

3R - 237

REPORTS

DATE:

1997



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

RECEIVED

MAR 02 1998

Environmental Bureau
Oil Conservation Division

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,

A handwritten signature in cursive script that reads 'Sandra D. Miller'.

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
Pit Closure Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP
ENVIRONMENTAL

EPFS GROUNDWATER PITS

1997 ANNUAL GROUNDWATER REPORT

SHEETS #2
Meter/Line ID - 70286

SITE DETAILS

Legals - Twn: 31N Rng: 9W Sec: 28 Unit: H
NMOCD Hazard Ranking: 40 Land Type: FEE
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Aug-94 Excavation: Sep-94 (120 cy) Soil Boring: Aug-95
Monitor Well: Aug-95 Additional MW's: Dec-95

The pit was excavated to 12 feet beneath ground surface (bgs) and a soil sample was collected from the pit bottom. The headspace soil reading from the excavation bottom was 465 ppm. Soil analytical were as follows; benzene - 0.385 mg/kg, total BTEX - 71.9 mg/kg, TPH - 73.1 mg/kg.

One soil boring was drilled in the center of the former pit and a monitoring well was installed. One soil sample was collected from 43-45 feet bgs. Soil analytical were as follows; benzene - 0.65 mg/kg, total BTEX - 2.90 mg/kg, TPH - 11.9 mg/kg. Quarterly groundwater monitoring was initiated on 4/16/96 and has continued into 1997. Three additional monitoring wells were installed on the assumed downgradient side of MW-1, and sampled on a quarterly basis. Groundwater analytical data are presented in Table 1.

CONCLUSIONS

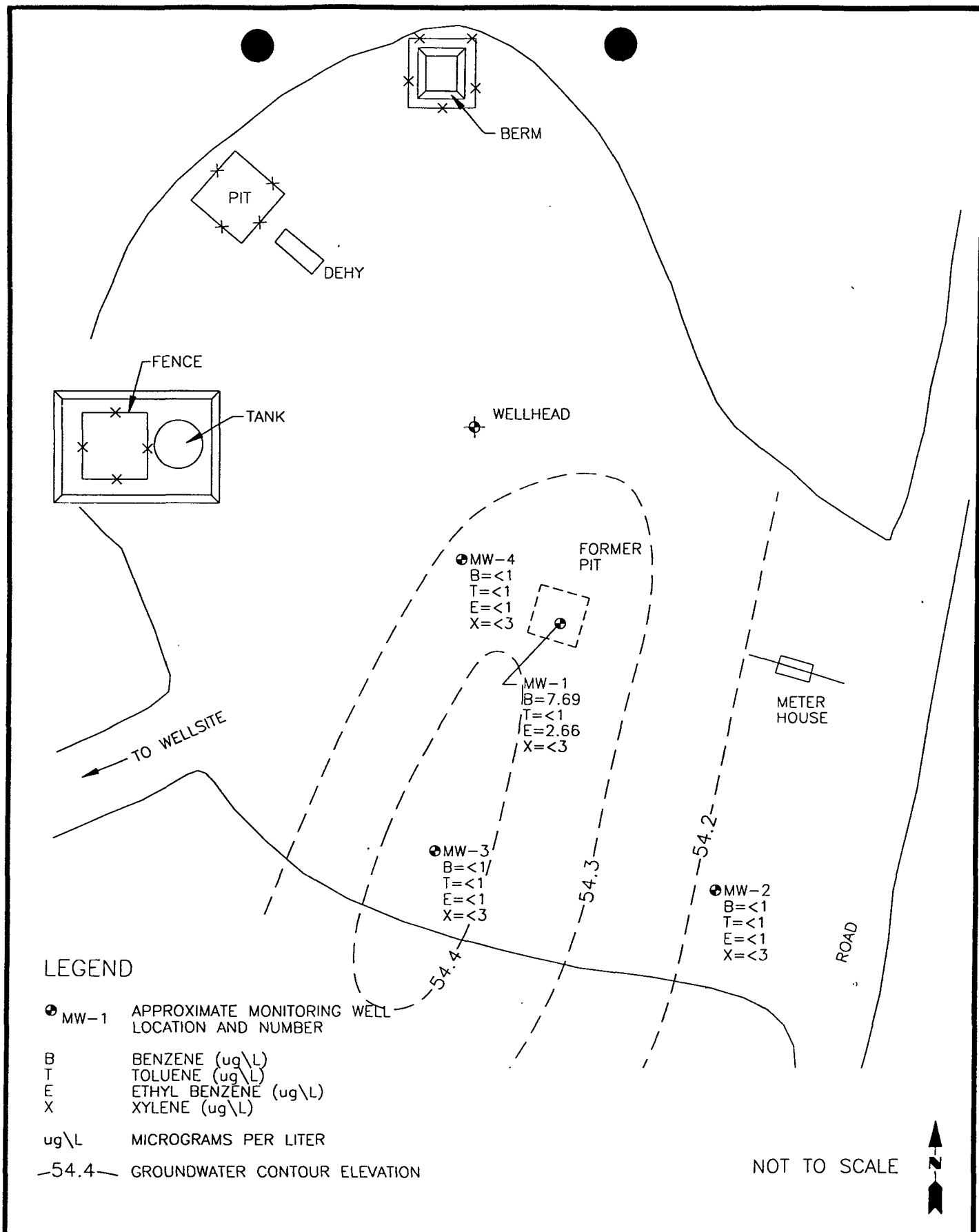
Quarterly groundwater samples have been collected at MW-1 and the 3 downgradient monitoring wells for 6 quarters. Groundwater samples collected from MW-1 have been below standards for BTEX for 4 consecutive quarters. Groundwater samples collected from the other 3 monitoring wells have been below standards for BTEX since quarterly sampling was initiated.

Based on groundwater levels collected from the 4 monitoring wells, the groundwater flow trends to the northeast on this site, as presented in Figure 1. The 3 additional monitoring wells were installed on the assumed downgradient side of MW-1. However, after surveying the wells, it was determined that MW-4 is upgradient, MW-3 is crossgradient, and MW-2 is slightly downgradient of MW-1. Groundwater samples were then collected on the downgradient side of MW-1 from temporary monitoring wells. The groundwater sample collected from PZ-1 was in excess of standards for benzene only. An additional groundwater sample collected farther downgradient from PZ-1 (PZ-2) was below standards for BTEX.

Based on Well Point data, it appears that very limited contaminant migration has occurred at this site. In addition, groundwater samples collected from MW-1 have consistently decreased since quarterly sampling was initiated.

RECOMMENDATIONS

- EPFS request closure at this site.
- Following OCD approval for closure, MW-1, MW-2, MW-3, and MW-4 will be abandoned following OCD approved abandonment procedures.



COL. 17520AZ-001



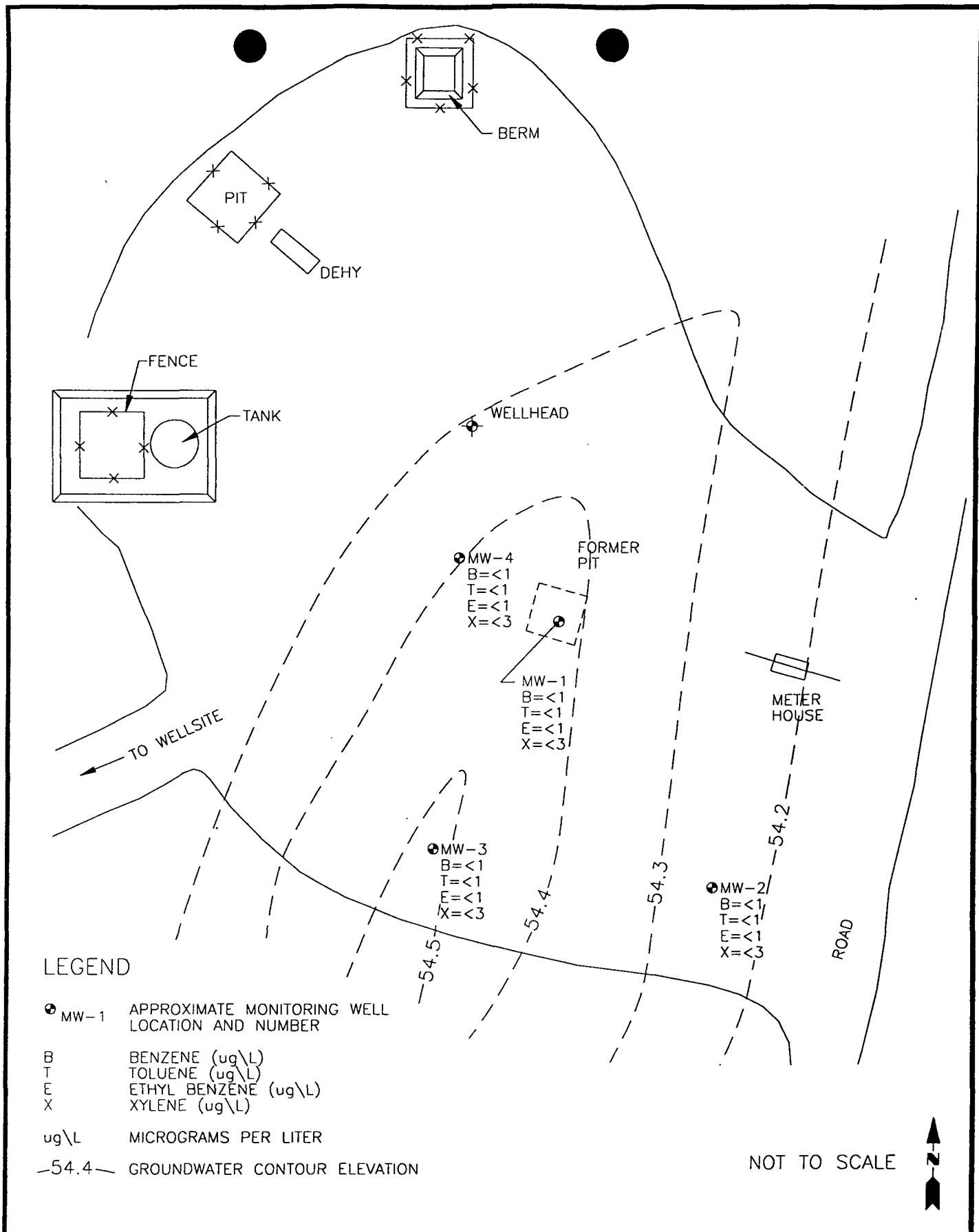
TITLE:
SHEETS #2 1/29/97
70286

DWN:
TMM
CHKD:
CC
DATE:
1/21/98

DES.:
CC
APPD:
REV.:
0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1



COL 17520AZ-002



TITLE:

SHEETS #2 4/28/97
70286

DWN:

TMM

DES.:

CC

CHKD:

CC

APPD:

DATE:

1/21/98

REV.:

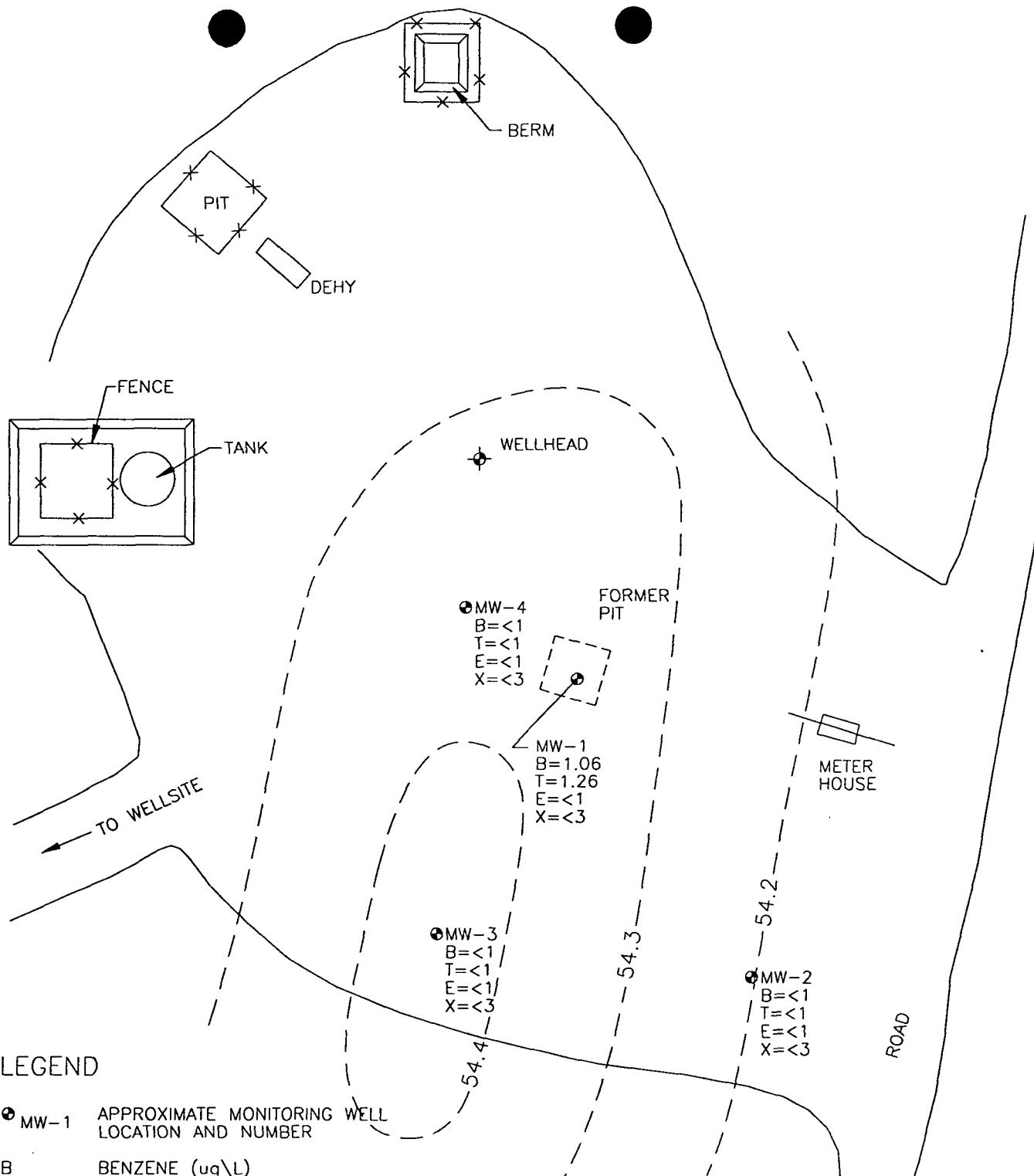
0

PROJECT NO.:

17520

EPFS GW PITS

FIGURE 2



LEGEND

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

NOT TO SCALE



COL. 17520A2-003

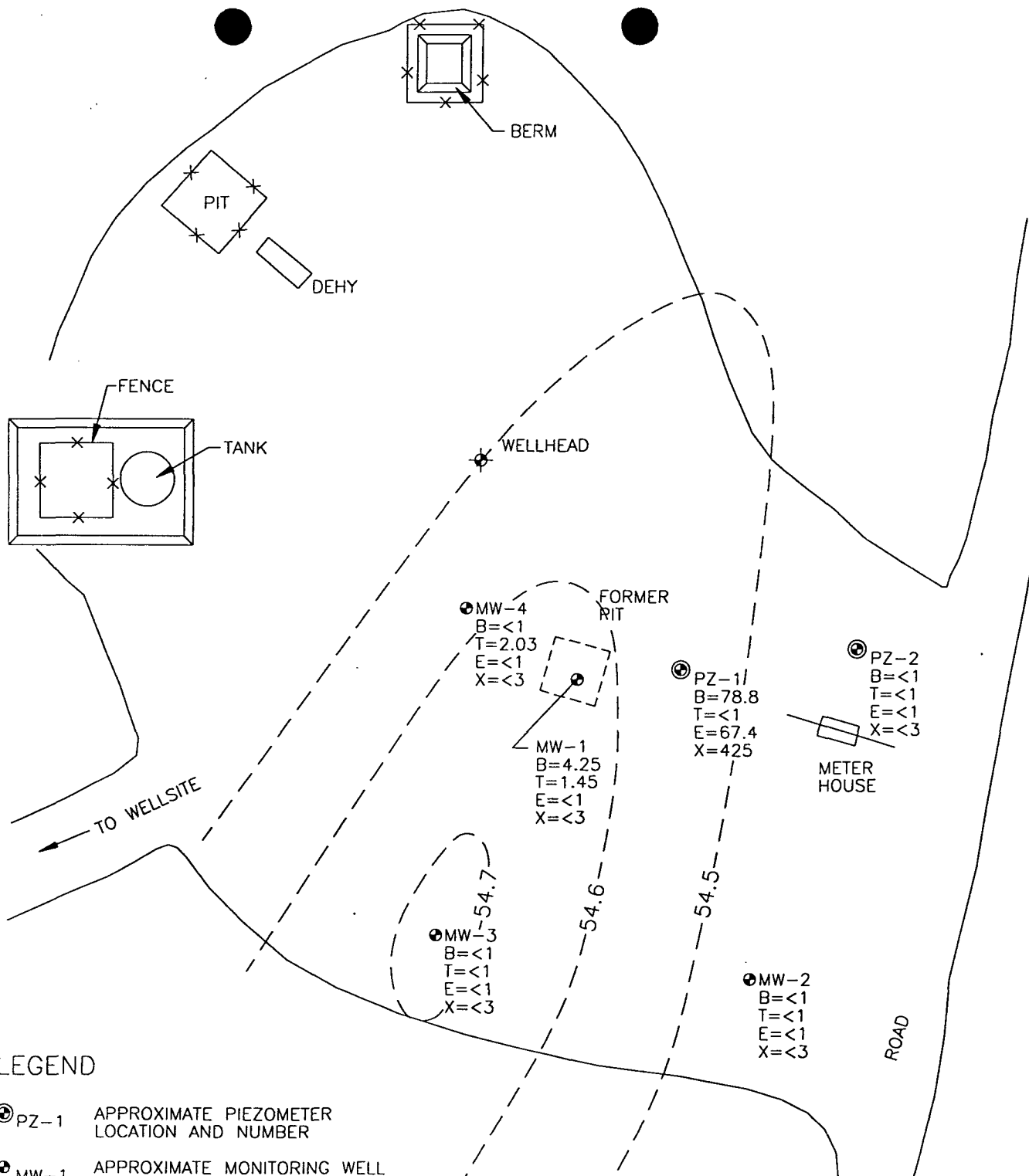


TITLE:
SHEETS #2 7/10/97
70286

DWN: TMM	DES.: CC
CHKD: CC	APPD:
DATE: 1/21/98	REV.: 0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 3



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
- 54.4- GROUNDWATER CONTOUR ELEVATION

NOT TO SCALE



COL. 17520AZ-004



TITLE:
SHEETS #2 10/23/97
70286

DWN:
TMM
CHKD:
CC
DATE:
1/21/98

DES.:
CC
APPD:
REV.:
0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 4

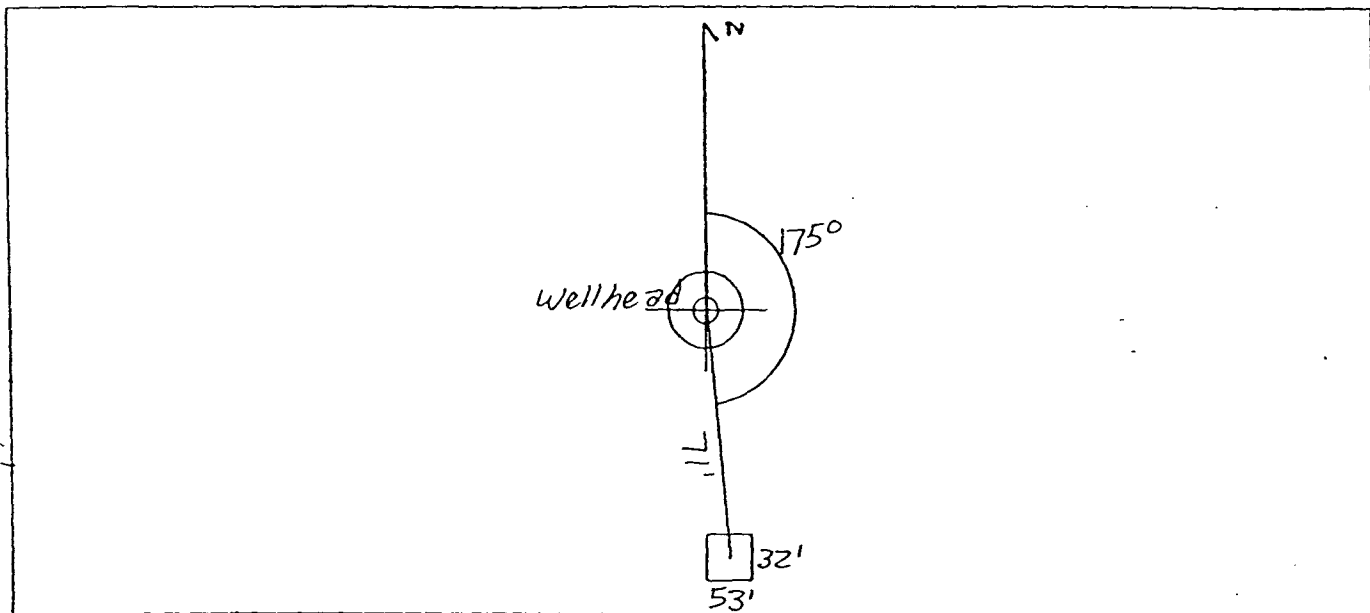
FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>70-286</u> Location: <u>Sheets Well No. 2</u> Operator #: <u>0203</u> Operator Name: <u>Amoco Production P/L</u> District: <u>Aztec</u> Coordinates: Letter: <u>H</u> Section <u>28</u> Township: <u>31</u> Range: <u>9</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator _____ Location Drip: <u>X</u> Line Drip: _____ Other: _____ Site Assessment Date: <u>8/30/94</u> Area: <u>04</u> Run: <u>41</u>
SITE ASSESSMENT	NMOCD Zone: (From NMOCD Maps) Inside ☒ (1) Outside ☐ (2) Land Type: BLM ☐ (1) State ☐ (2) Fee ☒ (3) Indian _____ Depth to Groundwater Less Than 50 Feet (20 points) ☒ (1) 50 Ft to 99 Ft (10 points) ☐ (2) Greater Than 100 Ft (0 points) ☐ (3) Wellhead Protection Area : Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☐ (1) YES (20 points) ☒ (2) NO (0 points) Horizontal Distance to Surface Water Body Less Than 200 Ft (20 points) ☒ (1) 200 Ft to 1000 Ft (10 points) ☐ (2) Greater Than 1000 Ft (0 points) ☐ (3) Name of Surface Water Body <u>Little Pump Canyon</u> (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds) Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only) ☐ (2) > 100' TOTAL HAZARD RANKING SCORE: <u>40</u> POINTS
REMARKS	Remarks : <u>Redline Book - Inside, Vulnerable Zone Type - Inside</u> <u>Four pits, location drip pit is dry. Will close one pit.</u>

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 175° Footage from Wellhead 71'
 b) Length : 53' Width : 32' Depth : 5'

ORIGINAL PIT LOCATION



Remarks : SK 8/30/94
Pictures @ 1521 (20-24, Roll 3)
Dump Truck

REMARKS

Completed By:

Amek Kelly
 Signature

8/30/94
 Date

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960350	70286	Sheets Well #2	04/16/96	1	Sample 4 - 1st Qtr	= 65.9	< 5	= 22	= 52.6	= 146
960638	70286	Sheets Well #2	07/22/96	1	Sample 4 - 2nd Qtr	= 68.6	< 1	= 11.3	= 21.6	= 103
960865	70286	Sheets Well #2	10/17/96	1	Sample 4 - 3rd Qtr	= 17.5	< 1	= 9.65	= 1.96	= 30
970029	70286	Sheets Well #2	1/29/97	1	Sample 4 - 4th Qtr	= 7.69	< 1	= 2.66	< 3	= 14
970350	70286	Sheets Well #2	4/28/97	1	Sample 4 - 5th Qtr	< 1	< 1	< 1	< 3	< 6
970632	70286	Sheets Well #2	7/10/97	1	Sample 4 - 6th Qtr	= 1.06	= 1.26	< 1	< 3	< 6
971146	70286	Sheets Well #2	10/23/97	1	Sample 4 - 7th Qtr	= 4.25	= 1.45	< 1	< 3	= 6
960351	70286	Sheets Well #2	04/17/96	2	Sample 4 - 1st Qtr	< 1	< 1	< 1	< 3	< 6
960639	70286	Sheets Well #2	07/22/96	2	Sample 4 - 2nd Qtr	< 1	< 1	< 1	< 3	< 6
960866	70286	Sheets Well #2	10/17/96	2	Sample 4 - 3rd Qtr	< 1	< 1	< 1	< 3	< 6
970030	70286	Sheets Well #2	1/29/97	2	Sample 4 - 4th Qtr	< 1	< 1	< 1	< 3	< 6
970351	70286	Sheets Well #2	4/28/97	2	Sample 4 - 5th Qtr	< 1	< 1	< 1	< 3	< 6
970633	70286	Sheets Well #2	7/10/97	2	Sample 4 - 6th Qtr	< 1	< 1	< 1	< 3	< 6
971147	70286	Sheets Well #2	10/23/97	2	Sample 4 - 7th Qtr	< 1	< 1	< 1	< 3	< 6
960352	70286	Sheets Well #2	04/17/96	3	Sample 4 - 1st Qtr	< 1	< 1	< 1	< 3	< 6
960641	70286	Sheets Well #2	07/22/96	3	Sample 4 - 2nd Qtr	< 1	< 1	< 1	< 3	< 6
960867	70286	Sheets Well #2	10/17/96	3	Sample 4 - 3rd Qtr	< 1	< 1	< 1	< 3	< 6
970031	70286	Sheets Well #2	1/29/97	3	Sample 4 - 4th Qtr	< 1	< 1	< 1	< 3	< 6
970352	70286	Sheets Well #2	4/28/97	3	Sample 4 - 5th Qtr	< 1	< 1	< 1	< 3	< 6
970634	70286	Sheets Well #2	7/10/97	3	Sample 4 - 6th Qtr	< 1	< 1	< 1	< 3	< 6
971148	70286	Sheets Well #2	10/23/97	3	Sample 4 - 7th Qtr	< 1	< 1	< 1	< 3	< 6

EPIS Groundwater Pits
1997 Annual Groundwater Report

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960353	70286	Sheets Well #2	04/17/96	4	Sample 4 - 1st Qtr	< 1	< 1	< 1	< 3	6
960642	70286	Sheets Well #2	07/22/96	4	Sample 4 - 2nd Qtr	< 1	< 1	< 1	< 3	6
960868	70286	Sheets Well #2	10/17/96	4	Sample 4 - 3rd Qtr	< 1	< 1	< 1	< 3	6
970032	70286	Sheets Well #2	1/29/97	4	Sample 4 - 4th Qtr	< 1	< 1	< 1	< 3	6
970353	70286	Sheets Well #2	4/28/97	4	Sample 4 - 5th Qtr	< 1	< 1	< 1	< 3	6
970635	70286	Sheets Well #2	7/10/97	4	Sample 4 - 6th Qtr	< 1	< 1	< 1	< 3	6
971149	70286	Sheets Well #2	10/23/97	4	Sample 4 - 7th Qtr	< 1	= 2.03B	< 1	< 3	6

PHASE I EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>70286</u> Location: <u>Sheets Well #2</u> Coordinates: Letter: <u>H</u> Section <u>28</u> Township: <u>31</u> Range: <u>9</u> Or Latitude _____ Longitude _____ Date Started : <u>9/15/94</u> Run: <u>04</u> <u>41</u>
FIELD OBSERVATIONS	Sample Number(s): <u>KD262</u> Sample Depth: <u>12'</u> Feet Final PID Reading <u>465</u> PID Reading Depth <u>12'</u> Feet Yes No Groundwater Encountered ☐ ☒ Approximate Depth _____ Feet
CLOSURE	Remediation Method : Excavation ☒ Approx. Cubic Yards <u>120</u> Onsite Bioremediation ☐ Backfill Pit Without Excavation ☐ Soil Disposition: Envirotech ☐ ☒ Tierra Other Facility ☐ Name: _____ Pit Closure Date: <u>9-16-94</u> Pit Closed By: <u>BEI</u>
REMARKS	Remarks : <u>Excavated pit to 12', TOOK PID Sample, Closed pit.</u>
	Signature of Specialist: <u>[Signature]</u>



Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

[illegible]

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

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



SPLIT

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KD 262	946150
MTR CODE SITE NAME:	70286	N/A
SAMPLE DATE TIME (Hrs):	9-16-94	0945
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	9-20-94	9-20-94
DATE OF BTEX EXT. ANAL.:	9-26-94	9-26-94
TYPE DESCRIPTION:	VC	gray clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS				ATI Results
			DF	Q	M(g)	V(ml)	
BENZENE	0.385	MG/KG	0.0204		1.96	20	0.62
TOLUENE	<0.05	MG/KG					< 0.25
ETHYL BENZENE	5.48	MG/KG					8.0
TOTAL XYLENES	66.0	MG/KG					79
TOTAL BTEX	71.9	MG/KG					87.9
TPH (418.1)	73.1	MG/KG			2.05	28	360
HEADSPACE PID	465	PPM					Surrogate % 95
PERCENT SOLIDS	77.3	%					Dilution Factor 10

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

Surrogate Recovery was at 101.9 for this samp All QA/QC was acceptable.

Narrative:

ATI Results attached

DF = Dilution Factor Used

Approved By:

Date:

10/23/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS ATI I.D.: 409389
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	946130	NON-AQ	09/15/94	09/22/94	09/23/94	1
05	946150	NON-AQ	09/16/94	09/22/94	09/24/94	10
06	946151	NON-AQ	09/16/94	09/22/94	09/24/94	10
PARAMETER			UNITS	04	05	06
BENZENE			MG/KG	<0.025	0.62	<0.25
TOLUENE			MG/KG	0.032	<0.25	4.8
ETHYLBENZENE			MG/KG	<0.025	8.0	1.4
TOTAL XYLENES			MG/KG	<0.025	79	17

SURROGATE:

BROMOFLUOROBENZENE (%)	93	95	76
------------------------	----	----	----



Analytical**Technologies**, Inc.

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

ATI I.D. 409389

September 29, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 09/21/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

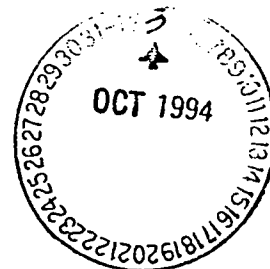
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure





Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

CLIENT	: EL PASO NATURAL GAS	ATI I.D.	: 409389
PROJECT #	: 24324	DATE RECEIVED	: 09/21/94
PROJECT NAME	: PIT CLOSURE	DATE ANALYZED	: 09/26/94

PARAMETER	UNITS	05
PETROLEUM HYDROCARBONS, IR	MG/KG	360

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # BH #1

Well # _____

Page 1 of 2

Project Name EPNG Pits

Project Number 14509 Phase 601 6000

Project Location Sherts Well No. 3, 70-286

Well Logged By S. Kelly J. Kindley

Personnel On-Site M. Amador, J. O'Kette, J. Long

Contractors On-Site _____

Client Personnel On-Site _____

Drilling Method 4 1/4" HSA

Air Monitoring Method CGI, PID

Elevation 28

Borehole Location T31, R9, S23, H

GWL Depth _____

Logged By S. Kelly J. Kindley

Drilled By M. Amador

Date/Time Started 08/03/95 1247

Date/Time Completed 08/03/95

*AK 10/24/95 Prince
Nancy notified of
correction.*

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			Drilling Conditions & Blow Counts
							BZ	BH	S/H/S	
0				Backfill to 12'						
5										
10										
15										
20	1	18'-20'	1.2 1.5	SAND, Dark gray/brown, medium to coarse grain, loose, dry				214/ 324		1320
25	2	23'-25'	1.4 2.0	S.A.A.				637/ 643		1323
30	3	28'-30'	1.5 1.5	sandy clay (25% sand), dark gray, stiff, moist.				330/ 372		1330
35	4	33'-35'	2.0 2.0	clayey silt (30% clay) dark gray, Fine grained, loose, moist				721/ 413		1335
40	5	38'-40'	1.5 1.5	clayey silt (30% clay) dark gray, moderately stiff, moist				444/ 520		1342

Comments:

Geologist Signature _____

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # BH #1

Well #

Page 2 of 2

Project Name

EPNG Pits

Project Number

14509

Phase

DOT 6000

Project Location

Sheets Wall No. 2, 70-286

Well Logged By

S. Kelly J. Kindley

Personnel On-Site

M. Donahue, J. O'Riordan, J. Long

Contractors On-Site

Client Personnel On-Site

Elevation

Borehole Location T 31, R 9, S 23, H

GWL Depth

Logged By

S. Kelly J. Kindley

Drilled By

M. Donahue

Date/Time Started

08/03/95 1247

Date/Time Completed

08/03/95

Drilling Method

4 1/4" HSA

Air Monitoring Method

CGI, 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			Drilling Conditions & Blow Counts
							BZ	BH	S	
40										
45	6	43-45	1.8 2.0	clay, dark gray, stiff, moist						1350
50	7	48-50	1.5 1.5	clayey sand (10% clay) medium to coarse grain, wet						water on rods at 50'
55				S.A.A						
60				Boring terminated at 60'						
25										
30										
35										
40										

Comments:

Sample collected at 43 to 45' feet and submitted for BTEX, TPH analysis. Wellhead completed to depth of 60'.

Geologist Signature

S. Kelly J. Kindley

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 #

Page 1 of 1

Project Name EPNG Pits

Project Number 14509 Phase 6000

Project Location Sheets Well No. 2, 70-286

On-Site Geologist J. Kindley

Personnel On-Site M. Donahue, J. O'Kiffe, J. I.

Contractors On-Site

Client Personnel On-Site

Elevation 28

Well Location T31, R9, S23, H

GWL Depth 50'

Installed By M. Donahue

Date/Time Started 08/03/95 1247

Date/Time Completed 08/03/95

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing			Top of Protective Casing	<u>NA</u>
Bottom of Protective Casing			Top of Riser	<u>+ 3</u>
Top of Permanent Borehole Casing			Ground Surface	<u>0</u>
Bottom of Permanent Borehole Casing				
Top of Concrete				
Bottom of Concrete				
Top of Grout	cement slurry	1		
Bottom of Grout	cement slurry	41		
Top of Well Riser	Schedule 40 4" blank PVC	+3		
Bottom of Well Riser	"	0		
Top of Well Screen	Schedule 40 4" .010" slot PVC	40.5	Top of Seal	<u>41 BGL</u>
Bottom of Well Screen	"	55.5		
Bentonite Top of Bentonite Seal	Enviroplug pellets 50 lb bag	41.0	Top of Gravel Pack	<u>43 BGL</u>
Bentonite Bottom of Bentonite Seal	"	43.0	Top of Screen	<u>40.5 BGL</u>
Top of Gravel Pack	SECI 50 lb bag OF silica sand	43.0		
Bottom of Gravel Pack	"	55.5		
Top of Natural Cave-In		55.5		
Bottom of Natural Cave-In		60		
Top of Groundwater			Bottom of Screen	<u>55.5 BGL</u>
Total Depth of Borehole			Bottom of Borehole	<u>60 BGL</u>

Comments: BGL - Below Ground Level, 15' of screen of which top 3.5' was filled in with bentonite to prevent known contaminant zone at that level (40.5 to 43') from entering groundwater

Geologist Signature

J. Kindley

Page 1 of 1

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

FAX: 505-599-2261



Natural Gas Company
FIELD SERVICES LABORATORY
ANALYTICAL REPORT

Phase II Drilling
Sheets Well No. 2

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JWK 5	947150
MTR CODE SITE NAME:	70286	N/A
SAMPLE DATE TIME (Hrs):	08/03/95	13:50
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	8-4-95	8-4-95
DATE OF BTEX EXT. ANAL.:	8-9-95	8-9-95
TYPE DESCRIPTION:	V6	Brown clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	0.65	MG/KG	1			
TOLUENE	0.058	MG/KG	1			
ETHYL BENZENE	0.20	MG/KG	1			
TOTAL XYLENES	2.0	MG/KG	1			
TOTAL BTEX	2.908	MG/KG				
TPH (418.1)	11.9	MG/KG			2.12	28
HEADSPACE PID	58	PPM				
PERCENT SOLIDS	81.7	%				

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

The Surrogate Recovery was at 95 % for this sample All QA/QC was acceptable.

Narrative:

ATI Results attached

QF = Dilution Factor Used

Approved By:

J. P.

Date:

8/22/95



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 508342
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE/PHASE I & II

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
13	947150	NON-AQ	08/03/95	08/09/95	08/09/95	1

PARAMETER	UNITS	
BENZENE	MG/KG	0.65
TOLUENE	MG/KG	0.058
ETHYLBENZENE	MG/KG	0.20
TOTAL XYLENES	MG/KG	2.0

SURROGATE:

BROMOFLUOROBENZENE (%)	95
------------------------	----



Analytical **Technologies**, Inc.

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

ATI I.D. 508342

August 11, 1995

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

Project Name/Number: PIT CLOSURE/PHASE I & II 24324

Attention: John Lambdin

On 08/08/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

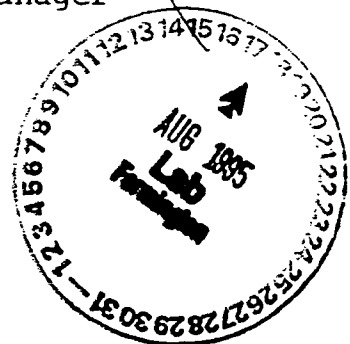
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager



RECORD OF SUBSURFACE EXPLORATION

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

Borehole # _____
Well # MW-2
Page 1 of 2

Project Name EPNG Pit Drilling
Project Number 14509 Phase ###
Project Location Sheets Well No. 2, 70286

Elevation _____
Borehole Location _____
GWL Depth _____
Logged By S. Kelly
Drilled By M. Donohue
Date/Time Started 12/6/95, 0915
Date/Time Completed 12/6/95, 1100

Well Logged By S. Kelly
Personnel On-Site M. Donohue, J. Long, R. Vaughn
Contractors On-Site _____
Client Personnel On-Site _____

Drilling Method 6 3/4" ID Hollow Stem Auger
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ BH			Drilling Conditions & Blow Counts
0			silty SAND, light brown, 20-35% silt, fine sand, angular, dry, loose						
5									
10			silty SAND, brown, 20- 30% silt, trace clay, fine, angular sand, loose, damp.			0	0	0	
15			silty SAND, light brown, 20-35% silt, fine angular sand, dry, loose.			0	0	0	
20			silty SAND, light brown 10-20% silt, fine to med angular sand, dry, loose. 5-15% coarse sand			0	0	0	
25			SAA			0	0	0	
30			silty SAND, light brown 10-20% silt, fine to med sand, trace clay, to med. dense, damp.			0	0	0	hitting some- thing hard at 1/29' Cobble?
35			sandy SILT, brown, 10-25% fine to med. angular sand, trace clay. 5-10%			0	0	0	
40			clayey SILT, brown, 10-25% clay, occasional coarse sand, firm, damp, nonplastic						

Comments:

Geologist Signature

Sarah Kelly

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 325-2262 FAX (505) 326-2388

Borehole #

Well #

Page

MW-2
2 of 2

Project Name

EPNG Pit Drilling

Project Number

14509

Phase

###

Project Location

Sheets Well No. 2, 70286

Elevation

Borehole Location

GWL Depth

Logged By

Drilled By

M. Donohue

Date/Time Started

Date/Time Completed

Well Logged By

S. Kelly

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

Drilling Method

6 3/4" ID Hollow Stem Auger

Air Monitoring Method

PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	BH	S	
40			clayey SILT, brown, 10-25% clay, occasional coarse sand, firm, damp, non-plastic			0	0	0	
45			silty CLAY, brown, 15-30% silt, soft, med. plasticity.			0	0	0	
50			SAA			0	0	0	Added approx. 10 gal. tap water to stop blow in.
55			SAA						Added approx. 15 gal of tap water to aid in setting well- stop blow in while pulling augers.
60			TOB- 55.0'						
65									
70									
75									
80									
85									
90									

Comments:

Geologist Signature

Sarah Kelly

MONITORING WELL INSTALLATION RECORD

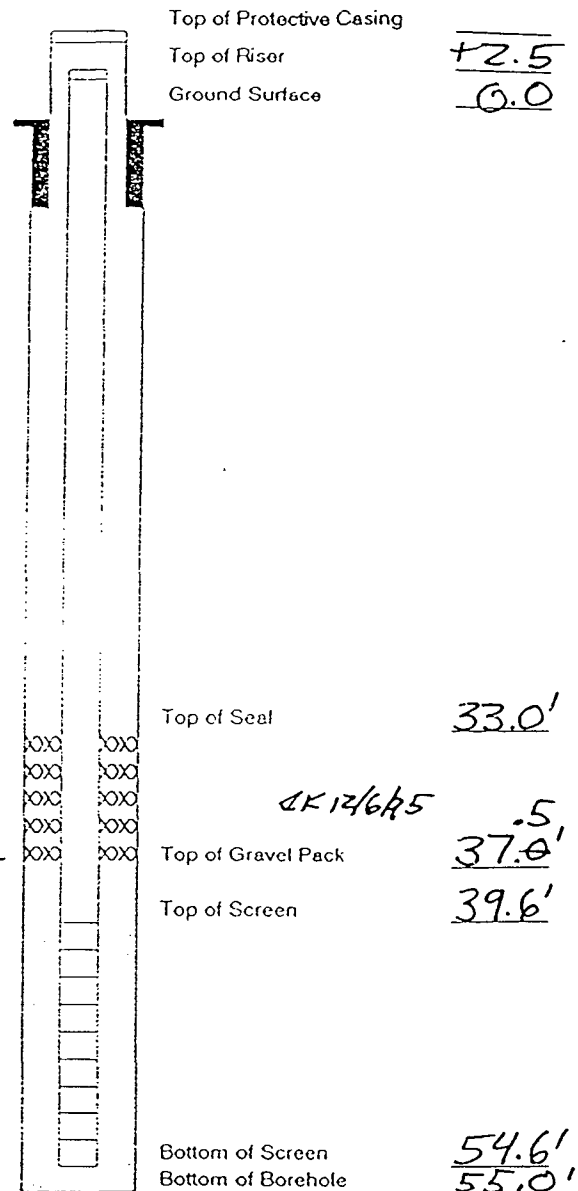
Philip Environmental Services Corp.
4000 Marine Road
Farmington, New Mexico 87401
(505) 315-2262 FAX (505) 326-2368

Borehole #
Well # MW-2
Page 1 of 1

Project Name EPNG Pit Drilling
Project Number 14509 Phase 6000
Project Location Sheets Well No. 2, 70286
On-Site Geologist S. Kelly
Personnel On-Site M. Donohue, J. Long, R. Vaughn
Contractors On-Site
Client Personnel On-Site

Elevation
Well Location
GWL Depth 44.0' BGS
Installed By M. Donohue
Date/Time Started 12/6/95, 1100
Date/Time Completed 12/6/95, 1400

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing			Top of Protective Casing	
Bottom of Protective Casing			Top of Riser	
Top of Permanent Borehole Casing			Ground Surface	
Bottom of Permanent Borehole Casing				
Top of Concrete				
Bottom of Concrete				
Top of Grout	Type I or II cement w/ bentonite	0.0		
Bottom of Grout	9-94# bag cement 5-50# bag sand	33.0'		
Top of Well Riser	Sch. 40, PVC 4"	+2.5		
Bottom of Well Riser	" "	39.6		
Top of Well Screen	Sch. 40, PVC 4", .010 slot	39.6		
Bottom of Well Screen	" "	54.6		
Top of Bentonite Seal	3/4" Hole plug bentonite pellets	33.0		
Bottom of Bentonite Seal	-50# bags	37.0		
Top of Gravel Pack	10-20 CSSI sand	37.0		
Bottom of Gravel Pack	15-50# bags	55.0		
Top of Natural Cave-In		N/A		
Bottom of Natural Cave-In		N/A		
Top of Groundwater		44.0		
Total Depth of Borehole		55.0'		



Comments: 4' PVC end cap at bottom of screen

Geologist Signature

Sarah Kelly

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Borehole #

Well #

Page

MU-3

1 of 2

Project Name EPNG Pit Drilling

Project Number 14509 Phase ###

Project Location Sheets Well No. 2, 70286

Elevation

Borehole Location

GWL Depth

Logged By

Drilled By

Date/Time Started

Date/Time Completed

Well Logged By

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

Drilling Method

Air Monitoring Method

S. Kelly

M. Donohue, D. Charley,

6 3/4" ID Hollow Stem Auger

PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	BH	— Cutting ?	
0									
5									
10			silty SAND, light brown 15-30% silt, fine angular sand, loose, dry			0	.2	0	
15			SAA			0	.2	0	
20			silty SAND, light brown 5-15% silt, fine to coarse angular sand, loose, dry			0	0	0	
25			SAA			0	0	0	
30			silty SAND, brown, 5-15% silt, fine to coarse, angular sand, loose, dry			0	0	0	
35			SAA			0	0	0	
40									

Comments:

Geologist Signature

David Kelly

RECORD OF SUBSURFACE EXPLORATION

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

Borehole # _____
Well # MW-3
Page 2 of 2

Project Name EPNG Pit Drilling
Project Number 14509 Phase ###
Project Location Sheet 3 Well No. 1, 70286

Elevation _____
Borehole Location _____
GWL Depth _____
Logged By _____
Drilled By M. Donohue
Date/Time Started _____
Date/Time Completed _____

Well Logged By S. Kelly
Personnel On-Site _____
Contractors On-Site _____
Client Personnel On-Site _____

Drilling Method 6 3/4" ID Hollow Stem Auger
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	BH	S	
40			silty CLAY, brown, 20-35% silt, firm, no low-plastic						
45			SAA			0	0	0	
50									
55									
60			TOB - 54.7'						
25									
30									
35									
40									

Added tap water
at 48' to prevent
blow in.

Driller noted
hydrocarbon
odor on the
bottom 2'-3'
of augers
when augers
were pulled

Comments:

Geologist Signature

Sarah Kelly

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Marvot Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2368

Borehole #
Well # MW-3
Page 1 of 1
Well No. 1 12/7/95
Project Name Sheets Ab. W. 170286

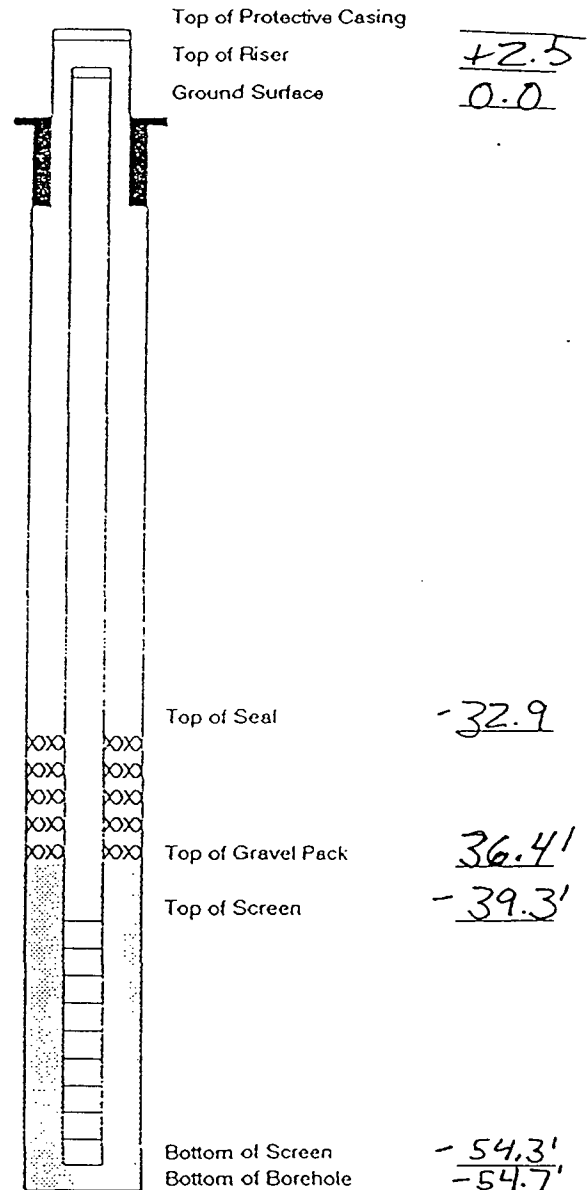
Project Number 14509 Phase 6000
Project Location _____

Elevation _____
Well Location _____
GWL Depth _____
Installed By M. Donohue

On-Site Geologist S. Kelly
Personnel On-Site M. Donohue, D. Charley, J. Begg
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 12/7/95, 1000
Date/Time Completed 12/7/95, 1200

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing			Top of Protective Casing	
Bottom of Protective Casing			Top of Riser	<u>+2.5</u>
Top of Permanent Borehole Casing			Ground Surface	<u>0.0</u>
Bottom of Permanent Borehole Casing				
Top of Concrete				
Bottom of Concrete				
Top of Grout	Type I & II cement w/ bentonite.	0.0		
Bottom of Grout	9-94# bag cement .5-50# bag bent.	-32.9		
Top of Well Riser	4", Sch. 40, PVC	+2.5		
Bottom of Well Riser	" "	-39.3		
Top of Well Screen	4", Sch. 40, PVC .010 5/16"	-39.3		
Bottom of Well Screen	" "	-54.3		
Top of Peltonite Seal	3/4" Hole plug bentonite pellets	-32.9		
Bottom of Peltonite Seal	" "	-36.4		
Top of Gravel Pack	10-20 CS6I sand	-36.4		
Bottom of Gravel Pack	15-50# bag	-54.7		
Top of Natural Cave-In	_____	N/A		
Bottom of Natural Cave-In	_____	N/A		
Top of Groundwater		-46.31		
Total Depth of Borehole		-54.7		



Comments: .4' PVC end cap at bottom of screen

Geologist Signature

Sarah Kelly

RECORD OF SUBSURFACE EXPLORATION

Borehole #

Well #

Page

MW-4

1 of 2

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Project Name

EPNG Pit Drilling

Project Number

14509

Phase

###

Project Location

Sheets well No. 2, 70286

Elevation

Borehole Location

GWL Depth

Logged By

K. Gallaher

Drilled By

M. Dohohue

Date/Time Started

12/7/95 1230

Date/Time Completed

12/7/95 1400

Well Logged By

S. Kelly K. Gallaher

Personnel On-Site

M. Dohohue, D. Charley, T. Beggs

Contractors On-Site

Client Personnel On-Site

Drilling Method

6 3/4" ID Hollow Stem Auger

Air Monitoring Method

PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ BH Cuttings			Drilling Conditions & Blow Counts
0									
5			Silty SAND, brown, 15-30% fines, low plasticity, fine grained, dry			0	0	0	
10			Silty SAND, brown, 5-15% fines, dry, fine grained, loose			0	0	0	
15			STA			0	0	0	
20			Silty sand, 5-10% fines, loose fine to medium grained, angular brown, dry			0	0	0	
25			Silty SAND, 5-15% fines, fine to medium grained, brown, dry			0	0	0	
30			Silty CLAY, brown, firm, low plasticity, dry			0	0	0	
35			STA			0	0	0	
40			STA			0	0	0	

Comments:

STA - Similar to Above

Geologist Signature

Karen Gallaher

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Borehole #

Well #

Page

MW-4

2 of 2

Project Name

EPNG Pit Drilling

Project Number

14509

Phase

###

Project Location

Sheets Well No. 2 70286

Elevation

Borehole Location

GWL Depth

Logged By

K. Gallaher

Drilled By

M. Donohue

Date/Time Started

12/7/95 1230

Date/Time Completed

Well Logged By

S. Kelly K. Gallaher

Personnel On-Site

M. Donohue, D. Charley, T. Begg

Contractors On-Site

Chain Personnel On-Site

Drilling Method

6 3/4" ID Hollow Stem Auger

Air Monitoring Method

PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ BH			Drilling Conditions & Blow Counts
40									
45			STA			0	0	0	
50			STA, wet			0	0	0	
55									
60									
25									
30									
35									
40									

Comments:

Geologist Signature

K. Gallaher

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Marvax Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2368

Borehole # _____
Well # MW-04
Page 1 of 1

Project Name EPNG Pit Drilling

Project Number 14509 Phase _____
Project Location Sheets Well No. 2

Elevation _____
Well Location _____
GWL Depth _____
Installed By K. Gallaher
M. Donohue

Date/Time Started 12/7/95, 1400
Date/Time Completed 12/7/95, 1630

On-Site Geologist Karen Gallaher
Personnel On-Site M. Donohue, D. Charley, T. Beg.
Contractors On-Site _____
Client Personnel On-Site _____

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing		-	Top of Protective Casing	-
Bottom of Protective Casing		-	Top of Riser	+2.4
Top of Permanent Borehole Casing		+2.4	Ground Surface	0.0
Bottom of Permanent Borehole Casing		0.0		
Top of Concrete		-		
Bottom of Concrete		-		
Top of Grout	2 in Portland Cement Type I-II	0.0		
Bottom of Grout	10 94# bags and Hig 200 bentonite gel 1.5 50# bags	-35.7		
Top of Well Riser				
Bottom of Well Riser		-41.4		
Top of Well Screen		-41.4		
Bottom of Well Screen		-56.4		
Top of Peltonite Seal	Expanding Bentonite Chips	-35.7		
Bottom of Peltonite Seal	2 50# bags	-38.8	Top of Seal	-35.7
Top of Gravel Pack	Colorado Silica Sand 10-20	-38.8	Top of Gravel Pack	-38.8
Bottom of Gravel Pack	14- 50# bags	-56.8	Top of Screen	-41.4'
Top of Natural Cave-In				
Bottom of Natural Cave-In				
Top of Groundwater				
Total Depth of Borehole		-56.8	Bottom of Screen	-56.4'
			Bottom of Borehole	-56.8'

Comments: 0.4' PVC end cap

Geologist Signature

Karen Gallaher

GROUNDWATER ANALYSIS

**PHILIP
ENVIRONMENTAL**

Well Number MW-01

Page of

Project Name EPN, P.T.s

Phase.Task No. 60003. 77

Site Address

Water Volume Calculation

Initial Depth of Well (feet)	58.34
------------------------------	-------

Initial Depth to Water (feet) 47.92

Height of Water Column in Well (feet) 10, 1/2-

Gravel Pack	Diameter (inches):	Well
✓	✓	Well

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
1:om			
Well Casing		10' 8"	6.8 x 3
Gravel Pack			
Drilling Fluids			
Total			20

Water Disposal

Document transported to KUTZ SEP 12, 2012
in bloomington

Curifm007821

Conductivity ($\mu\text{mhos/cm}$)	Dissolved Oxygen (mg/L)	Comments
X / 000		
4155		cloudy
4124		1
3840		cloudy
380	✓	clear D4 Fine silt

[illegible]

pic

Reviewer _____ Date _____



Water Sampling Data

Location No. MW-01Serial No. WSD-

Group List Number _____

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____Date 1-4-86Project Name EPNS PITSProject No. 14509Project Manager Cory ChancePhase/Task No. 6003 77Site Name Sheet 2 (70286)

Sampling Specifications

Requested Sampling

Depth Interval (feet) top 3'

Requested Wait Following

Development/Purging (hours) —

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 10Initial Water Depth (feet) 47.52

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data				Notes (Explain in Comments Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/ cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Final Water Depth (feet)	
SEE WELL											development & purging done sheet

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

Sample Containers

Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; 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	A	40		X	X	X		JAL 60
TDS, General NITRATES	1	P	250		X		X		T 1710

Filter Type _____

Chain-of-Custody Form Number _____

Comments _____

Signature [Signature]Date 1-4-86

Reviewer _____

Date _____



Water Sampling Data

Location No. mw02Serial No. WSD-Group List Number Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 010596Project Name EPHISProject No. 14509Project Manager ELPaso Natural GasPhase Task No. 6003.77Site Name Shoets #2 (70286)

Sampling Specifications

Requested Sampling

Depth Interval (feet) TOP 3'

Requested Wait Following

Development/Purging (hours) —

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 15Initial Water Depth (feet) 45.4Nonaqueous Liquids Present (Describe) —

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/ cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	
866	well	develop	12	7.2								Purging Done sheet

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

Sample Containers

Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; 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	A	40		X	—	X		JAL-64
TDS, nitrates sulfates	1	P	250		X	—	X		T: 1250

Filter Type Chain-of-Custody Form Number Comments Signature Date 010596Reviewer Date

Well Development and Purging Data

Original Document

Well Number MW-03Serial No. W060

Page _____ of _____

Project Name SPY PITS

Project Manager Corey Chazewell

Project No. 14505

Client Company El Paso Natural Gas

Phase.Task No. 60003. 77

Site Name Sketch #2 (70286)

Site Address

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 57.12

Initial Depth to Water (feet) 43.360

Height of Water Column in Well (feet) 3.76

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Foot	Gallons	
Well Casing		8' 5	8' 5 x 5
Gravel Pack			
Drilling Fluids			
Total			43

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other

Serial No. (if applicable)

Water Disposal

Primer is transferred to K₂S₂O₈ in solution

Water Removal Data

[illegible]

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

Comments

Developer's Signature(s)

Date 01-05-56

Reviewer _____ Date _____



Water Sampling Data

Location No. MW-03Serial No. WSD

Group List Number _____

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____Date 1-5-96Project Name EPN's PITSProject No. 14509Project Manager Cory ChancePhase/Task No. 6003 77Site Name Sheet # 2 (70286)

Sampling Specifications

Requested Sampling

Depth Interval (feet) to 3'

Requested Wait Following

Development/Purging (hours) -

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 15Initial Water Depth (feet) 43.36Nonaqueous Liquids Present (Describe) -

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

Sample Containers

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

Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; 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	A	40		X	X	X		JAL 63
DBS, GEN TOX NITRATES	1	P	250		X		X		T1035

Filter Type _____

Chain-of-Custody Form Number _____

Comments _____

Signature [Signature]Date 01/05/96

Reviewer _____

Date _____

Well Development and Purging Data

☒ Development
☐ Purgings

Well Number:

40-04

Serial No. 470504

Page _____ of _____

Project Name EPN, P.T'sProject Manager Co. Y ChavezProject No. 14505

Client Company GLPaso Natural S2S

Phase.Task No. 60003. 77

Site Name Sheers #2 (70286)

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 58.54

Initial Depth to Water (feet) 48.10

Height of Water Column in Well (feet) / U: 8

Diameter (inches): Well 4 Gravel Pack

Methods of Development

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

Instruments

- ☒ pH Meter
☐ CO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other

Serial No. (If applicable)

Water Disposal

Drummed & Transported to KUTZ separator
in bloom (fry)

Water Removal Data

[illegible]

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

Comments

Developer's Signature(s)

Date 010456

Reviewer

Date _____



Water Sampling Data

Location No. MW-04

Serial No. WSD: _____

Group List Number _____

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____Date 1-4-96Project Name EPNS PITSProject No. 14509Project Manager Cory ChancePhase/Task No. 6003 . 77Site Name Sheets #2 (70286)

Sampling Specifications

Requested Sampling

Depth Interval (feet) 10' 3'

Requested Wait Following

Development/Purging (hours) —

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 15

Initial Water Depth (feet) _____

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

Sample Containers

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

Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; 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	A	40		X	TH	X		JAL 159
TDS, gen chem NITRATES	1	P	250		X		X		T 1550

Filter Type _____

Chain-of-Custody Form Number _____

Comments _____

Signature [Signature]Date 01/04/96

Reviewer _____

Date _____



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP18	947167
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	8/7/95	N/A
PROJECT:	Phase II Drilling	
DATE OF BTEX EXT. ANAL.:	8/10/95	8/10/95
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: No bubbles in VOA's, 3 containers

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	726	PPB	10	D		
TOLUENE	8.62	PPB	10	D		
ETHYL BENZENE	261	PPB	10	D		
TOTAL XYLENES	2770	PPB	10	D		
TOTAL BTEX	3770	PPB				

--BTEX is by EPA Method 8020 --

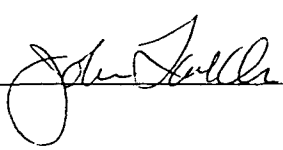
The Surrogate Recovery was at 94.9 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

The TDS in this sample was 1,652 mg/L

Approved By: 

Date: 8/18/95



Page _____ of _____

BILL NO.:	White - Teaching Laboratory (January - 1976) (sub 1) sub 1 field samples
-----------	--



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL60	947873
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	1/4/96	1710
PROJECT:	Phase III Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	1/9/96	1/9/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	119	PPB	5	D		
TOLUENE	10.2	PPB	5	D		
ETHYL BENZENE	69.1	PPB	5	D		
TOTAL XYLENES	345	PPB	5	D		
TOTAL BTEX	543	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 indicates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Ladd

Date: 1/9/96



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	947873
DATE SAMPLED:	01/04/96
TIME SAMPLED (Hrs):	1710
SAMPLED BY:	JAL
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Sheets Well #2
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	10.6	Units	01/12/96
Alkalinity as CO_3	17.0	PPM	01/12/96
Alkalinity as HCO_3	0	PPM	01/12/96
Calcium as Ca	233	PPM	01/12/96
Magnesium as Mg	6	PPM	01/12/96
Total Hardness as CaCO_3	607	PPM	01/12/96
Chloride as Cl	10	PPM	01/12/96
Sulfate as SO_4	781	PPM	01/12/96
Fluoride as F	0.7	PPM	01/12/96
Nitrate as $\text{NO}_3\text{-N}$	<0.1	PPM	01/12/96
Nitrite as $\text{NO}_2\text{-N}$	NR	PPM	01/12/96
Ammonium as NH_4^+	NR	PPM	01/12/96
Phosphate as PO_4	NR	PPM	01/12/96
Potassium as K	14.0	PPM	01/12/96
Sodium as Na	93	PPM	01/12/96
Total Dissolved Solids	1,168	PPM	01/12/96
Conductivity	1,451	umhos/cm	01/12/96
Anion/Cation %	1.9%	%, <5.0 Accepted	08/04/97

Lab Remarks:

Hydroxide determined at 7 PPM.

NR = Not Run

Reported By:

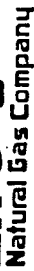
mdw

Approved By:

Adrian Saville

Date:

1-18-96



Page _____ of _____

White • Testing Laboratory Canary • E-PNG Lab Pink • Field Sampler



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL64	947877
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	1/5/96	1250
PROJECT:	Phase III Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	1/9/96	1/9/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 5.0	PPB	2	D		
TOLUENE	< 5.0	PPB	2	D		
ETHYL BENZENE	< 5.0	PPB	2	D		
TOTAL XYLENES	< 15	PPB	2	D		
TOTAL BTEX	< 30	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 84.3 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By:

Date:

1-18-96

EL PASO FIELD SERVICES

Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	947877
DATE SAMPLED:	01/05/96
TIME SAMPLED (Hrs):	1250
SAMPLED BY:	JAL
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Sheets Well #2
SAMPLE POINT:	MW-2

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.8	Units	01/12/96
Alkalinity as CO_3	0.0	PPM	01/12/96
Alkalinity as HCO_3	224	PPM	01/12/96
Calcium as Ca	307	PPM	01/12/96
Magnesium as Mg	32	PPM	01/12/96
Total Hardness as CaCO_3	898	PPM	01/12/96
Chloride as Cl	12	PPM	01/12/96
Sulfate as SO_4	869	PPM	01/12/96
Fluoride as F	1.1	PPM	01/12/96
Nitrate as $\text{NO}_3\text{-N}$	<0.1	PPM	01/12/96
Nitrite as $\text{NO}_2\text{-N}$	NR	PPM	01/12/96
Ammonium as NH_4^+	NR	PPM	01/12/96
Phosphate as PO_4	NR	PPM	01/12/96
Potassium as K	2.0	PPM	01/12/96
Sodium as Na	81	PPM	01/12/96
Total Dissolved Solids	1,312	PPM	01/12/96
Conductivity	1,682	umhos/cm	01/12/96
Anion/Cation %	1.5%	%, <5.0 Accepted	08/04/97

Lab Remarks:

NR = Not Run

Reported By:

inda

Approved By:

John T. Kline

Date: 1-18-96



El Paso
Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project		CONTRACT LABORATORY P. O. NUMBER																																																																																	
DATE: 01/05/96		DATE: 01/05/96																																																																																			
LAB ID		TIME		MATRIX																																																																																	
FIELD ID		TOTAL NUMBERS OF CONTAINERS		SAMPLE TYPE																																																																																	
947875	01/05/96	1030	WATER	1	WBS																																																																																
947876	01/05/96	1035	WATER	3	W																																																																																
947877	01/05/96	1250	WATER	2	W																																																																																
REQUESTED ANALYSIS <table border="1"><thead><tr><th>TPH</th><th>EPA 418.1</th><th>BTEX</th><th>EPA 8020</th><th>LAB PID</th><th>TDS</th><th>SPICARS</th><th>SEQUENCE #</th></tr></thead><tbody><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table> REMARKS TRIP BLANK SHEET #2 (70286) MW03 SHEET #2 (70286) MW02						TPH	EPA 418.1	BTEX	EPA 8020	LAB PID	TDS	SPICARS	SEQUENCE #																																																																								
						TPH	EPA 418.1	BTEX	EPA 8020	LAB PID	TDS	SPICARS	SEQUENCE #																																																																								
RELINQUISHED BY: (Signature) James A. L...		DATE/TIME 01/05/96 1455		RECEIVED BY: (Signature)																																																																																	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)																																																																																	
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH		CARRIER CO.		FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P.O. BOX 4990 FARMINGTON, NEW MEXICO 87499 FAX: 505-599-2261																																																																																	
BILL NO.:		SAMPLE FIELD ID MARKS		INSTRUCTIONS TO LABORATORY																																																																																	



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL63	947876
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	1/5/96	1035
PROJECT:	Phase III Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	1/8/96	1/8/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<2.5	PPB				
TOLUENE	<2.5	PPB				
ETHYL BENZENE	<2.5	PPB				
TOTAL XYLENES	<7.5	PPB				
TOTAL BTEX	<15	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 108 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: 1-18-96



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	947876
DATE SAMPLED:	01/05/96
TIME SAMPLED (Hrs):	1035
SAMPLED BY:	JAL
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Sheets Well #2
SAMPLE POINT:	MW-3

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.4	Units	01/12/96
Alkalinity as CO ₃	0.0	PPM	01/12/96
Alkalinity as HCO ₃	242	PPM	01/12/96
Calcium as Ca	338	PPM	01/12/96
Magnesium as Mg	33	PPM	01/12/96
Total Hardness as CaCO ₃	980	PPM	01/12/96
Chloride as Cl	10	PPM	01/12/96
Sulfate as SO ₄	947	PPM	01/12/96
Fluoride as F	0.9	PPM	01/12/96
Nitrate as NO ₃ -N	<0.1	PPM	01/12/96
Nitrite as NO ₂ -N	NR	PPM	01/12/96
Ammonium as NH ₄ ⁺	NR	PPM	01/12/96
Phosphate as PO ₄	NR	PPM	01/12/96
Potassium as K	1.0	PPM	01/12/96
Sodium as Na	91	PPM	01/12/96
Total Dissolved Solids	1,564	PPM	01/12/96
Conductivity	1,830	umhos/cm	01/12/96
Anion/Cation %	1.0%	%, < 5.0 Accepted	08/04/97

Lab Remarks:

Reported By: mdo

Approved By: T-18-96

Date: 1-18-96

EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 947864 thru 947877

QA/QC for 01/08/96 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	XR	ACCEPTABLE	
					YES	NO
					RANGE	
ICV LA-52589 50 PPB						
Benzene	Standard	50.0	45.7	91.4	75 - 125 %	X
Toluene	Standard	50.0	46.2	92.4	75 - 125 %	X
Ethyl benzene	Standard	50.0	46.9	93.8	75 - 125 %	X
m & p - Xylene	Standard	100	90.9	90.9	75 - 125 %	X
o - Xylene	Standard	50.0	47.6	95.2	75 - 125 %	X
LCS LA-45476 25 PPB						
Benzene	Standard	25.0	27.6	110.4	39 - 150	X
Toluene	Standard	25.0	27.4	109.6	46 - 148	X
Ethyl benzene	Standard	25.0	27.4	109.6	32 - 160	X
m & p - Xylene	Standard	50	52.4	104.8	Not Given	X
o - Xylene	Standard	25.0	27.8	111.2	Not Given	X
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	51.4	102.8	75 - 125 %	X
Toluene	Standard	50.0	51.9	103.8	75 - 125 %	X
Ethyl benzene	Standard	50.0	52.0	104.0	75 - 125 %	X
m & p - Xylene	Standard	100	100.6	100.6	75 - 125 %	X
o - Xylene	Standard	50.0	52.4	104.8	75 - 125 %	X
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.9	99.8	75 - 125 %	X
Toluene	Standard	50.0	50.0	100.0	75 - 125 %	X
Ethyl benzene	Standard	50.0	50.6	101.2	75 - 125 %	X
m & p - Xylene	Standard	100	98.0	98.0	75 - 125 %	X
o - Xylene	Standard	50.0	50.5	101.0	75 - 125 %	X

Five: Two additional CCVs analyzed with this set. All acceptable.

EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 947864 thru 947877

TORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
947865					RANGE	
Benzene	Matrix Duplicate	28.8	33.0	14	+/- 20 %	X
Toluene	Matrix Duplicate	<12.5	<12.5	0	+/- 20 %	X
Ethyl benzene	Matrix Duplicate	297	297	0	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	1170	1160	1	+/- 20 %	X
o - Xylene	Matrix Duplicate	<12.5	<12.5	0	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	XR	ACCEPTABLE	
					YES	NO
2nd Analysis 947865					RANGE	
Benzene	250	28.8	277	99.3	75 - 125 %	X
Toluene	250	<12.5	257	102.8	75 - 125 %	X
Ethyl benzene	250	297	510	85.2	75 - 125 %	X
m & p - Xylene	500	1170	1530	72.0	75 - 125 %	NA
o - Xylene	250	<12.5	258	103.2	75 - 125 %	X

Narrative: Spike recoveries based on recovery in diluted sample (x5).

Results for m & p xylenes exceeded the calibration range.

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE	PPB	STATUS
	Lot N12151 AB	(Not analyzed with this set)	
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB	STATUS
		(One analyzed with this set)	
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative:

Approved By:

Del. Land...

Date:

9-Jan-96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL59	947872
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-4
SAMPLE DATE TIME (Hrs):	1/4/96	1550
PROJECT:	Phase III Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	1/8/96	1/8/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<2.5	PPB				
TOLUENE	<2.5	PPB				
ETHYL BENZENE	<2.5	PPB				
TOTAL XYLENES	<7.5	PPB				
TOTAL BTEX	<15	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 108 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: 1-18-96



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	947872
DATE SAMPLED:	01/04/96
TIME SAMPLED (Hrs):	1550
SAMPLED BY:	JAL
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Sheets Well #2
SAMPLE POINT:	MW-4

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.6	Units	01/12/96
Alkalinity as CO_3	0.0	PPM	01/12/96
Alkalinity as HCO_3	248	PPM	01/12/96
Calcium as Ca	309	PPM	01/12/96
Magnesium as Mg	29	PPM	01/12/96
Total Hardness as CaCO_3	891	PPM	01/12/96
Chloride as Cl	10	PPM	01/12/96
Sulfate as SO_4	834	PPM	01/12/96
Fluoride as F	0.8	PPM	01/12/96
Nitrate as $\text{NO}_3\text{-N}$	< 0.1	PPM	01/12/96
Nitrite as $\text{NO}_2\text{-N}$	NR	PPM	01/12/96
Ammonium as NH_4^+	NR	PPM	01/12/96
Phosphate as PO_4	NR	PPM	01/12/96
Potassium as K	1.0	PPM	01/12/96
Sodium as Na	90	PPM	01/12/96
Total Dissolved Solids	1,448	PPM	01/12/96
Conductivity	1,704	umhos/cm	01/12/96
Anion/Cation %	0.0%	%, < 5.0 Accepted	08/04/97

Lab Remarks:

NR = No + RW

Reported By: mda

Approved By: [Signature]

Date: 1-18-96

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 947864 thru 947877

QA/QC for 01/08/96 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	XR	ACCEPTABLE	
					YES	NO
					RANGE	
ICV LA-52589 50 PPB						
Benzene	Standard	50.0	45.7	91.4	75 - 125 %	X
Toluene	Standard	50.0	46.2	92.4	75 - 125 %	X
Ethyl benzene	Standard	50.0	46.9	93.8	75 - 125 %	X
m & p - Xylene	Standard	100	90.9	90.9	75 - 125 %	X
o - Xylene	Standard	50.0	47.6	95.2	75 - 125 %	X
LCS LA-45476 25 PPB						
Benzene	Standard	25.0	27.6	110.4	39 - 150	X
Toluene	Standard	25.0	27.4	109.6	46 - 148	X
Ethyl benzene	Standard	25.0	27.4	109.6	32 - 160	X
m & p - Xylene	Standard	50	52.4	104.8	Not Given	X
o - Xylene	Standard	25.0	27.8	111.2	Not Given	X
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	51.4	102.8	75 - 125 %	X
Toluene	Standard	50.0	51.9	103.8	75 - 125 %	X
Ethyl benzene	Standard	50.0	52.0	104.0	75 - 125 %	X
m & p - Xylene	Standard	100	100.6	100.6	75 - 125 %	X
o - Xylene	Standard	50.0	52.4	104.8	75 - 125 %	X
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.9	99.8	75 - 125 %	X
Toluene	Standard	50.0	50.0	100.0	75 - 125 %	X
Ethyl benzene	Standard	50.0	50.6	101.2	75 - 125 %	X
m & p - Xylene	Standard	100	98.0	98.0	75 - 125 %	X
o - Xylene	Standard	50.0	50.5	101.0	75 - 125 %	X

ative: Two additional CCVs analyzed with this set. All acceptable.

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 947864 thru 947877

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
947865					RANGE	
Benzene	Matrix Duplicate	28.8	33.0	14	+/- 20 %	X
Toluene	Matrix Duplicate	<12.5	<12.5	0	+/- 20 %	X
Ethyl benzene	Matrix Duplicate	297	297	0	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	1170	1160	1	+/- 20 %	X
o - Xylene	Matrix Duplicate	<12.5	<12.5	0	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	XR	ACCEPTABLE	
					YES	NO
2nd Analysis 947865					RANGE	
Benzene	250	28.8	277	99.3	75 - 125 %	X
Toluene	250	<12.5	257	102.8	75 - 125 %	X
Ethyl benzene	250	297	510	85.2	75 - 125 %	X
m & p - Xylene	500	1170	1530	72.0	75 - 125 %	NA
o - Xylene	250	<12.5	258	103.2	75 - 125 %	X

Narrative: Spike recoveries based on recovery in diluted sample (x5).

Results for m & p xylenes exceeded the calibration range.

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE	PPB	STATUS
	Lot M12151 AB	(Not analyzed with this set)	
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB	STATUS
		(One analyzed with this set)	
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative:

Approved By: John Larkin

Date: 9-Jan-96

QW0108.XLS



Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Requested Analysis		Contract Laboratory	
A2TEC PIPELINE		A2TEC PIPELINE		BTEX		EIPASO FIELD SERVICE	
Samplers: (Signature)		Date		Receiving Temp. (°F)			
Dennis Bird		4-16-96		32°			
Lab ID	Date	Time	Matrix	Sample Number	Intact?	Total No. of Containers	Chain of Custody Seals
4-16-96	1242		WATER	960350		4	
4-16-96	1345		WATER	960351		4	
4-16-96	1405		WATER	960352		4	
4-16-96	1522		WATER	960353		4	
4-16-96	---		WATER	---		1	
8 ANALYSIS GENERIC BTX See Attached Composite of Grab							
Remarks: SHEETS WELL #2 MW-1 (M.C. 702R) SHEETS WELL #2 MW-2 (M.C. 702R) SHEETS WELL #2 MW-3 (M.C. 702R) SHEETS WELL #2 MW-4 (M.C. 702R) TRIP BACK							
Relinquished by: (Signature) 4-16-96 1625 Received by: (Signature) Date/Time Relinquished by: (Signature) Date/Time Received by: (Signature) Date/Time Relinquished by: (Signature) Date/Time Received by: (Signature) Date/Time							
Results & Invoices to:							
Remarks: 4/17/96 0805							
Charge Code							
Date Results Reported / by: (Signature)							



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960350
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	4/16/96	1242
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	4/17/96	4/17/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	65.9	PPB	5	D		
TOLUENE	<5	PPB	5	D		
ETHYL BENZENE	22.0	PPB	5	D		
TOTAL XYLENES	52.6	PPB	5	D		
TOTAL BTEX	141	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.6 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By: John L. Linder

Date: 4/17/96

EL PASO FIELD SERVICES

Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	960350
DATE SAMPLED:	04/16/96
TIME SAMPLED (Hrs):	1242
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Sheets Well #2
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	9.9	Units	04/17/96
Alkalinity as CO_3	5.2	PPM	04/17/96
Alkalinity as HCO_3	24	PPM	04/17/96
Calcium as Ca	211	PPM	04/17/96
Magnesium as Mg	13	PPM	04/17/96
Total Hardness as CaCO_3	580	PPM	04/17/96
Chloride as Cl	11	PPM	04/17/96
Sulfate as SO_4	790	PPM	04/17/96
Fluoride as F	0.7	PPM	04/17/96
Nitrate as $\text{NO}_3\text{-N}$	<0.6	PPM	04/17/96
Nitrite as $\text{NO}_2\text{-N}$	NR	PPM	04/17/96
Ammonium as NH_4^+	NR	PPM	04/17/96
Phosphate as PO_4	NR	PPM	04/17/96
Potassium as K	11.1	PPM	04/17/96
Sodium as Na	88	PPM	04/17/96
Total Dissolved Solids	1,294	PPM	04/17/96
Conductivity	1,408	umhos/cm	04/17/96
Anion/Cation %	5.0%	%, <5.0 Accepted	08/04/97

Lab Remarks:

JR = Not Run.

Reported By:

Inde

Approved By:

John L. L...

Date:

4/30/96

EPPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960350
METER CODE:	M.C. 70286
SITE NAME:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-1
SAMPLE DATE:	04/16/96
SAMPLE TIME (Hrs):	1242
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	04/17/96
SAMPLE TYPE:	Water

REMARKS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	65.9	D (X5)	10
TOLUENE	<5	D (X5)	740
ETHYL BENZENE	22.0	D (X5)	750
TOTAL XYLENES	52.6	D (X5)	620
SURROGATE % RECOVERY	98.6	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.

Reported By: mh

Approved By: John L. Linder

Date: 4/19/96

EPFS

EL PASO FIELD SERVICES

Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPNG LAB ID:	960350
DATE SAMPLED:	04/16/96
TIME SAMPLED (Hrs):	1242
SAMPLED BY:	D. Bird
MATRIX:	Water
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-1
METER CODE:	70286

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
pH	9.9	Units	04/17/96
Alkalinity as CO ₃	5.2	PPM	04/17/96
Alkalinity as HCO ₃	24	PPM	04/17/96
Calcium as Ca	211	PPM	04/19/96
Magnesium as Mg	13	PPM	04/19/96
Total Hardness as CaCO ₃	580	PPM	04/19/96
Chloride as Cl	11	PPM	04/17/96
Sulfate as SO ₄	790	PPM	04/17/96
Fluoride as F	0.7	PPM	04/19/96
Nitrate as NO ₃ -N	<0.6	PPM	04/17/96
Potassium as K	11.1	PPM	04/19/96
Sodium as Na	88	PPM	04/19/96
Total Dissolved Solids	1,294	PPM	04/19/96
Conductivity	1,408	umhos/cm	04/17/96
Anion/Cation %	5.0%	%, < 5.0 Accepted	04/23/96

Lab Remarks:

Reported By: mh

Approved By: John Ladd

Date: 4/30/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960350
LOCATION:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-1
METER CODE:	70286
SAMPLE DATE:	04/16/96
SAMPLE TIME (Hrs):	1242
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	0.003	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.

* This analyte was detected in the associated Method Blank at a concentration of 0.011 mg/L.

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: _____

Date: 09/5/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960351
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	4/16/96	1345
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	4/17/96	4/17/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John Smith

Date: 4/19/96

EPFS
EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPNG LAB ID:	960351
DATE SAMPLED:	04/16/96
TIME SAMPLED (Hrs):	1345
SAMPLED BY:	D. Bird
MATRIX:	Water
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-2
METER CODE:	70286

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
pH	7.7	Units	04/17/96
Alkalinity as CO_3	0.0	PPM	04/17/96
Alkalinity as HCO_3	244	PPM	04/17/96
Calcium as Ca	294	PPM	04/19/96
Magnesium as Mg	29	PPM	04/19/96
Total Hardness as CaCO_3	851	PPM	04/19/96
Chloride as Cl	10	PPM	04/17/96
Sulfate as SO_4	888	PPM	04/17/96
Fluoride as F	0.9	PPM	04/19/96
Nitrate as $\text{NO}_3\text{-N}$	<0.6	PPM	04/17/96
Potassium as K	1.5	PPM	04/19/96
Sodium as Na	84	PPM	04/19/96
Total Dissolved Solids	1,626	PPM	04/19/96
Conductivity	1,726	umhos/cm	04/17/96
Anion/Cation %	4.9%	%, <5.0 Accepted	04/23/96

Lab Remarks:

Reported By: mh

Approved By: John Lander

Date: 4/30/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960351
METER CODE:	M.C. 70286
SITE NAME:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-2
SAMPLE DATE:	04/16/96
SAMPLE TIME (Hrs):	1345
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	04/17/96
SAMPLE TYPE:	Water

REMARKS: _____

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<1		10
TOLUENE	<1		740
ETHYL BENZENE	<1		750
TOTAL XYLENES	<3		620
SURROGATE % RECOVERY	101	Allowed Range 80 to 120 %	

NOTES:

Reported By: *mlh*

Approved By: *D. L. Sander*

Date: *4/19/96*

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960351
LOCATION:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-2
METER CODE:	70286
SAMPLE DATE:	04/16/96
SAMPLE TIME (Hrs):	1345
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	<0.001	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.

* This analyte was detected in the associated Method Blank at a concentration of 0.011 mg/L.

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 Forder*

Date: 10/5/96



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960352
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	4/16/96	1405
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	4/17/96	4/17/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John Landon

Date: 4/19/96

EPFS

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPNG LAB ID:	960352
DATE SAMPLED:	04/16/96
TIME SAMPLED (Hrs):	1405
SAMPLED BY:	D. Bird
MATRIX:	Water
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-3
METER CODE:	70286

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
pH	7.5	Units	04/17/96
Alkalinity as CO ₃	0.0	PPM	04/17/96
Alkalinity as HCO ₃	245	PPM	04/17/96
Calcium as Ca	306	PPM	04/19/96
Magnesium as Mg	30	PPM	04/19/96
Total Hardness as CaCO ₃	887	PPM	04/19/96
Chloride as Cl	10	PPM	04/17/96
Sulfate as SO ₄	901	PPM	04/17/96
Fluoride as F	0.9	PPM	04/19/96
Nitrate as NO ₃ -N	<0.6	PPM	04/17/96
Potassium as K	1.0	PPM	04/19/96
Sodium as Na	83	PPM	04/19/96
Total Dissolved Solids	1,642	PPM	04/19/96
Conductivity	1,735	umhos/cm	04/17/96
Anion/Cation %	3.9%	%, <5.0 Accepted	04/23/96

Lab Remarks:

Reported By:

mh

Approved By:

John L. Linder

Date:

4/30/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960352
LOCATION:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-3
METER CODE:	70286
SAMPLE DATE:	04/16/96
SAMPLE TIME (Hrs):	1405
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	<0.001	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.

* This analyte was detected in the associated Method Blank at a concentration of 0.011 mg/L.

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 Latta

Date: 04/15/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960353
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-4
SAMPLE DATE TIME (Hrs):	4/16/96	1522
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	4/17/96	4/17/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: 4/19/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

960353

METER CODE:

M.C. 70286

SITE NAME:

Aztec Pipeline

SAMPLE SITE:

Sheets Well #2 MW-4

SAMPLE DATE:

04/16/96

SAMPLE TIME (Hrs):

1522

SAMPLED BY:

D. Bird

DATE OF BTEX ANALYSIS:

04/17/96

SAMPLE TYPE:

Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<1		10
TOLUENE	<1		740
ETHYL BENZENE	<1		750
TOTAL XYLENES	<3		620
SURROGATE % RECOVERY	102	Allowed Range 80 to 120 %	

NOTES:

1 n o A. S. u. l. a. l. a. l.

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960353
LOCATION:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-4
METER CODE:	70286
SAMPLE DATE:	04/16/96
SAMPLE TIME (Hrs):	1522
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	<0.001	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.

* This analyte was detected in the associated Method Blank at a concentration of 0.011 mg/L.

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, U.S. EPA, 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: [Signature]

Approved By: [Signature]

Date: 10/1/96

EPFS

EL PASO FIELD SERVICES

Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPNG LAB ID:	960353
DATE SAMPLED:	04/16/96
TIME SAMPLED (Hrs):	1522
SAMPLED BY:	D. Bird
MATRIX:	Water
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-4
METER CODE:	70286

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
pH	7.4	Units	04/17/96
Alkalinity as CO ₃	0.0	PPM	04/17/96
Alkalinity as HCO ₃	253	PPM	04/17/96
Calcium as Ca	274	PPM	04/19/96
Magnesium as Mg	26	PPM	04/19/96
Total Hardness as CaCO ₃	792	PPM	04/19/96
Chloride as Cl	10	PPM	04/17/96
Sulfate as SO ₄	807	PPM	04/17/96
Fluoride as F	0.8	PPM	04/19/96
Nitrate as NO ₃ -N	<0.6	PPM	04/17/96
Potassium as K	0.9	PPM	04/19/96
Sodium as Na	82	PPM	04/19/96
Total Dissolved Solids	1,494	PPM	04/19/96
Conductivity	1,630	umhos/cm	04/17/96
Anion/Cation %	4.5%	%, <5.0 Accepted	04/23/96

Lab Remarks:

Reported By: mh

Approved By: John L. Smith

Date: 4/30/96

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.

EPFS

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

TOTAL METALS, DUPLICATE ANALYSIS

SAMPLE ID: 960321

Analyte	Original Sample Result (µg/L)	Duplicate Sample Result (µg/L)	% RPD
Arsenic	ND	ND	NA
Barium	ND	ND	NA
Cadmium	ND	ND	NA
Chromium	1.65	1.61	2.5%
Lead	2.3	2.1	3.2%
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SAMPLE ID: 960343

Analyte	Original Sample Result (µg/L)	Duplicate Sample Result (µg/L)	% RPD
Arsenic	ND	ND	NA
Barium	ND	ND	NA
Cadmium	ND	ND	NA
Chromium	1.14	1.28	11.6%
Lead	2.4	2.1	11.7%
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SAMPLE ID: 960375

Analyte	Original Sample Result (µg/L)	Duplicate Sample Result (µg/L)	% RPD
Arsenic	ND	ND	NA
Barium	1.15	1.12	2.6%
Cadmium	0.56	0.55	1.8%
Chromium	29.1	29.0	0.3%
Lead	12.1	13.3	9.4%
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

ND: Analyte Not Detected at stated detection level.

NA: Not Applicable.

EPFS

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

TOTAL METALS, SPIKE ANALYSIS

SAMPLE ID: 960321

Analyte	Original Sample Result (µg/L)	Spike Sample Result (µg/L)	Spike Added	Recovery Percent
Arsenic	ND	47.4	45.5	104%
Barium	236	1098	959	92%
Cadmium	ND	8.12	9.59	85%
Chromium	1.65	51.9	45.5	108%
Lead	ND	37.3	45.5	82%
Mercury	ND	1.94	2.00	97%
Selenium	ND	9.64	9.60	100%
Silver	ND	43.0	45.5	95%

SAMPLE ID: 960343

Analyte	Original Sample Result (µg/L)	Spike Sample Result (µg/L)	Spike Added	Recovery Percent
Arsenic	ND	53.7	45.5	118%
Barium	166	1102	959	99%
Cadmium	ND	9.33	9.60	96%
Chromium	1.14	39.8	45.5	85%
Lead	ND	40.0	45.5	88%
Mercury	ND	1.92	2.00	96%
Selenium	ND	10.3	9.60	108%
Silver	ND	36.0	45.5	79%

SAMPLE ID: 960375

Analyte	Original Sample Result (µg/L)	Spike Sample Result (µg/L)	Spike Added	Recovery Percent
Arsenic	8.5	55.3	45.5	105%
Barium	1036	1889	959	99%
Cadmium	0.42	11.1	9.60	112%
Chromium	29.1	59.5	45.5	73%
Lead	10.9	38.1	45.5	62%
Mercury	ND	2.03	2.00	101%
Selenium	ND	9.47	9.60	99%
Silver	ND	39.1	45.5	86%

NOTE: Spike recoveries for Cr and Pb for Sample 960375 are below acceptance criteria due to matrix interference.

EPFS

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

TOTAL METALS, METHOD BLANK ANALYSIS

04/24/96 METHOD BLANK

Analyte	Found Value ($\mu\text{g/L}$)	Detection Level ($\mu\text{g/L}$)
Arsenic	ND	25
Barium	ND	500
Cadmium	ND	0.5
Chromium	ND	1
Lead	ND	4
Mercury	ND	0.24 *
Selenium	ND	5
Silver	ND	0.4

04/25/96 METHOD BLANK

Analyte	Found Value ($\mu\text{g/L}$)	Detection Level ($\mu\text{g/L}$)
Arsenic	ND	25
Barium	ND	500
Cadmium	ND	0.5
Chromium	ND	1
Lead	11	4
Mercury	ND	0.24 *
Selenium	ND	5
Silver	ND	0.4

ND: Not Detected at stated detection level.

NA: Not Applicable.

NOTE: All detection levels, except Hg are 5X MDL.

Hg detection level is based on a Practical Quantitation Level (PQL) of 10X MDL.

Sample 4 - 1st Qtr

MEMORANDUM

To: John Lambdin

Date: May 8, 1996

From: Dennis Bird

Place: Laboratory Services

Subject: Aztec Pipeline Pit Monitor Wells

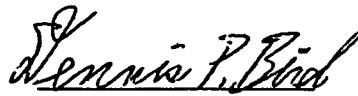
On Tuesday, April 16, 1996, I went to the Aztec Pipeline and sampled the following pit monitor wells. The following analytical parameters are to be performed on these groundwater samples: BTXE, 8 RCRA Metals, General Chemistry to include Nitrate as NO3 and Dissolved Oxygen. The samples were assigned the laboratory numbers 960350 to 960353. The dissolved oxygen results were taken at the time of sampling with a ChemMets kit. The Field Service Laboratory will be performing 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
960350 Sheets Well #2	MW-1	4"	47.96'	58.34'	7.0	5.0 ppm
960351 Sheets Well #2	MW-2	4"	45.48'	57.42'	17.0	4.0 ppm
960352 Sheets Well #2	MW-3	4"	46.49'	57.12'	22.0	1.5 ppm
960353 Sheets Well #2	MW-4	4"	48.28'	58.94'	23.0	2.0 ppm

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



A 2506

CHAIN OF CUSTODY RECORD

Project Name		Requested Analysis		Remarks	
Type and No. of Sample Containers		Preservation Technique		Remarks	
Date	Time	Comp.	GRAB	Sample Number	
7-22-96	1337	X		960633	SHEETS WELL #2 MW-1 MC 70286
7-22-96	1354	X		960639	SHEETS WELL #2 MW-2 MC 70286
7-22-96	1354	X		960640	SHEETS WELL #2 MW-2 MC 70286
7-22-96	1507	X		960641	SHEETS WELL #2 MW-3 MC 70286
7-22-96	1627	X		960642	SHEETS WELL #2 MW-4 MC 70286
7-22-96		X			TRIP BLANK
[The following rows are crossed out with a diagonal line]					
Relinquished by: (Signature) _____ Received by: (Signature) _____ Date/Time _____					
Relinquished by: (Signature) _____ Received by: (Signature) _____ Date/Time _____					
Relinquished by: (Signature) _____ Received by: (Signature) _____ Date/Time _____					
Remarks: 7/23/96 1930					
Received for Laboratory by: (Signature) _____ Date/Time _____					
Carrier Phone No. _____					
Co: _____ No: _____					



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID N/A	Lab ID 960638
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	7/22/96	1337
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	7/24/96	7/24/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	68.6	PPB				
TOLUENE	<1.0	PPB				
ETHYL BENZENE	11.3	PPB				
TOTAL XYLENES	21.6	PPB				
TOTAL BTEX	102	PPB				

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at 88.1 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Liller

Date:

8/14/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960638
SITE NAME:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-1
METER CODE:	70286
SAMPLE DATE:	07/22/96
SAMPLE TIME (Hrs):	1337
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	07/24/96
SAMPLE TYPE:	Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	68.6		10
TOLUENE	<1.0		740
ETHYL BENZENE	11.3		750
TOTAL XYLENES	21.6		620
SURROGATE % RECOVERY	88.1	Allowed Range 80 to 120 %	

Reported By: mla

Approved By:

D. Bird

Date: 8/14/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960639
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	7/22/96	1354
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	7/24/96	7/24/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at
DF = Dilution Factor Used

62.7

for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John L. Linder

Date:

8/14/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

960639

SITE NAME:

Aztec Pipeline

SAMPLE SITE:

Sheets Well #2 MW-2

METER CODE:

70286

SAMPLE DATE:

07/22/96

SAMPLE TIME (Hrs):

1354

SAMPLED BY:

D. Bird

DATE OF BTEX ANALYSIS:

07/24/96

SAMPLE TYPE:

Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<1.0		10
TOLUENE	<1.0		740
ETHYL BENZENE	<1.0		750
TOTAL XYLENES	<3.0		620
SURROGATE % RECOVERY	62.7	Allowed Range 80 to 120 %	

NOTES:

Surrogate % recovery is below acceptable limit. However, a duplicate injection, a matrix spike and a field duplicate confirm that the target analytes are not present at the stated detection levels.

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960641
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	7/22/96	1507
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	7/24/96	7/24/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at
DF = Dilution Factor Used

87.7

for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John L. Linder

Date:

8/14/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960641
SITE NAME:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-3
METER CODE:	70286
SAMPLE DATE:	07/22/96
SAMPLE TIME (Hrs):	1507
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	07/24/96
SAMPLE TYPE:	Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<1.0		10
TOLUENE	<1.0		740
ETHYL BENZENE	<1.0		750
TOTAL XYLENES	<3.0		620
SURROGATE % RECOVERY	87.7	Allowed Range 80 to 120 %	

NOTES:

Reported By: mh

Approved By: *John Laid*

Date: 8/14/96



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960642
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-4
SAMPLE DATE TIME (Hrs):	7/22/96	1627
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	7/24/96	7/24/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 90.1 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

8/14/96

EPFS

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

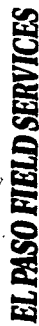
SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960642
SITE NAME:	Aztec Pipeline
SAMPLE SITE:	Sheets Well #2 MW-4
METER CODE:	70286
SAMPLE DATE:	07/22/96
SAMPLE TIME (Hrs):	1627
SAMPLED BY:	D. Bird
DATE OF BTEX ANALYSIS:	07/24/96
SAMPLE TYPE:	Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<1.0		10
TOLUENE	<1.0		740
ETHYL BENZENE	<1.0		750
TOTAL XYLENES	<3.0		620
SURROGATE % RECOVERY	90.1	Allowed Range 80 to 120 %	



Well Development and Purging Data

Well Number NW-1
Meter Code 70286

Site Name SHEETS well #2

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) 58.34
Initial Depth to Water (feet) 48.03
Height of Water Column in Well (feet) 10.31

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			20.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other DO, C, T

Water Disposal
KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments: BAILED DRY @ 6.0 gph.

Developer's Signature *Dennis Brad*

Date 7-22-96 Reviewer

Date 8/14/96



Well Development and Purging Data

Well Number MW-2
Meter Code 70286

Development

Site Name SHCE75 well #2

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 57.42
Initial Depth to Water (feet) 45.35
Height of Water Column in Well (feet) 11.87

4 Diameter (inches): Well Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			23.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O.C

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

BAICED DRY 0150 gph.

Developer's Signature

✓ Dennis Bird

Date: 1/26/18 Reviewer: _____

3

Date:

05/15/18



EL PASO FIELD SERVICES

Well Development and Purging Data

Site Name SHEETS WELL #2

Well Number MW-3

Meter Code 72286

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 571.2
Initial Depth to Water (feet) 481.57
Height of Water Column in Well (feet) 10.53

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			<u>21.2</u>
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTR SEPARATOR

Water Removal Data

Date	Time	Development Method	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
						Increment	Cumulative	Increment	Cumulative					
7-22-96	1418					5.0	5.0			20.9	7.50	1490		
7-22-96	1427					5.0	10.0			19.2	7.07	1430		
7-22-96	1436					5.0	15.0			18.8	7.23	1420		
7-22-96	1448					5.0	20.0			19.0	7.18	1420		
7-22-96	1459					5.0	25.0			19.2	7.27	1420	1.5	

Comments _____

Developer's Signature Bennie Bird

Date 7-22-96 Reviewer J.

Date 8/14/96



Well Number MW-4
Meter Code 70286

Development Criteria

- ## Methods of Development

- ## Water Volume Calculation

Initial Depth of Well (feet) 58.94
Initial Depth to Water (feet) 48.36
Height of Water Column in Well (feet) 10.58

4 Diameter (Inches): Well Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			2113
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O.C

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Dennis Bird
Developer's Signature

Date 10/26/18 Reviewer

Date 8/14/96

CHAIN OF CUSTODY RECORD

[illegible]

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID N/A	Lab ID 960865
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	10/17/96	1341
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	10/18/96	10/18/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	17.5	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	9.65	PPB				
TOTAL XYLENES	1.96	PPB				
TOTAL BTEX	29.1	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at
DF = Dilution Factor Used

114

for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John F. L. L.

Date:

10/21/96



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960866
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	10/17/96	1355
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	10/18/96	10/18/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 113 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Luch

Date:

10-21-96



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960867
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	10/17/96	1508
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	10/19/96	10/19/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	0		
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 113 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

10-21-96



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID N/A	Lab ID 960868
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-4
SAMPLE DATE TIME (Hrs):	10/17/96	1619
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	10/19/96	10/19/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

—BTEX is by EPA Method 8020—

The Surrogate Recovery was at 113.0 for this sample All QA/QC was acceptable.
DF = Dilution Factor. Used

Narrative:

Approved By:

John Follen

Date:

10-21-96



Well Development and Purging Data

Well Number MW-1

Meter Code 70786

Site Name SHEETS WELL #2

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 Kermometer |

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 58.34

Initial Depth to Water (feet) 47.92

Height of Water Column in Well (feet) 10.42

Diameter (Inches): Well 4 Grave/Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.9	20.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other 0.0.0

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

BAILED BY P 5.0 yellow.

Developer's Signature:

Dennis Bird

Date 10-17-96 Reviewer

John L. L. L.

Date 16-21-96



Well Development and Purging Data

Well Number MW-2
Meter Code 70286

Development	Purging
☐	☒

Site Name SHEETS WELL #2

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 57.43
Initial Depth to Water (feet) 45.57
Height of Water Column in Well (feet) 11.91

Diameter (Inches): Well 4 Gravel Pack

Methods of Development

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

☐ Other

Instruments

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

Water Disposal

DELTA 5 SEP 1973

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.9	23.6
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

BAILED DRY @ 15.0 GALLONS	Comments
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Developer's Signature Lennix Bied Date 10-17-96 Reviewer Shirley Date 10-21-96



Well Number MW-3
Meter Code 70286

Site Name SHRETS Well #2

Development Criteria

- | | |
|-------------------------------------|--|
| ☒ | 3 to 5 Casing Volumes of Water Removal |
| ☐ | Stabilization of Indicator Parameters |
| ☐ | Other |

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet)	57.73
Initial Depth to Water (feet)	46.48
Height of Water Column in Well (feet)	10.54

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.0	2.61
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other 0.0.0

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Developer's Signature Dennis Bird

Date 10-17-96 Reviewer: _____

John Fells

Date 10-21-94



Well Development and Purging Data

Well Number MW-4

Meter Code 70286

Development	Purging
☐	☒

Site Name SHEETS WELL

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) 58.94
Initial Depth to Water (feet) 48.21
Height of Water Column in Well (feet) 10.73

Diameter (Inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.1	21.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other 2.0.0

Water Disposal

Water Disposal
KUTZ SEPARATOR

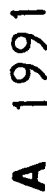
Water Removal Data

[illegible]

Comments

Developer's Signature Dennis Bird

Date 10-17-96 Reviewer John Swalla Date 10-21-96



CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID N/A	Lab ID 970029
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	1/29/97	1233
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. ANAL.:	2/4/97	2/4/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	7.69	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	2.66	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	10.4	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 94.7 % for this sample All QA/QC was acceptable.
F = Dilution Factor Used

Narrative:

Approved By:

John L. Ladd

Date:

2/10/97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970030
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	1/29/97	1253
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. ANAL.:	2/3/97	2/3/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 91.1 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Ladd

Date:

2/10/97



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970031
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	1/29/97	1405
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. ANAL.:	2/3/97	2/3/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

—BTEX is by EPA Method 8020 —

Surrogate Recovery was at 97.1 % for this sample All QA/QC was acceptable.
= Dilution Factor Used

ative:

oved By:

John Lueders

Date:

2/10/97



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID N/A	Lab ID 970032
R CODE SITE NAME:	70286	Sheets Well #2 MW-4
LE DATE TIME (Hrs):	1/29/97	1539
PROJECT:	Sample 4 - 4th Quarter	
BTEX EXT. ANAL.:	2/4/97	2/4/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

-BTEX is by EPA Method 8020 -

Surrogate Recovery was at 91.7 % for this sample All QA/QC was acceptable.
Dilution Factor Used

LABORATORY:

Approved By:

John Latta

Date:

2/10/97



Well Number MW-1
Meter Code 70286

Site Name SHEETS Well #2

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) 58.34
Initial Depth to Water (feet) 47.87
Height of Water Column in Well (feet) 10.53
Diameter (Inches): Well 4.11 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.0	20.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other: D.O. C

63 0221

Water Disposal

2177 SEPARATE

Water Removal Data

[illegible]

BAILED OUT P 6.0 GALLONS.

Developer's Signature Dennis Bird

Date 1-29-97
 Reviewer *[Signature]*
 Date 2-10-97



Well Development and Purging Data

Well Number 1141-2
Meter Code 70286

☐	Development
☒	Purging

Site Name SHEETS WELL #2

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) 57.42
Initial Depth to Water (feet) 43.37
Height of Water Column in Well (feet) 12.05

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.0	23.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter

☒ Temperature Meter
☒ Other 5.8 OILY 0.0 CHEMETS KIT
Water Disposal
KUTZ SEPARATOR

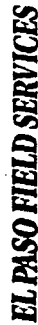
Water Removal Data

[illegible]

Comments	BALLED DRY @ 15.0 GALLONS.
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Developer's Signature Dennis Birch Date 1-29-97 Reviewer John Birch Date 2-10-97

Date 2-10-57



Well Development and Purging Data

Well Number MW-4
Meter Code 70286

☒	Purging
☐	Development

Site Name SHEETS well #2

Development Criteria

- ☒
- 3 to 5 Casing Volumes of Water Removal
-
- ☐
- Stabilization of Indicator Parameters
-
- ☐
- Other _____

Methods of Development

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

☐ Other

Water Volume Calculation,

Initial Depth of Well (feet) 58.94
Initial Depth to Water (feet) 48.17
Height of Water Column in Well (feet) 10.77

Diameter (Inches): Well 4 Gravel Pack.

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.1	21.4
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. C

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Comments	Developer's Signature	Date	Reviewer	Date
	<i>Bernie Bird</i>	1-29-97	<i>Steve Buck</i>	2-10-97



Project No.	Project Name	Requested Analysis		Type and No. of Sample Containers	Preservation Technique	Remarks
Samplers: (Signature) <i>Dennis Bied</i>	ARTEC PIPELINE	Date: 4-28-97				
Date	Time	Comp.	GRAB	Sample Number		
WATER 4-28-97	1103		X	970347	4°C	5485-5 WEL #2 MW-1 BARE PARSING
WATER 4-28-97	1345		X	970350	4°C	5485-5 WEL #2 MW-1 MC 70286
WATER 4-28-97	1404		X	970351	4°C	5485-5 WEL #2 MW-2 MC 70286
WATER 4-28-97	1421		X	970352	4°C	5485-5 WEL #2 MW-3 MC 70286
WATER 4-28-97	1542		X	970353	4°C	5485-5 WEL #2 MW-4 MC 70286
WATER 4-28-97	—		X	—	4°C	TRIP BLANK
Relinquished by: (Signature) Received by: (Signature) Relinquished by: (Signature) Received by: (Signature) Relinquished by: (Signature) Received by: (Signature)						
Relinquished by: (Signature) Received for Laboratory by: (Signature) Relinquished by: (Signature) Carrier Phone No.						
Relinquished by: (Signature) Date Results Reported / by: (Signature)						

Air Bill No.:



5-9-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970350
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	4/28/97	1345
PROJECT:	Sample 4 5th Quarter	
DATE OF BTEX EXT. ANAL.:	4/30/97	4/30/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1.0	PPB				
TOLUENE	< 1.0	PPB				
ETHYL BENZENE	< 1.0	PPB				
TOTAL XYLENES	< 3.0	PPB				
TOTAL BTEX	< 6.0	PPB				

The Surrogate Recovery was at 90.9 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John T. Smith

Date:

5/6/97



5-9-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970350
DATE SAMPLED:	04/28/97
TIME SAMPLED (Hrs):	1345
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.0	Units	04/30/97
Alkalinity as CO ₃	0	PPM	04/30/97
Alkalinity as HCO ₃	237	PPM	04/30/97
Calcium as Ca	277	PPM	04/30/97
Magnesium as Mg	30	PPM	04/30/97
Total Hardness as CaCO ₃	816	PPM	04/30/97
Chloride as Cl	10	PPM	04/30/97
Sulfate as SO ₄	829	PPM	04/30/97
Fluoride as F	0.8	PPM	04/30/97
Nitrate as NO ₃ -N	<0.1	PPM	04/30/97
Nitrite as NO ₂ -N	<0.1	PPM	04/30/97
Ammonium as NH ₄ ⁺	<0.3	PPM	04/30/97
Phosphate as PO ₄	<0.1	PPM	04/30/97
Potassium as K	12.9	PPM	04/30/97
Sodium as Na	91	PPM	04/30/97
Total Dissolved Solids	1,460	PPM	04/30/97
Calculated TDS	1,368	PPM	04/30/97
Conductivity	1,660	umhos/cm	04/30/97
Anion/Cation %	2.1%	%, < 5.0 Accepted	05/01/97

Remarks:

Reported By: mh

Approved By: John L. L. L.

Date: 5/6/97



5-9-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

Field ID

Lab ID

SAMPLE NUMBER:

N/A

970351

MTR CODE | SITE NAME:

70286

Sheets Well #2 MW-2

SAMPLE DATE | TIME (Hrs):

4/28/97

1404

PROJECT:

Sample 4 5th Quarter

DATE OF BTEX EXT. | ANAL.:

4/30/97

4/30/97

TYPE | DESCRIPTION:

Monitor Well

Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1.0	PPB				
TOLUENE	< 1.0	PPB				
ETHYL BENZENE	< 1.0	PPB				
TOTAL XYLENES	< 3.0	PPB				
TOTAL BTEX	< 6.0	PPB				

The Surrogate Recovery was at 87.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

5/6/97



5-9-97

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970351
DATE SAMPLED:	04/28/97
TIME SAMPLED (Hrs):	1404
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-2

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.9	Units	04/30/97
Alkalinity as CO ₃	0	PPM	04/30/97
Alkalinity as HCO ₃	240	PPM	04/30/97
Calcium as Ca	310	PPM	04/30/97
Magnesium as Mg	25	PPM	04/30/97
Total Hardness as CaCO ₃	878	PPM	04/30/97
Chloride as Cl	10	PPM	04/30/97
Sulfate as SO ₄	900	PPM	04/30/97
Fluoride as F	0.7	PPM	04/30/97
Nitrate as NO ₃ -N	<0.1	PPM	04/30/97
Nitrite as NO ₂ -N	<0.1	PPM	04/30/97
Ammonium as NH ₄ ⁺	<0.3	PPM	04/30/97
Phosphate as PO ₄	<0.1	PPM	04/30/97
Potassium as K	1.1	PPM	04/30/97
Sodium as Na	94	PPM	04/30/97
Total Dissolved Solids	1,550	PPM	04/30/97
Calculated TDS	1,459	PPM	04/30/97
Conductivity	1,750	umhos/cm	04/30/97
Anion/Cation %	3.0%	%, < 5.0 Accepted	05/01/97

ad Remarks:

Reported By:

mh

Approved By:

D. L. Latta

Date: 5/6/97



5-9-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970351
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	4/28/97	1404
PROJECT:	Sample 4	5th Quarter
DATE OF BTEX EXT. ANAL.:	4/30/97	4/30/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1.0	PPB				
TOLUENE	< 1.0	PPB				
ETHYL BENZENE	< 1.0	PPB				
TOTAL XYLENES	< 3.0	PPB				
TOTAL BTEX	< 6.0	PPB				

The Surrogate Recovery was at 87.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John L. LattaDate: 5/6/97

5-9-97

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970351
DATE SAMPLED:	04/28/97
TIME SAMPLED (Hrs):	1404
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-2

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.9	Units	04/30/97
Alkalinity as CO_3	0	PPM	04/30/97
Alkalinity as HCO_3	240	PPM	04/30/97
Calcium as Ca	310	PPM	04/30/97
Magnesium as Mg	25	PPM	04/30/97
Total Hardness as CaCO_3	878	PPM	04/30/97
Chloride as Cl	10	PPM	04/30/97
Sulfate as SO_4	900	PPM	04/30/97
Fluoride as F	0.7	PPM	04/30/97
Nitrate as $\text{NO}_3\text{-N}$	<0.1	PPM	04/30/97
Nitrite as $\text{NO}_2\text{-N}$	<0.1	PPM	04/30/97
Ammonium as NH_4^+	<0.3	PPM	04/30/97
Phosphate as PO_4	<0.1	PPM	04/30/97
Potassium as K	1.1	PPM	04/30/97
Sodium as Na	94	PPM	04/30/97
Total Dissolved Solids	1,550	PPM	04/30/97
Calculated TDS	1,459	PPM	04/30/97
Conductivity	1,750	umhos/cm	04/30/97
Anion/Cation %	3.0%	%, <5.0 Accepted	05/01/97

Remarks:

Reported By:

mh

Approved By:



Date:

5/6/97



5-9-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970352
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	4/28/97	1421
PROJECT:	Sample 4 5th Quarter	
DATE OF BTEX EXT. ANAL.:	4/30/97	4/30/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1.0	PPB				
TOLUENE	< 1.0	PPB				
ETHYL BENZENE	< 1.0	PPB				
TOTAL XYLENES	< 3.0	PPB				
TOTAL BTEX	< 6.0	PPB				

The Surrogate Recovery was at 86.6 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Ladd

Date:

5/6/97



5-9-97

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970352
DATE SAMPLED:	04/28/97
TIME SAMPLED (Hrs):	1421
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-3

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.8	Units	04/30/97
Alkalinity as CO_3	0	PPM	04/30/97
Alkalinity as HCO_3	242	PPM	04/30/97
Calcium as Ca	337	PPM	04/30/97
Magnesium as Mg	30	PPM	04/30/97
Total Hardness as CaCO_3	964	PPM	04/30/97
Chloride as Cl	10	PPM	04/30/97
Sulfate as SO_4	946	PPM	04/30/97
Fluoride as F	0.8	PPM	04/30/97
Nitrate as $\text{NO}_3\text{-N}$	<0.1	PPM	04/30/97
Nitrite as $\text{NO}_2\text{-N}$	<0.1	PPM	04/30/97
Ammonium as NH_4^+	<0.3	PPM	04/30/97
Phosphate as PO_4	<0.1	PPM	04/30/97
Potassium as K	0.9	PPM	04/30/97
Sodium as Na	90	PPM	04/30/97
Total Dissolved Solids	1,640	PPM	04/30/97
Calculated TDS	1,534	PPM	04/30/97
Conductivity	1,806	umhos/cm	04/30/97
Anion/Cation %	1.7%	%, <5.0 Accepted	05/01/97

Lab Remarks:

Approved By:

Date: 5/1/97



5-9-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970353
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-4
SAMPLE DATE TIME (Hrs):	4/28/97	1542
PROJECT:	Sample 4	5th Quarter
DATE OF BTEX EXT. ANAL.:	4/30/97	4/30/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1.0	PPB				
TOLUENE	< 1.0	PPB				
ETHYL BENZENE	< 1.0	PPB				
TOTAL XYLENES	< 3.0	PPB				
TOTAL BTEX	< 6.0	PPB				

The Surrogate Recovery was at 85.1 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

5/6/97



5-9-97

Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970353
DATE SAMPLED:	04/28/97
TIME SAMPLED (Hrs):	1542
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70286
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Sheets Well #2 MW-4

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.6	Units	04/30/97
Alkalinity as CO ₃	0	PPM	04/30/97
Alkalinity as HCO ₃	248	PPM	04/30/97
Calcium as Ca	294	PPM	04/30/97
Magnesium as Mg	25	PPM	04/30/97
Total Hardness as CaCO ₃	836	PPM	04/30/97
Chloride as Cl	10	PPM	04/30/97
Sulfate as SO ₄	834	PPM	04/30/97
Fluoride as F	0.6	PPM	04/30/97
Nitrate as NO ₃ -N	<0.1	PPM	04/30/97
Nitrite as NO ₂ -N	<0.1	PPM	04/30/97
Ammonium as NH ₄ ⁺	<0.3	PPM	04/30/97
Phosphate as PO ₄	<0.1	PPM	04/30/97
Potassium as K	0.8	PPM	04/30/97
Sodium as Na	91	PPM	04/30/97
Total Dissolved Solids	1,470	PPM	04/30/97
Calculated TDS	1,376	PPM	04/30/97
Conductivity	1,680	umhos/cm	04/30/97
Anion/Cation %	2.5%	%, <5.0 Accepted	05/01/97

Remarks:

Reported By:

mh

Approved By:

Richard S. Soder

Date:

5/6/97



EL PASO FIELD SERVICES

MEMORANDUM

To: John Lambdin

Date: May 8, 1996

From: Dennis Bird

Place: Laboratory Services

Subject: Aztec Pipeline Pit Monitor Wells

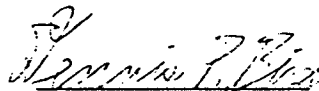
On Tuesday, April 16, 1996, I went to the Aztec Pipeline and sampled the following pit monitor wells. The following analytical parameters are to be performed on these groundwater samples: BTXE, 8 RCRA Metals, General Chemistry to include Nitrate as NO3 and Dissolved Oxygen. The samples were assigned the laboratory numbers 960350 to 960353. The dissolved oxygen results were taken at the time of sampling with a ChemMets kit. The Field Service Laboratory will be performing all of the analysis.

The following information was collected on each well.

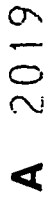
Well Name	Monitor Well#	Pipe ID	Static Level	Total Depth	Gallons Bailed	Dissolved Oxygen
350 Sheets Well #2	MW-1	4"	47.96'	58.34'	7.0	5.0 ppm
351 Sheets Well #2	MW-2	4"	45.48'	57.42'	17.0	4.0 ppm
352 Sheets Well #2	MW-3	4"	46.49'	57.12'	22.0	1.5 ppm
353 Sheets Well #2	MW-4	4"	48.28'	58.94'	23.0	2.0 ppm

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

[illegible]



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

8-1-97

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970632
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-1
SAMPLE DATE TIME (Hrs):	7/10/97	1150
PROJECT:	Sample 4 - 6th Quarter	
DATE OF BTEX EXT. ANAL.:	7/11/97	7/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.06	PPB				
TOLUENE	1.26	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	2.32	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.0 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Scott

Date: 7/22/97



8-1-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970633
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-2
SAMPLE DATE TIME (Hrs):	7/10/97	1309
PROJECT:	Sample 4 - 6th Quarter	
DATE OF BTEX EXT. ANAL.:	7/11/97	7/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.2 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Ladd

Date:

7/22/97



8-1-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970634
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-3
SAMPLE DATE TIME (Hrs):	7/10/97	1323
PROJECT:	Sample 4 - 6th Quarter	
DATE OF BTEX EXT. ANAL.:	7/11/97	7/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.1 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Lorch

Date: 7/22/97



8-1-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970635
MTR CODE SITE NAME:	70286	Sheets Well #2 MW-4
SAMPLE DATE TIME (Hrs):	7/10/97	1506
PROJECT:	Sample 4 - 6th Quarter	
DATE OF BTEX EXT. ANAL.:	7/11/97	7/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

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

--BTEX is by EPA Method 8020 --

e Surrogate Recovery was at 87.3 for this sample All QA/QC was acceptable.
= Dilution Factor Used

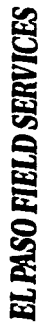
rrative:

proved By:

John Smith

Date:

7/22/97



Well Number WW-1
Meter Code 70286

Site Name SHEETS WEL^{#2}

Development Criteria

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

Methods of Development

- | | | |
|--------------------------|--------------------|--|
| ☐ | Pump | Baller |
| ☐ | Centrifugal | ☒ Bottom Valve |
| ☐ | Submersible | ☐ Double Check Valve |
| ☐ | Peristaltic | ☐ Stainless-steel/Kemmerer |

Water Volume Calculation:

Initial Depth of Well (feet) 58.34
Initial Depth to Water (feet) 47.82
Height of Water Column In Well (feet) 10.52

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.0	20.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal
K072 SEPARATOR

Water Removal Data

[illegible]

Comments

BAILED ONLY 9 TO GALLONS. REMOVED OR 30 DAYS BEFORE SAMPLING.

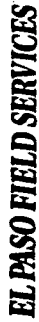
Developer's Signature

Dennis Bied

Date 7-18-97 Reviewer

Reviewer

Date 7/22/97



Well Number NW-2
Meter Code 22786

☒	Purging
☐	Development

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

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

Initial Depth of Well (feet) 57.42
Initial Depth to Water (feet) 45.35
Height of Water Column in Well (feet) 12.07

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

KUTZ SEP 25 2101

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.0	73.9
Gravel Pack			
Drilling Fluids			
Total			

[illegible]

Developer's Signature Vernio Bird

Date	7-10-97	Reviewer	John. Hard	Date	7/23/97
------	---------	----------	------------	------	---------



Well Number 11W-3
Meter Code 72286

☒	Purging
☐	Development

Site Name SHEETS WELL #2

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 53/2
Initial Depth to Water (feet) 46.38
Height of Water Column in Well (feet) 10.74

Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.1	21.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other P.O.C.

Water Disposal
KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Developer's Signature _____

Ternio Bird

Date 7-10-97

Reviewer

John L. Lick

Date 11/23/47



Well Number MW-4

Site Name SHEETS WELL #2

☒	Purging
☐	Development

Meter Code 70286

Development Criteria

- | | |
|-------------------------------------|--|
| ☒ | 3 to 5 Casing Volumes of Water Removal |
| ☐ | Stabilization of Indicator Parameters |
| ☐ | Other..... |

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 58.94
Initial Depth to Water (feet) 48.13
Height of Water Column in Well (feet) 10.82

Diameter (Inches): Well 4 Gravel Pack

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

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other 1.0.0.

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Developer's Signature _____

Vernio Bird

Date: 7-10-97 Reviewer:

John F. Fuchs

Date 7/22/97

CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971146
MTR CODE SITE NAME:	70286	Sheets Well #2
SAMPLE DATE TIME (Hrs):	10/23/97	1145
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. ANAL.:	10/24/97	10/24/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	4.25	PPB				
TOLUENE	1.45	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.7 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

The sample was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By: _____

971146BTEXMW,11/4/97

Date: _____

11/7/97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971147
MTR CODE SITE NAME:	70286	Sheets Well #2
SAMPLE DATE TIME (Hrs):	10/23/97	1201
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. ANAL.:	10/24/97	10/24/97
TYPE DESCRIPTION:	MW-2	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 93.9 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Toluene was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By: _____

John Leach

Date: _____

11/7/97

971147BTEXMW,11/4/97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971148
MTR CODE SITE NAME:	70286	Sheets Well #2
SAMPLE DATE TIME (Hrs):	10/23/97	1350
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. ANAL.:	10/24/97	10/24/97
TYPE DESCRIPTION:	MW-3	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 102.0 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Trace ne was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By: _____

Date: _____

11/7/97

971148BTEXMW,11/4/97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971149
MTR CODE SITE NAME:	70286	Sheets Well #2
SAMPLE DATE TIME (Hrs):	10/23/97	1505
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. ANAL.:	10/24/97	10/24/97
TYPE DESCRIPTION:	MW-4	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	2.03	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	2	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

One was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By:

John Larch

Date:

11/7/97

971149BTEXMW,11/4/97

Well Number MW-1
Meter Code 70286

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 58.34
Initial Depth to Water (feet) 47.55
Height of Water Column in Well (feet) 10.79

Diameter (inches): Well **4** Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.1	21.4
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other _____

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

THE WELL BANGED OVER 7.0 GALLONS.

Developer's Signature Lennie Bial

Date 10-23-97 Reviewer _____

John Fowler

Date 11/10/97

Well Development and Purging Data

ite Name SHEETS WELL #2

Well Number 11W-2
Meter Code 70286

Development	☐
Purging	☒

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) 57.42
Initial Depth to Water (feet) 45.18
Height of Water Column in Well (feet) 12.32

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.1	22.44
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other 12.0.0

Water Disposal
KUTO SEPARATOR

Water Removal Data

[illegible]

THE WELL BAKED ONLY 0 15.0 GALLONS.

Developer's Signature Denise Bird

Date 10-23-97 Reviewer John Larkin

Date 11/10/97

Well Development and Purging Data

Well Number 114-3
Meter Code 70286

☐ Development
☒ Purging

Site Name SHEETS WELL #2

Development Criteria

- ☒ 3 to 5 Casing Volumes of Water Removal
☐ Stabilization of Indicator Parameters
☐ Other _____

Methods of Development

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

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 571.3
Initial Depth to Water (feet) 461.0
Height of Water Column in Well (feet) 11.02

Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>7.3</u>	<u>21.9</u>
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☒ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.R. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		pH	Conductivity $\mu\text{mho/cm}$	Dissolved Oxygen mg/L	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative				
11-23-97	1248											<u>1854</u>		
11-23-97	1256						<u>5.0</u>	<u>5.0</u>			<u>7.23</u>	<u>1859</u>		
11-23-97	1306						<u>5.0</u>	<u>10.0</u>			<u>7.16</u>	<u>1861</u>		
11-23-97	1316						<u>5.0</u>	<u>15.0</u>			<u>7.20</u>	<u>1856</u>		
11-23-97	1326						<u>5.0</u>	<u>20.0</u>			<u>7.17</u>	<u>1878</u>		
11-23-97	1338						<u>5.0</u>	<u>25.0</u>			<u>7.17</u>	<u>1880</u>	<u>1.0</u>	

Comments _____

Developer's Signature Kenzie Bird

Date 10-23-97

Reviewer _____

John Fisher

Date 11/10/97

☐	Development
☒	Purging

Well Number MY-4

Meter Code 70286

Site Name SHEETS WEL #2

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

Water Volume Calculation

Initial Depth of Well (feet) 58.94

Initial Depth to Water (feet) 47.90

ethods of Development

☐ Pump
☒ Centrifugal
☐ Bailer
☒ Bottom Valve

☐	Submersible	☐	Double Check Valve
--------------------------	-------------	--------------------------	--------------------

Peristaltic	Stainless-steel Kemmerer
☐	☐

Other ☐

Instruments

☒ pH Meter

DO Monitor

☒ Conductivity Meter☒ Temperature Meter☒ Other D.O.C.

Water Disposal

KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.3	21.9
Gravel Pack			
Drilling Fluids			
Total			

Later Removal Data

[illegible]

Comments

Developer's Signature Dennis Bied

Date 10-23-97

Reviewer_

John F. Kennedy

Date_

11/10/97

WELL POINTS

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

(505) 326-2262 FAX (505) 326-2388

Borehole #

Well # PZ- 1

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Sheets #2 70286

Elevation

Well Location Ltr H -S28-T31-R9

GWL Depth ~45.80' BGS

Installed By M. Deschne

On-Site Geologist C CHANCE

Personnel On-Site C Gomez

Contractors On-Site

Client Personnel On-Site

Date/Time Started 9/25/97

Date/Time Complete 9/25/97

COMMENTS

- PZ1 is 27' $\downarrow$ 85° from MW1
- Will install PVC temp. piezo $\downarrow$ collect GW sample
- Collect soil sample 38-40' BGS
- Gray silty CLAY, soft, dry high plastic. PID = 1124ppm
- Collect GW sample (6MX 352)
- $\downarrow$ send to lab
- Pull piezo $\downarrow$ grout BH

Top of Protective Casing NA

Top of Riser (survey elev.) NA

Ground Surface NA

Top of Seal NA

Top of Gravel Pack NA

Top of Screen 37'

Bottom of Screen 47'

Bottom of Borehole 47.5'

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # _____

Well # PZ- 2

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Sheets #2 70286

Elevation _____

Well Location Ltr H -S28-T31-R9

GWL Depth ~45.69' BGS

Installed By M. Donohue

On-Site Geologist C CHANCE

Personnel On-Site C Gomez

Contractors On-Site _____

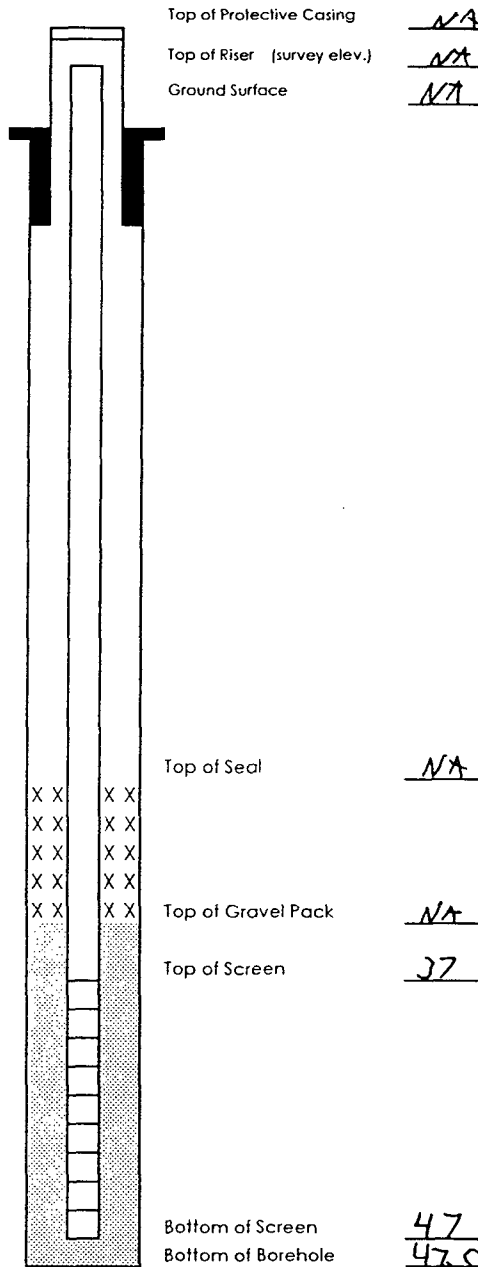
Client Personnel On-Site _____

Date/Time Started 9/25/97

Date/Time Complete 9/25/97

COMMENTS

- PZ2 is 85° ± 76' from MW1
- Collect soil sample 38-40'
- BGS : DK Br silty CLAY,
- med stiff, high plastic, dry
- PID = 2ppm
- Collect GL sample from
- temporary piezo (CMC352)
- ↓ send to lab
- Pull piezo & install BH





Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

Well pts

PROJECT NAME # 24324 Pit Closure Project				CONTRACT LABORATORY P. O. NUMBER			
DATE: 9/25/97							
LAB ID				SEQUENCE #			
DATE	TIME	MATRIX	FIELD ID	EPA 418.1	EPA 8020	LAB PID	REMARKS
971055	9/25/97	-	Trip Blank	✓			Trip Blank
971056	1015	11	CMC352	✓			Sheets #2 70286 PZ1
971057	1155	11	CMC353	✓			11 PZ2
971058	1600	11	CMC354	✓			GCUA142E 03906 PZ1
Cont 9/25/97							
37°F							
RECEIVED BY: (Signature) <i>Long Chance</i>				RECEIVED BY: (Signature)			
DATE/TIME 9/25/97 1700				DATE/TIME 9/26/97 0920			
RECEIVED BY: (Signature) <i>Long Chance</i>				RECEIVED BY: (Signature) <i>Carin Nobles</i>			
DATE/TIME				DATE/TIME			
RECEIVED BY: (Signature)				RECEIVED BY: (Signature)			
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH				RESULTS & INVOICES TO:			
CARRIER CO.				FIELD SERVICES LABORATORY			
				EL PASO NATURAL GAS COMPANY			
				P. O. BOX 4990			
				FARMINGTON, NEW MEXICO 87499			
BILL NO.:				505-599-2144			
				FAX: 505-599-2261			



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	Trip Blank	971055
MTR CODE SITE NAME:	70286	Sheets #2
SAMPLE DATE TIME (Hrs):	9/25/97	1015
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/1/97	10/1/97
TYPE DESCRIPTION:	Trip Blank	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.40	PPB		TB		
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	2	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

TB = Analyte concentrations shown was found in the trip blank.

Narrative:

Approved By:

John F. Smith

Date:

10-3-97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC352	971056
MTR CODE SITE NAME:	70286	Sheets #2
SAMPLE DATE TIME (Hrs):	9/25/97	1015
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/1/97	10/1/97
TYPE DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	78.8	PPB	2	D		
TOLUENE	< 1	PPB	2	D		
ETHYL BENZENE	67.4	PPB	2	D		
TOTAL XYLENES	425	PPB	2	D		
TOTAL BTEX	571	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By: John Larchi

Date: 10-3-97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC353	971057
MTR CODE SITE NAME:	70286	Sheets #2
SAMPLE DATE TIME (Hrs):	9/25/97	1155
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/1/97	10/1/97
TYPE DESCRIPTION:	PZ-2	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: _____

10-3-97

971057BTEXWP,10/2/97