		10
TOLUENE	<1.0		740
ETHYL BENZENE	8.72		750
TOTAL XYLENES	<1.0		620
SURROGATE % RECOVERY	98.9	Allowed Range 80 to 120 %	

NOTES:

Reported By: [signature] Approved By: [signature] Date: 8/14/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name W.O. HEATH B-5

Meter Code 87493

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) 44.21
Initial Depth to Water (feet) 29.67
Height of Water Column in Well (feet) 14.54
Diameter (inches): Well 2 Gravel Pack

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

Instruments

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

Water Disposal

KOTZ 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
7-26-96	1058										20.0	7.57	4990		
7-26-96	1110						3.0	3.0			19.5	7.41	4980		
7-26-96	1115						2.0	5.0			19.6	7.35	5030		
7-26-96	1125						3.0	8.0			19.7	7.28	4980		
7-26-96	1133						2.0	10.0			19.7	7.34	4940	1.5	

Comments

Developer's Signature Dennis Bird Date 7-26-96 Reviewer [signature] Date 8/14/96

El Paso Natural Gas Company

A 2273

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	BLOOMFIELD PIPELINE						
Samplers: (Signature) Dennis Bird	Date: 10-18-96						

Date	Time	Comp.	GRAB	Sample Number							
10-18-96	1126		X	960869	G-2		X				W. D. HEATH B-5 MW1 MC 87493
10-18-96			X		G-1		X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	10-18-96 1617				
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	10/21/96 0810		

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

EPFS

EL PASO FIELD SERVICES
FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960869
MTR CODE | SITE NAME:	87493	W D Heath B-5 MW-1
SAMPLE DATE | TIME (Hrs):	10/18/96	1126
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	10/22/96	10/22/96
TYPE | DESCRIPTION:	Monitor ~~Grab~~ Well	Water

Field Remarks: ______

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	9.42	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	2.81	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	12.2	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 116 % for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: John Lachr Date: 10-24-96

960868.XLS,10/23/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name W.O. HEATH B-5

Meter Code 87493

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) 44.21
Initial Depth to Water (feet) 30.03
Height of Water Column in Well (feet) 14.18
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.5	7.4
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					
10-18-96	1036										13.6	7.44	6610		
10-18-96	1050						3.0	3.0			13.7	7.14	6680		
10-18-96	1057						2.0	5.0			14.0	7.07	6540		
10-18-96	1108						3.0	8.0			13.9	7.06	6610		
10-18-96	1116						2.0	10.0			14.3	7.07	6360	1.5	

Comments

Developer's Signature Dennis Bird Date 10-18-96 Reviewer John Kilday Date 10-24-96

A 1985

CHAIN OF CUSTODY RECORD

Project No.:

Project Name: BLOOMFIELD PIPELINE

Samplers: (Signature) Dennis Bird

Date: 1-20-97

[illegible]	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE				Remarks
[illegible]	1-20-97	1233		X	970009	G-2	4°C	X				[illegible] MW-1 MC 87493
[illegible]	1-20-97	—		X	—	G-1	4°C	X				TRIP BLANK

Requested Analysis

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	1-20-97 1645				

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	1/21/97 0735	

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	970009
MTR CODE | SITE NAME:	87493	W.D. Heath B-5 MW-1
SAMPLE DATE | TIME (Hrs):	01/20/97	1233
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	1/23/97	1/24/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	5.03	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	5.03	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 94.1 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Saathoff Date: 1-29-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name W.O. HEATH B-5

Meter Code 87493

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) 44.31
Initial Depth to Water (feet) 29.83
Height of Water Column in Well (feet) 14.38

Diameter (inches): Well 2 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.5	7.5
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					
1-20-97	1120										10.4	7.02	5580		
1-20-97	1137						3.0	3.0			13.0	6.82	5530		
1-20-97	1148						2.0	5.0			13.9	6.93	5190		
1-20-97	1205						3.0	8.0			13.9	7.03	5580		
1-20-97	1216						2.0	10.0			14.1	7.06	5490	1.0	

Comments_____

Developer's Signature Dennis Bird Date 1-20-97 Reviewer John Taylor Date 1-29-97

SAMPLE 4- 5TH. QTR

El Paso Natural Gas Company

A 2206

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	BLOOMFIELD PIPELINE			BTXE	GENERAL CHEMISTRY	& RCRA METALS		
Samplers: (Signature) Dennis Bird	Date: 4-16-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	4-16-97	1224		X	970503	2-VOA, 1-AG	4°C	X	X	X		W. O. HEATH B-5 MW1 MC 87493
WATER	4-16-97	—		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	4-16-97 1716				
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	4/21/97 0710		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

5-6-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970303
MTR CODE | SITE NAME:	87493	W. D. Heath B-5 MW-1
SAMPLE DATE | TIME (Hrs):	4/16/97	5th 1224
PROJECT:	Sample 4 - 1st Quarter	4/25/97
DATE OF BTEX EXT. | ANAL.:	4/18/97	4/18/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	29.1	PPB				
TOLUENE	1.29	PPB				
ETHYL BENZENE	6.22	PPB				
TOTAL XYLENES	2.20	PPB				
TOTAL BTEX	38.8	PPB				

The Surrogate Recovery was at 104 % for this sample All QA/QC was acceptable.

Narrative:

Approved By: John Leach Date: 4/24/97

970303.XLS,4/21/97

EL PASO FIELD SERVICES

5-6-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970303
DATE SAMPLED:	04/16/97
TIME SAMPLED (Hrs):	1224
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	87493
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	W. D. Heath B-5 MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.0	Units	04/18/97
Alkalinity as $C0_3$	0	PPM	04/18/97
Alkalinity as $HC0_3$	436	PPM	04/18/97
Calcium as Ca	467	PPM	04/19/97
Magnesium as Mg	80	PPM	04/19/97
Total Hardness as $CaC0_3$	1,495	PPM	04/19/97
Chloride as Cl	97	PPM	04/18/97
Sulfate as $S0_4$	3,230	PPM	04/18/97
Fluoride as F	1.5	PPM	04/18/97
Nitrate as $N0_3$-N	<0.6	PPM	04/18/97
Nitrite as $N0_2$-N	<0.6	PPM	04/18/97
Ammonium as NH_4^+	<0.6	PPM	04/19/97
Phosphate as PO_4	<0.6	PPM	04/18/97
Potassium as K	1.9	PPM	04/19/97
Sodium as Na	1140	PPM	04/19/97
Total Dissolved Solids	5,290	PPM	04/19/97
Calculated TDS	5,232	PPM	04/19/97
Conductivity	6,290	umhos/cm	04/17/97
Anion/Cation %	1.4%	%, <5.0 Accepted	04/21/97

Remarks:

Reported By: mh Approved By: _____ Date: 4/24/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name W. D. HEATH B-5

Meter Code 87493

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) 44.21
Initial Depth to Water (feet) 29.26
Height of Water Column in Well (feet) 14.95
Diameter (Inches): Well 2 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.6	7.8
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	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					
4/16/97	1114										17.3	6.72	5930		
4/16/97	1134						3.0	3.0			17.6	7.15	6400		
4/16/97	1154						2.0	5.0			17.2	7.21	5870		
4/16/97	1216						3.0	8.0			17.5	7.23	6310	1.5	

Comments

Developer's Signature Dennis Bird Date 4-16-97 Reviewer John Tell Date 4/24/97

El Paso Natural Gas Company

A 2020

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: 7-11-97						

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	7-11-97	1136		X	970644	G-1	4°C	X				W.O. HEATH B-5 MW-1 MC 87493
WATER	7-11-97			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	7-11-97 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 E Hoppe	7/14/97 0850		

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

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970644
MTR CODE | SITE NAME:	87493	W D Heath B-5 MW-1
SAMPLE DATE | TIME (Hrs):	7/11/97	1136
PROJECT:	Sample 4 - 6th Quarter	
DATE OF BTEX EXT. | ANAL.:	7/15/97	7/15/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q		
BENZENE	9.06	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	2.48	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	11.5	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95.9 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Kelly Date: 7/22/97

970644.XLS,7/22/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name W. D. HEATH B-5

Meter Code 87493

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) 44.21
Initial Depth to Water (feet) 29.41
Height of Water Column in Well (feet) 14.80

Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		2.6	7.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KVT2 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
7-11-97	1047										20.4	6.36	6030		
7-11-97	1057						3.0	3.0			19.3	7.03	6520		
7-11-97	1105						2.0	5.0			19.2	7.08	6380		
7-11-97	1118						3.0	8.0			19.4	7.18	6500		
7-11-97	1126						2.0	10.0			18.8	7.19	5920	0.5	

Comments

Developer's Signature Dennis Bird Date 7-11-97 Reviewer John Ludlow Date 7/22/97

SAMPLE 4 7TH QTR

El Paso Natural Gas Company

A 2111

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	MC #87493	Dennis Bird	10-20-97

Matrix	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE	Remarks
WATER	10-20-97	1047		X	971120	G-1	4°C	X	W.D. HEATH B-5 MW-1
WATER	10-20-97	—		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	10-20-97 1537				
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)	ID/ Date/Time	Remarks:	
		Marsha Hoppe	10/21/97 0730		

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	971120
MTR CODE | SITE NAME:	87493	W.D. Heath B-5
SAMPLE DATE | TIME (Hrs):	10/20/97	1047
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. | ANAL.:	10/23/97	10/23/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3.98	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	4	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Farch Date: 10-27-97

971120BTEXMW,10/24/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name W.D. HEATH B-5

Meter Code 87493

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 44.21
Initial Depth to Water (feet) 29.78
Height of Water Column in Well (feet) 14.43
Diameter (inches): Well 2 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.5	7.5
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		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					
10-20-97	1000										15.4		5930		
10-20-97	1010						3.0	3.0			15.1		6000		
10-20-97	1018						2.0	5.0			15.3		6100		
10-20-97	1029						3.0	8.0			15.1		5740		
10-20-97	1038						2.0	10.0			15.2		5750	1.0	

Comments_____

Developer's Signature Dennis Bird Date 10-20-97 Reviewer John Leeds Date 10-27-97