3R - 235

REPORTS

DATE:
1997

EL PASO ENERGY

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

RECEIVED
MAR 0 2 1998
Environmental Bureau
Oil Conservation Division

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

EPFS GROUNDWATER PITS
1997 ANNUAL GROUNDWATER REPORT

SANDOVAL GAS COM A #1A
Meter/Line ID - 89620

SITE DETAILS

Legals - Twn: 30N **Rng:** 9W **Sec:** 35 **Unit:** C
NMOCD Hazard Ranking: 10 **Land Type:** FEDERAL
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: May-94 **Excavation:** Sep-94 (50 cy) **Soil Boring:** May-95
Monitor Well: May-95 **Re-Excavation:** Jul-97 (504 cy) **Re-Install MW:** Aug-97

1997 ACTIVITIES

Geoprobe - No Samples. Refusal.
Re-Excavation - Pit was re-excavated to approximately 28 feet below ground surface. 504 cubic yards of soil were removed and disposed of at Envirotech's landfarm.
Monitor Well Re-Installation - One groundwater monitor well was re-installed in the center of the former pit.
Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 4/12/96 and has continued into 1997. Groundwater analytical data are presented in Table 1.

CONCLUSIONS

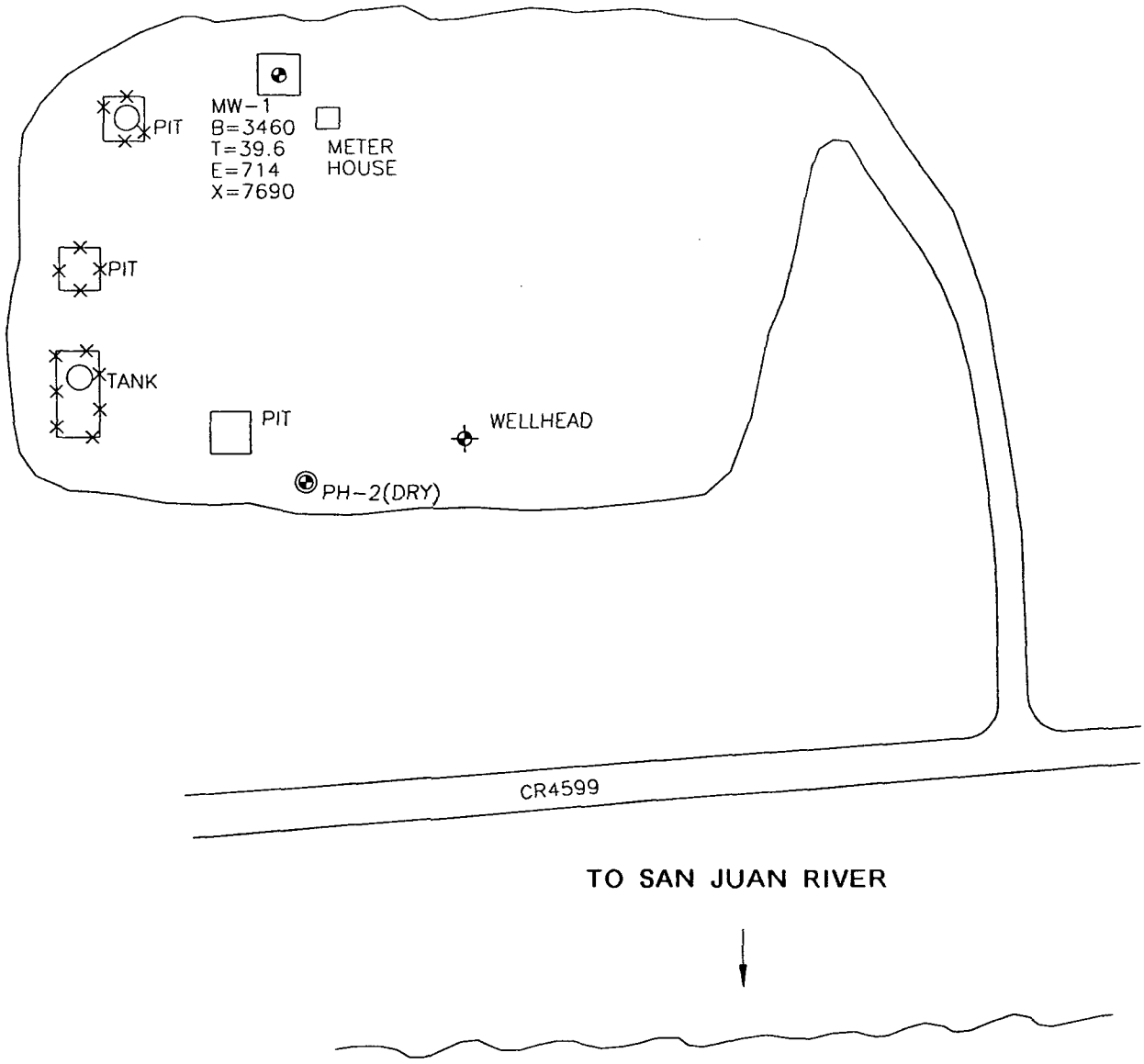
An attempt was made to install downgradient monitoring wells in December of 1995. However, refusal was encountered at approximately 38 feet below ground surface and no groundwater was encountered. In addition, an attempt was made to collect groundwater samples with the Geoprobe, and refusal was encountered at approximately 26 feet below ground surface on 4 sides of the pit.

Groundwater samples collected from MW-1 have been over standards for BTEX since quarterly sampling was initiated. However, BTEX levels have consistently decreased since quarterly sampling was initiated. No product has been measured in MW-1. A formerly unlined pit is adjacent to MW-1 and may be an additional source.

The pit was re-excavated to the best extent, as indicated by the removal of approximately 550 cubic yards of contaminated soil. The headspace soil reading from the bottom of the excavation was 57 ppm. Soil analytical from the bottom of the excavation were as follows; benzene - <0.5 mg/kg, total BTEX - <3 mg/kg, TPH - <10 mg/kg.

RECOMMENDATIONS

- EPFS proposes no further action at this site, until the operator commences with remediation of their production pit.
- Due to the difficult drilling conditions, additional monitoring wells may be difficult to install. Install ORC socks in MW-1 and discontinue sampling for 6 – 12 months to achieve full benefit of oxygenate socks. Resume sampling on an annual basis after the 6 – 12 month period.



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

NOT TO SCALE

PHILIP SERVICES CORP

TITLE:

SANDOVAL GAS COM A #1A

89620

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 1
1/18/98	0	

COL. 17520AX-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960326	89620	Sandoval GC A #1A	04/12/96	1	Sample 4 - 1st Qtr	= 10400	= 8960	= 925	= 10100	30385
960655	89620	Sandoval GC A #1A	07/26/96	1	Sample 4 - 2nd Qtr	= 8980	= 7980	= 1000	= 9430	27390
960870	89620	Sandoval GC A #1A	10/18/96	1	Sample 4 - 3rd Quarter	= 11050	= 9960	= 900	= 10700	= 32610
970012	89620	Sandoval GC A #1A	1/21/97	1	Sample 4 - 4th Quarter	7700	7210	787	8430	24127
970304	89620	Sandoval GC A #1A	4/16/97	1	Sample 4 - 5th Quarter	= 8900	= 8680	= 996	= 9250	= 27826
970645	89620	Sandoval GC A #1A	7/11/97	1	Sample 4 - 6th Quarter	= 8240	= 7850	= 709	= 8230	= 25029
970955	89620	Sandoval GC A #1A	9/4/97	R-1	Phase III Drilling - Initial	= 4420	= 2370	= 850	= 9660	17300
971121	89620	Sandoval GC A #1A	10/22/97	R-1	Sample 4 - 1st Qtr	= 3460	= 39.6	= 714	= 7690	= 11904

RECORD OF SUBSURFACE EXPLORATION

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

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

Project Name EPFS GW Pits
Project Number _____ Phase 6002
Project Location SANDOVAL A1A B9620

Elevation _____
Borehole Location APPROXIMATE Center of Old Pit
GWL Depth _____
Logged By S. Pope
Drilled By M. Donohue
Date/Time Started 0945 8/27/97
Date/Time Completed 1300 8/27/97

Well Logged By S Pope
Personnel On-Site C. Gomez
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 6 1/4 ID
Air Monitoring Method PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ	BH	S	Drilling Conditions & Blow Counts
0				BROWN SAND w/ some CLAY Moist, LOOSE Backfill from EXCAVATION. TD ≈ 28'						
5										
10										- Driller [illegible]
15			Cuttings							
20										
25										
30				Brown SAND trace clay. Abundant Cobbles, Moist Hard		29 ▽ 31.5				- Abundant cobble very hard drilling. Water @ 31.5
35				TOB 36.0						
40										

Comments: Extremely diff cult Drilling Could only get to 36.0' will set @ 36'

Geologist Signature [signature]

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(606) 326-2262 FAX (606) 326-2388

Borehole # _____
Well # MW-1
Page ____ of ____

Project Name EPFS GW Pits
Project Number 17520 Phase 6002
Project Location SANDOVAL AIA

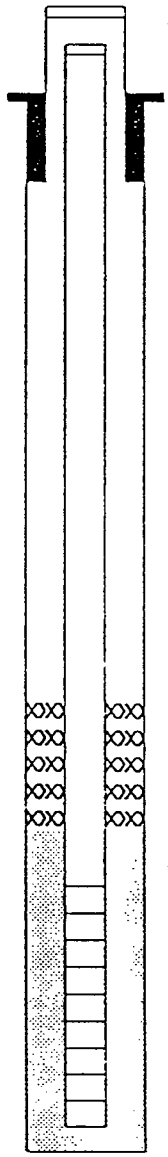
Elevation _____
Well Location Approximate Center of Original Pit
GWL Depth 31.5
Installed By M. DONOHUE

Date/Time Started 1300 8/27/97
Date/Time Completed 1500 8/27/97

On-Site Geologist S. Pope
Personnel On-Site C. Gomez
Contractors On-Site —
Client Personnel On-Site —

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout		
Bottom of Grout		
Top of Well Riser	4" Sch 40 PVC	+2.6
Bottom of Well Riser		25.75
Top of Well Screen	4" Sch 40 PVC	25.75
Bottom of Well Screen	.010 SLOT	35.9
Top of Peltonite Seal	3/8" Hole Plug	19.0
Bottom of Peltonite Seal		23.0
Top of Gravel Pack	10-20 Silica	23.0
Bottom of Gravel Pack		35.9
Top of Natural Cave-In		—
Bottom of Natural Cave-In		—
Top of Groundwater		31.5
Total Depth of Borehole		35.9



Top of Protective Casing _____
Top of Riser 2.6
Ground Surface 0

Top of Seal 19.0
Top of Gravel Pack 23
Top of Screen 25.75
Bottom of Screen 35.9
Bottom of Borehole 35.9

Comments: SAND Bridged in Augers had to add ± 10 gallons WATER, USED 9.5 BAG SAND (50#), 2 50# BAGS Hole Plug, 3 BAGS PORTLAND, 1/4 BAG Bentonite Powder. WL After Installation 32.6 BGS

Geologist Signature Scott T. Pope

1.5
2.0

RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/ Phase III

GENERAL

Meter: 89620 Location: Sandoval Gas Com A 1A

Coordinates: Letter: C Section 35 Township: 30 Range: 09

Or Latitude _____ Longitude _____

Date Started : 7-14-97 Area: ____ Run: ____

FIELD OBSERVATIONS

Sample Number(s): #P102N #P103 S #P104 E #P105 W #P106 Bottom

Sample Depth: 28 Feet

Final PID Reading 57 ppm on Bott. PID Reading Depth 28 Feet

	Yes	No
Groundwater Encountered	☐ (1)	☒ (2)

Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation	☒ (1)	Approx. Cubic Yards 504 ~~452~~ cmc cuyd
Onsite Bioremediation	☐ (2)	Cubic Yards Overburden 267 cuyd
Backfill Pit Without Excavation	☐ (3)	

Soil Disposition:

Envirotech ☒ (1) ☐ (3) Tierra

Other Facility ☐ (2) Name: _____

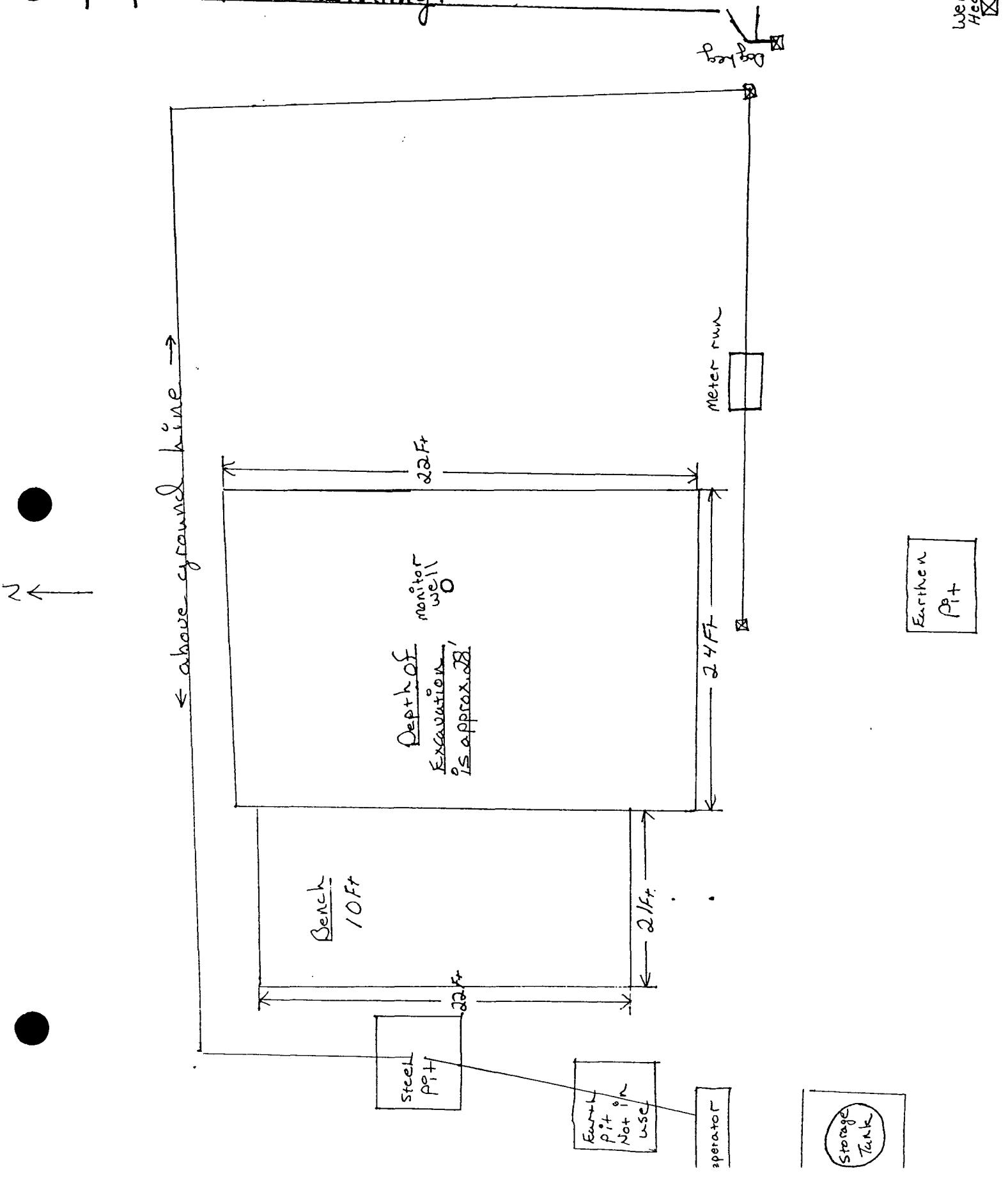
Pit Closure Date: 7-17-97 Pit Closed By: Philip Env.

REMARKS

Remarks : Remediated pit to 28 Ft took 5 samples North wall 108 ppm South wall 66 ppm East wall 134 ppm West wall 120 ppm Bottom 57 ppm. PID readings may be high due to heat + moisture in bags. This pit Looks to be down gradient From pit with steel liner in it. Steel over.

Signature of Specialist: James L Vernon

pit may have been set over existing earthen pit. Unsure?
2 Existing earthen pits on location, probably belong to Amoco.
Added 10-20lb bags of fertilizer + 600 gals. of water to bottom of pit prior to backfilling.



El Paso Natural Gas Company

Phase IV - Excavation

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) James F Peace DATE: 7-15-97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID		Field PID HS	SEQUENCE #	REMARKS
970663	7-15-97	1330	Soil	4P102	1	VG	X	X			108		North Wall Sandoval Gas Com
970664	7-15-97	1335	Soil	4P103	1	VG	X	X			66		South Wall #1A
970665	7-15-97	1340	Soil	4P104	1	VG	X	X			134		East Wall " "
970666	7-15-97	1345	Soil	4P105	1	VG	X	X			120		West Wall " "
970667	7-15-97	1350	Soil	4P106	1	VG	X	X			57		Bottom at 28' " "

40°

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
James F Peace	7-16-97 0700		Cari Williams	7/16/97 1440	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
					Marla Armenta

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 FIELD SERVICES

8/8/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP102	970663
MTR CODE | SITE NAME:	89620	Sandoval Gas Com A #1A
SAMPLE DATE | TIME (Hrs):	7/15/97	1330
PROJECT:	Phase IV Excavation	
DATE OF TPH EXT. | ANAL.:	7/17/97	7/17/97
DATE OF BTEX EXT. | ANAL.:	7/17/97	7/17/97
TYPE | DESCRIPTION:	VG	Fine brown sand

Field Remarks: North Wall

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	0.65	MG/KG				
ETHYL BENZENE	0.66	MG/KG				
TOTAL XYLENES	13.1	MG/KG				
TOTAL BTEX	14.4	MG/KG				
TPH (418.1)	433	MG/KG			2.06	28
HEADSPACE PID	108	PPM				
PERCENT SOLIDS	90.7	%				

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

The Surrogate Recovery was at 86.8 for this sample All QA/QC was acceptable.

ative:

DF = Dilution Factor Used

Approved By: John Loudermilk INGVZPIT.XLS Date: 7/22/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP103	970664
MTR CODE | SITE NAME:	89620	Sandoval Gas Com A #1A
SAMPLE DATE | TIME (Hrs):	7/15/97	1335
PROJECT:	Phase IV Excavation	
DATE OF TPH EXT. | ANAL.:	7/17/97	7/17/97
DATE OF BTEX EXT. | ANAL.:	7/17/97	7/17/97
TYPE | DESCRIPTION:	VG	Fine brown sand

Field Remarks: South Wall

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	17.3	MG/KG				
ETHYL BENZENE	2.67	MG/KG				
TOTAL XYLENES	71.3	MG/KG				
TOTAL BTEX	91.3	MG/KG				
TPH (418.1)	1450	MG/KG			2.09	28
HEADSPACE PID	66	PPM				
PERCENT SOLIDS	92.0	%				

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

The Surrogate Recovery was at 85.6 for this sample All QA/QC was acceptable.

rative:

DF = Dilution Factor Used

Approved By: John Saller INGVZPIT.XLS Date: 7/22/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP104	970665
MTR CODE | SITE NAME:	89620	Sandoval Gas Com A #1A
SAMPLE DATE | TIME (Hrs):	7/15/97	1340
PROJECT:	Phase IV Excavation	
DATE OF TPH EXT. | ANAL.:	7/17/97	7/17/97
DATE OF BTEX EXT. | ANAL.:	7/17/97	7/17/97
TYPE | DESCRIPTION:	VG	Fine brown sand

Field Remarks: East Wall

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	<0.5	MG/KG				
ETHYL BENZENE	<0.5	MG/KG				
TOTAL XYLENES	<1.5	MG/KG				
TOTAL BTEX	<3	MG/KG				
TPH (418.1)	<10	MG/KG			2.06	28
HEADSPACE PID	134	PPM				
PERCENT SOLIDS	93.7	%				

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

The Surrogate Recovery was at 83.9 for this sample All QA/QC was acceptable.

rative:

DF = Dilution Factor Used

Approved By: Steve Sadler INGVZPIT.XLS Date: 7/22/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP105	970666
MTR CODE | SITE NAME:	89620	Sandoval Gas Com A #1A
SAMPLE DATE | TIME (Hrs):	7/15/97	1345
PROJECT:	Phase IV Excavation	
DATE OF TPH EXT. | ANAL.:	7/17/97	7/17/97
DATE OF BTEX EXT. | ANAL.:	7/17/97	7/17/97
TYPE | DESCRIPTION:	VG	Fine brown sand

Field Remarks: West Wall

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	<0.5	MG/KG				
ETHYL BENZENE	<0.5	MG/KG				
TOTAL XYLENES	<1.5	MG/KG				
TOTAL BTEX	<3	MG/KG				
TPH (418.1)	<10	MG/KG			2.46	28
HEADSPACE PID	120	PPM				
PERCENT SOLIDS	87.7	%				

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

The Surrogate Recovery was at 84.7 for this sample All QA/QC was acceptable.

rative:

DF = Dilution Factor Used

Approved By: John Leach INGVZPIT.XLS Date: 7/22/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP106	970667
MTR CODE | SITE NAME:	89620	Sandoval Gas Com A #1A
SAMPLE DATE | TIME (Hrs):	7/15/97	1350
PROJECT:	Phase IV Excavation	
DATE OF TPH EXT. | ANAL.:	7/17/97	7/17/97
DATE OF BTEX EXT. | ANAL.:	7/17/97	7/17/97
TYPE | DESCRIPTION:	VG	Coarse brown/gray sand

Field Remarks: Bottom @ 28'

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	<0.5	MG/KG				
ETHYL BENZENE	<0.5	MG/KG				
TOTAL XYLENES	<1.5	MG/KG				
TOTAL BTEX	<3	MG/KG				
TPH (418.1)	<10	MG/KG			2.79	28
HEADSPACE PID	57	PPM				
PERCENT SOLIDS	95.6	%				

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

The Surrogate Recovery was at 81.1 for this sample All QA/QC was acceptable.

rative:

DF = Dilution Factor Used

Approved By: John Gould INGVZPIT.XLS Date: 7/22/97

QUALITY CONTROL REPORT
TPH by Modified 418.1 by Infrared

Date of Analysis: July 17, 1997 **Sample ID: 970663 to 970667**

LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE IDENTIFICATION	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES	NO
INITIAL CALIBRATION VERIF. "B" Heavy Oil (Lot M3G9616)	HORIBA	100	102	102	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES	NO
970663	2nd Extract	433	343.0	23.2	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SA)MG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES	NO
970663	893	433	1550	125	X	

Narrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES	NO
ERA TPH STANDARD #1 LOT # 91030	ENVIRONMENT RESOURCE ASS.	2920	3099	1900 - 3360	X	
ERA TPH STANDARD #2 w/i LOT # 91030	ENVIRONMENT RESOURCE ASS.	1150	1114	750 - 1320	X	

Narrative: Acceptable.

LABORATORY REAGENT BLANK:

SAMPLE ID	SOURCE	TPH LEVEL (MG/KG)	STATUS
Freon Solvent	EPFS Lab	<10.0	ACCEPTABLE
Reagent Blank	EPFS Lab	<10.0	ACCEPTABLE

Narrative: Acceptable.

Extracted: 07/17/1997

EPFS

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 970663 - 970667

QA/QC for 07/17/97 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	47.0	94.0	75 - 125 %	X	
Toluene	Standard	50.0	47.1	94.2	75 - 125 %	X	
Ethyl benzene	Standard	50.0	47.1	94.2	75 - 125 %	X	
m & p - Xylene	Standard	100	94.0	94.0	75 - 125 %	X	
o - Xylene	Standard	50.0	46.5	93.0	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	24.4	97.6	39 - 150	X	
Toluene	Standard	25.0	24.1	96.4	46 - 148	X	
Ethyl benzene	Standard	25.0	24.1	96.4	32 - 160	X	
m & p - Xylene	Standard	50.0	48.6	97.2	Not Given	X	
o - Xylene	Standard	25.0	24.0	96.0	Not Given	X	

SAMPLE NUMBER CCV1 LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	45.5	91.0	75 - 125 %	X	
Toluene	Standard	50.0	44.4	88.8	75 - 125 %	X	
Ethyl benzene	Standard	50.0	43.9	87.8	75 - 125 %	X	
m & p - Xylene	Standard	100	87.9	87.9	75 - 125 %	X	
o - Xylene	Standard	50.0	44.0	88.0	75 - 125 %	X	

SAMPLE NUMBER CCV2 LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	43.2	86.4	75 - 125 %	X	
Toluene	Standard	50.0	42.9	85.8	75 - 125 %	X	
Ethyl benzene	Standard	50.0	44.2	88.4	75 - 125 %	X	
m & p - Xylene	Standard	100	88.8	88.8	75 - 125 %	X	
o - Xylene	Standard	50.0	44.8	89.6	75 - 125 %	X	

SAMPLE NUMBER CCV3 LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0		0.0	75 - 125 %		NA
Toluene	Standard	50.0		0.0	75 - 125 %		NA
Ethyl benzene	Standard	50.0		0.0	75 - 125 %		NA
m & p - Xylene	Standard	100		0.0	75 - 125 %		NA
o - Xylene	Standard	50.0		0.0	75 - 125 %		NA

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER 970663	TYPE	SAMPLE RESULT ug/L	DUPLICATE RESULT ug/L	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Extraction Dup	<1.0	<1.0	0.00	+/- 35 %	X	
Toluene	Extraction Dup	3.35	3.40	1.48	+/- 35 %	X	
Ethyl benzene	Extraction Dup	3.39	4.06	18.0	+/- 35 %	X	
m & p - Xylene	Extraction Dup	54.2	66.6	20.5	+/- 35 %	X	
o - Xylene	Extraction Dup	13.4	15.6	15.2	+/- 35 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER NA	TYPE	SAMPLE RESULT ug/L	DUPLICATE RESULT ug/L	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Extraction Dup			0	+/- 35 %	NA	
Toluene	Extraction Dup			0	+/- 35 %	NA	
Ethyl benzene	Extraction Dup			0	+/- 35 %	NA	
m & p - Xylene	Extraction Dup			0	+/- 35 %	NA	
o-- Xylene	Extraction Dup			0	+/- 35 %	NA	

Narrative:

LABORATORY DUPLICATES:

SAMPLE NUMBER 970663	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 35 %	X	
Toluene	Matrix Duplicate	3.35	3.36	0.30	+/- 35 %	X	
Ethyl benzene	Matrix Duplicate	3.39	3.37	0.59	+/- 35 %	X	
m & p - Xylene	Matrix Duplicate	54.2	53.3	1.67	+/- 35 %	X	
o - Xylene	Matrix Duplicate	13.4	13.1	2.26	+/- 35 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER NA	TYPE (Analysis, Portion, or Sample)	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate			0	+/- 35 %	NA	
Toluene	Matrix Duplicate			0	+/- 35 %	NA	
Ethyl benzene	Matrix Duplicate			0	+/- 35 %	NA	
m & p - Xylene	Matrix Duplicate			0	+/- 35 %	NA	
o - Xylene	Matrix Duplicate			0	+/- 35 %	NA	

Narrative:

LABORATORY SPIKES:

SAMPLE NUMBER 970663	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50.0	<1.0	47.3	94.6	75 - 125 %	X	
Toluene	50.0	3.35	50.8	94.9	75 - 125 %	X	
Ethyl benzene	50.0	3.39	47.8	88.8	75 - 125 %	X	
m & p - Xylene	100.0	54.2	139	84.8	75 - 125 %	X	
o - Xylene	50.0	13.4	55.8	84.8	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER NA	SPIKE ADDED PPB 50.00	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	RANGE	ACCEPTABLE YES	NO
Benzene	50.0			0	75 - 125 %	NA	
Toluene	50.0			0	75 - 125 %	NA	
Ethyl benzene	50.0			0	75 - 125 %	NA	
m & p - Xylene	100.0			0	75 - 125 %	NA	
o - Xylene	50.0			0	75 - 125 %	NA	

Narrative:

ADDITIONAL ANALYTICAL BLANKS:

SAMPLE ID AUTO BLANK/BOILED WATER	SOURCE	PPB	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethyl benzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID SOIL VIAL BLANK	SOURCE	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID EXTRACTION BLANK	SOURCE 0913 ext blk	PPB	STATUS
Benzene	Methanol	<1.0	ACCEPTABLE
Toluene	Methanol	<1.0	ACCEPTABLE
Ethyl benzene	Methanol	<1.0	ACCEPTABLE
Total Xylenes	Methanol	<3.0	ACCEPTABLE

Narrative: Acceptable.

Carryover contamination checks	SOURCE	NARRATIVE (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	NA
Toluene	Vial + Boiled Water	<1.0	NA
Ethyl benzene	Vial + Boiled Water	<1.0	NA
Total Xylenes	Vial + Boiled Water	<3.0	NA

Narrative:

SAMPLE ID METHANOL CHECK	SOURCE Lot # H18318	PPB (Not analyzed with this set)	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

Reported By: mdb   Approved By: John [signature]   Date: 7/25/97

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Total No. of Containers	Chain of Custody Seals	Intact?	Requested Analysis					Contract Laboratory
	BLOOMFIELD P/L									EPFS
Samplers: (Signature)	Date	Receiving Temp. (°F)								
Dennis Bird	4-10-96	30°								

Lab ID	Date	Time	Matrix	Sample Number	Total No. of Containers	Chain of Custody Seals	Intact?	Composite or Grab	See Attached	BTXE	General Chemistry	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# 89620)
	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)

WHITE-Testing Laboratory YELLOW-EPNG Lab PINK-Field Sampler

san juan repro Form 71-65

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960326
SITE NAME:	Bloomfield Pipeline
SAMPLE SITE:	Sandoval GC A#~~7~~1A MW-1
SAMPLE DATE:	04/10/96
SAMPLE TIME (Hrs):	1635
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	04/12/96
SAMPLE TYPE:	Water

mtr # 89620 4/19/96

REMARKS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE 11,200 mh FID	10400	D (x50), D1	10
TOLUENE	8960	D (x50)	740
ETHYL BENZENE	925	D (x20)	750
TOTAL XYLENES	10100	D (x50)	620
SURROGATE % RECOVERY	97.9	Allowed Range 80 to 120 %	

NOTES:

The "D" Qualifier indicates that the reported result for this analyte is calculated based on the secondary dilution factor shown.

The "D1" Qualifier indicates that the analyte result exceeded the calibration curve limit.

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

EPFS
EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPNG LAB ID:	960326
DATE SAMPLED:	04/10/96
TIME SAMPLED (Hrs):	1635
SAMPLED BY:	D. Bird
MATRIX:	Water
SAMPLE SITE NAME:	Bloomfield P/L
SAMPLE POINT:	Sandoval A#1A, MW-1
METER CODE:	89620

FIELD REMARKS: None

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
pH	7.4	Units	04/15/96
Alkalinity as $C0_3$	0	PPM	04/15/96
Alkalinity as $HC0_3$	1337	PPM	04/15/96
Calcium as Ca	264	PPM	04/15/96
Magnesium as Mg	59	PPM	04/15/96
Total Hardness as $CaC0_3$	902	PPM	04/15/96
Chloride as Cl	635	PPM	04/15/96
Sulfate as $S0_4$	<1.0	PPM	04/15/96
Fluoride as F	0.4	PPM	04/15/96
Nitrate as $N0_3$-N	<0.1	PPM	04/15/96
Potassium as K	3.0	PPM	04/15/96
Sodium as Na	495	PPM	04/15/96
Total Dissolved Solids	2,230	PPM	04/15/96
Conductivity	3,230	umhos/cm	04/15/96
Anion/Cation %	0.3%	%, <5.0 Accepted	04/15/96

Lab Remarks:

Watch for Barium in the RCRA Metals Analysis.

Reported By: DB Approved By: John Landers Date: 4/19/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960326
LOCATION:	Bloomfield Pipeline
SAMPLE SITE:	Sandoval GC A #1A
METER CODE:	89620
SAMPLE DATE:	04/10/96
SAMPLE TIME (Hrs):	1635
SAMPLED BY:	D. Bird

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<0.025	0.100
BARIUM	3.01	1.00
CADMIUM	<0.0005	0.010
CHROMIUM	0.003	0.050
LEAD	<0.004	0.050
MERCURY	<0.00024	0.002
SELENIUM	<0.005	0.050
SILVER	<0.0004	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 Leerdam Date: 10/4/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960326
LOCATION:	Bloomfield Pipeline
SAMPLE SITE:	Sandoval GC A #1A
METER CODE:	89620
SAMPLE DATE:	04/10/96
SAMPLE TIME (Hrs):	1635
SAMPLED BY:	D. Bird

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<0.025	0.100
BARIUM	3.01	1.00
CADMIUM	<0.0005	0.010
CHROMIUM	0.003	0.050
LEAD	<0.004	0.050
MERCURY	<0.002	0.002
SELENIUM	<0.005	0.050
SILVER	<0.0004	0.050

NOTE: The sample results ha ciated with Method 3015.

Ba value is suspicious, but that's what it read - mh

References:

Method 3015, Microwave Assisted A
Method 7061A, Arsenic (Atomic Abs
Method 7080A, Barium (Atomic Abs
Method 7131, Cadmium (Atomic Abs
Method 7191, Chromium (Atomic Ab
Method 7421, Lead (Atomic Absorpt
Method 245.5, Mercury (Automated
USEPA, June, 1991.
Method 7741A, Selenium (Atomic Al
Method 7761, Silver (Atomic Absorp

thods for Evaluating Solid Waste, SW-846, Sept., 1994.
olid Waste, SW-846, USEPA, July, 1992.
lid Waste, SW-846, USEPA, Sept., 1994.
Solid Waste, SW-846, USEPA, Sept., 1986.
g Solid Waste, SW-846, USEPA, Sept., 1986.
d Waste, SW-846, USEPA, Sept., 1986.
Metals in Environmental Samples, EPA 600/4-91/010,
Solid Waste, SW-846, USEPA, Sept., 1994.
lid Waste, SW-846, USEPA, July, 1992.

Reported By: mh Approved By: _____ Date: _____

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

cc: Nancy Prince
Sandra Miller

Sample 4 - 2nd Qtr

El Paso Natural Gas Company

A 2591

CHAIN OF CUSTODY RECORD

Project No.:
Project Name: BLOOMFIELD PIPELINE
Samplers: (Signature) Dennis Bird
Date: 7-26-96

Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE				Remarks
7-26-96	1142		X	960654	G-2		X				W.D. HEATH B-5 MW-1 MC 87493
7-26-96	1307		X	960655	G-2		X				SANDOVAL GC A1A MW-1 MC 89620
7-26-96	1307		X	960656	G-2		X				SANDOVAL GC A1A MW-1 MC 89620
7-26-96	1452		X	960657	G-2		X				JOHNSON FEDERAL 3A MW-1 MC 97230
7-26-96	—		X	—	G-1		X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	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:
		Marlon Hopper	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:	960655
SITE NAME:	Bloomfield Pipeline
SAMPLE SITE:	Sandoval GC - A #1A MW-1
METER CODE:	89620
SAMPLE DATE:	07/26/96
SAMPLE TIME (Hrs):	1307
SAMPLED BY:	D. Bird
ATE OF BTEX ANALYSIS:	07/30/96
SAMPLE TYPE:	Water

REMARKS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	8980	D (x50)	10
TOLUENE	7980	D (x50)	740
ETHYL BENZENE	1000	D (x50)	750
TOTAL XYLENES	9430	D (x50)	620
SURROGATE % RECOVERY	95.2	Allowed Range 80 to 120 %	

TES:
e Qualifier indicates that the reported result for this analyte is calculated based on the secondary
ution factor shown.

orted By: mda Approved By: _____ Date: 8/14/96

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name SANDOVAL GC A #1A

Meter Code 89620

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) 39.20
Initial Depth to Water (feet) 35.61
Height of Water Column in Well (feet) 3.59
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			1.8
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					
7-26-96	1218										21.2	6.52	2910		
7-26-96	1228						2.0	2.0			20.0	6.55	2960		
7-26-96	1240						3.0	5.0			20.2	6.52	3000	1.5	

Comments STRONG HYDROCARBON SMELL.

Developer's Signature Dennis Bird Date 7-26-96 Reviewer JS Date 8/14/96

El Paso Natural Gas Company

A 2274

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: 10-18-96						

Date	Time	Comp.	GRAB	Sample Number							
10-18-96	1245		X	960870	G-2		X				SANDDUAL GC A#1A MV-1 MC 89620

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 Hopper	10/21/96 0810		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	

san juan repro Form 71-55 A

EPFS

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

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960870
MTR CODE | SITE NAME:	89620	Sandoval GC A #1A MW-1
SAMPLE DATE | TIME (Hrs):	10/18/96	1245
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	11050	PPB	100	D		
TOLUENE	9960 1000 JV 2-28-97	PPB	100	D		
ETHYL BENZENE	900	PPB	100	D		
TOTAL XYLENES	10700	PPB	100	D		
TOTAL BTEX	23650	PPB				

–BTEX is by EPA Method 8020 –

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

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

Narrative:

= Dilution Factor Used

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

960869.XLS,10/23/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name SANDOVAL GAS COM A #1A

Meter Code 89620

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) 39.20
Initial Depth to Water (feet) 35.79
Height of Water Column in Well (feet) 3.41
Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		0.6	1.8
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. 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
10-18-96	1209										14.9	6.55	4030		
10-18-96	1215						2.0	2.0			15.0	6.35	4010		
10-18-96	1224						3.0	5.0			14.9	6.43	4080		
10-18-96	1234						3.0	8.0			15.1	6.46	4070	1.5	

Comments

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

El Paso Natural Gas Company

A 1988

CHAIN OF CUSTODY RECORD

Project No.:

Project Name: BLOOMFIELD PIPELINE

Samplers: (Signature) Dennis Bird — Date: 1-21-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE				Remarks
WATER	1-21-97	1249		X	970012	G2	4°C	X				SANDOVAL GC A#1A MW/MC 37623

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	1-21-97 1515				

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		Marlon E Hopper	1/22/97 0738	

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	970012
MTR CODE | SITE NAME:	89620	Sandoval GC A #1A
SAMPLE DATE | TIME (Hrs):	01/21/97	1249
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	1/23/97	1/23/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	7700	PPB	50	D		
TOLUENE	7210	PPB	50	D		
ETHYL BENZENE	787	PPB	50	D		
TOTAL XYLENES	8430	PPB	50	D		
TOTAL BTEX	24100	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 88.2 % 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 Sandoval Date: 1-29-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name SANDOVAL GC A #1A

Meter Code 89620

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) 39.20
Initial Depth to Water (feet) 35.80
Height of Water Column in Well (feet) 3.40
Diameter (inches): Well 2 Gravel Pack_____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		.59	1.8
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: 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
1-21-97	1150										13.5	6.84	3200		
1-21-97	1156						2.0	2.0			14.0	6.48	3340		
1-21-97	1205						3.0	5.0			13.7	6.51	3450		
1-21-97	1217						3.0	8.0			11.8	6.57	3090	1.0	

Comments_____

Developer's Signature Dennis Bird Date 1-21-97 Reviewer John Saabla Date 1-29-97

SAMPLE 4 - 5TH QTR

El Paso Natural Gas Company

A 2208

CHAIN OF CUSTODY RECORD

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

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	4-16-97	1357		X	970304	R-2 S-2	4°C	X	X	X		SANDOVAL GC A*IA MW-1 MC 87620

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	4/16/97 1723				
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	4/21/97 0710		

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

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

5-6-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970304
MTR CODE | SITE NAME:	89620	Sandoval GC A #1A MW-1
SAMPLE DATE | TIME (Hrs):	4/16/97	5th 1357
PROJECT:	Sample 4 - 1st Quarter	4/24/97
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	8900	PPB	100	D		
TOLUENE	8680	PPB	100	D		
ETHYL BENZENE	996	PPB	100	D		
TOTAL XYLENES	9250	PPB	100	D		
TOTAL BTEX	27800	PPB				

The Surrogate Recovery was at 99.9 % for this sample All QA/QC was acceptable.
The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

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

970304.XLS,4/21/97

EL PASO FIELD SERVICES

5-6-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970304
DATE SAMPLED:	04/16/97
TIME SAMPLED (Hrs):	1357
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	89620
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Sandoval GC A #1A MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.7	Units	04/18/97
Alkalinity as $C0_3$	0	PPM	04/18/97
Alkalinity as $HC0_3$	1340	PPM	04/18/97
Calcium as Ca	284	PPM	04/19/97
Magnesium as Mg	64	PPM	04/19/97
Total Hardness as $CaC0_3$	971	PPM	04/19/97
Chloride as Cl	551	PPM	04/18/97
Sulfate as $S0_4$	<0.2	PPM	04/18/97
Fluoride as F	<0.1	PPM	04/18/97
Nitrate as $N0_3$-N	<0.2	PPM	04/18/97
Nitrite as $N0_2$-N	<0.2	PPM	04/18/97
Ammonium as NH_4^+	<0.6	PPM	04/19/97
Phosphate as PO_4	<0.2	PPM	04/18/97
Potassium as K	2.7	PPM	04/19/97
Sodium as Na	473	PPM	04/19/97
Total Dissolved Solids	2,060	PPM	04/19/97
Calculated TDS	2,034	PPM	04/19/97
Conductivity	3,530	umhos/cm	04/17/97
Anion/Cation %	3.3%	%, <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 SANDOVAL GAS COM A #1A

Meter Code 89620

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) 39.20
Initial Depth to Water (feet) 35.99
Height of Water Column in Well (feet) 3.21
Diameter (Inches): Well 2 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		.56	1.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOTZ 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	1304										18.0	6.62	3430		
4-16-97	1311						2.0	2.0			17.3	6.67	3250		
4-16-97	1320						3.0	5.0			17.3	6.73	3260		
4-16-97	1333						3.0	8.0			17.3	6.75	3250	1.5	

Comments_____

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

El Paso Natural Gas Company

A 2021

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	1314		X	970645	G-1	4°C	X				SANDOVAL GC A**/A MW-1 MC 8960

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	7-11-97 1638				
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	970645
MTR CODE | SITE NAME:	89620	Sandoval GC A #1A MW-1
SAMPLE DATE | TIME (Hrs):	7/11/97	1314
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	8240	PPB	50	D		
TOLUENE	7850	PPB	50	D		
ETHYL BENZENE	709	PPB	50	D		
TOTAL XYLENES	8230	PPB	50	D		
TOTAL BTEX	25000	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 87.8 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 Scott Date: 7/22/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name SANDOVAL GC A #1A

Meter Code 89620

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 39.20
Initial Depth to Water (feet) 36.05
Height of Water Column in Well (feet) 3.15

Diameter (inches): Well 2 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		.55	1.6
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
7-11-97	1211										19.4	6.40	3610		
7-11-97	1219						2.0	2.0			18.7	6.59	3400		
7-11-97	1230						3.0	5.0			19.5	6.70	3520		
7-11-97	1243						3.0	8.0			20.0	6.74	3360	1.5	

Comments

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

~~DRILLING INITIAL WELL SAMPLE~~ 9-11-97

Phase III Drilling - Initial

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Robert Thompson DATE: 9.4.97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970955	9.4.97	1523	H_2O	RT9	2			X					MW-1

CONTRACT LABORATORY P. O. NUMBER

SANDOVAL GAS COM A #1A - 89620

32°F

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Robert Thompson	9.4.97 1700		Cain Williams	9-5-97 1025	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	9/5/97 1025	RECEIVED OF LABORATORY BY: (Signature)
				DATE/TIME	Yolanda Rappe

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 FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	RT9	970955
MTR CODE | SITE NAME:	89620	Sandoval Gas Com. A #1A
SAMPLE DATE | TIME (Hrs):	9/4/97	1523
PROJECT:	Phase III Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	9/9/97	9/9/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: Replacement Well

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	4420	PPB	50	D		
TOLUENE	2370	PPB	50	D		
ETHYL BENZENE	850	PPB	50	D		
TOTAL XYLENES	9660	PPB	50	D		
TOTAL BTEX	17300	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 115.8 % 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 Laskin Date: 9-16-97

PHILIP ENVIRONMENTAL

Well Number MW-1

Serial No. WDPD-

☒ Development ☐ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name EPFS GW PITS

Project Manager CORY CHANCE

Project No. 17520

Client Company EL PASO FIELD SERVICES

Phase.Task No. 6003.77

Site Name SANDOVAL GAS COM A #1A

Site Address SAN JUAN CO.

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) 38.53'

Initial Depth to Water (feet) 35.18'

Height of Water Column in Well (feet) 3.35'

Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing			2.19
Gravel Pack			
Drilling Fluids			
Total			10.95

Instruments

	Serial No. (If applicable)
☒ pH Meter	OYSTER
☐ DO Monitor	
☒ Conductivity Meter	OYSTER
☒ Temperature Meter	OYSTR
☐ Other	

Water Disposal

ON GROUND ON SITE

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)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
9.4.97	1357		X				2	2			32.7	7.65	1970		BROWN - SILTY
9.4.97	1409		X				2	4			18.5	7.28	3090		BROWN - SILTY
9.4.97	1420		X				2	6			18.6	7.22	3780		BROWN - SILTY
9.4.97	1435		X				2	8			18.9	7.21	4340		BROWN - SILTY
9.4.97	1454		X				2	10			20.3	7.20	4350		LIGHT BROWN - SILTY
9.4.97	1508		X				1	11			18.8	7.18			CLOUDY - SLIGHTLY SILTY

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

Comments WELL NEVER WENT COMPLETELY DRY, BUT HAS A SLOW RECOVERY.

Developer's Signature(s) Robert Thompson Date 9.4.97 Reviewer _____ Date _____

PHILIP ENVIRONMENTAL Location No. MW-1

Serial No. WSD-

WATER SAMPLING DATA

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 9-4-97

Project Name EPFS GW PITS Project No. 17520

Project Manager CORY CHANCE Phase.Task No. 6003.77

Site Name SANDOVAL GAS COM A #1A

Sampling Specifications

Requested Sampling Depth Interval (feet) TOP 3'

Requested Wait Following Development/Purging (hours) N/A

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 15 MIN.

Initial Water Depth (feet) 35.18'

Nonaqueous Liquids Present (Describe) N/A

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comment Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft)	
	SEE WELL DEVELOPMENT & PURGING DATA SHEET											

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		X	H	X		SAMPLED AT 1523

Filter Type N/A Chain-of-Custody Form Number EPFS

Comments WATER NEVER GOT TOTALLY CLEAR - SLIGHTLY CLOUDY

Signature Robert Thompson Date 9-4-97 Reviewer Date

SAMPLE 4TH QTR
1st

El Paso Natural Gas Company

A 2112

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	MC #89620			BTXE			

Samplers: (Signature) Dennis Bird Date: 10-20-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	10-20-97	1247		X	971121	G2	4°C	X				SANDOVAL GC A #1A MW-1 (MW R-1)

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	102097 1545				
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:	
		Marilyn Hopper	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	971121
MTR CODE | SITE NAME:	89620	Sandoval GC A #1A
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 (R-1)	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3460	PPB	25	D		
TOLUENE	39.6	PPB	25	D		
ETHYL BENZENE	714	PPB	25	D		
TOTAL XYLENES	7690	PPB	25	D		
TOTAL BTEX	11904	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.5 % 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: 10-27-97

971121BTEXMW,10/24/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name SANDOVAL GC A#A

Meter Code 89620

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) 38.50
Initial Depth to Water (feet) 35.14
Height of Water Column in Well (feet) 3.36
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.2	6.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOT2 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	1137										18.0		4560		
10-20-97	1143						3.0	3.0			16.9		4560		
10-20-97	1155						2.0	5.0			17.0		4600		
10-20-97	1236						3.0	8.0			17.3		4640	1.5	

Comments_____

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