

3R - 166

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 Groundwater Report
Annual Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP
ENVIRONMENTAL

EPFS GROUNDWATER PITS

1997 ANNUAL GROUNDWATER REPORT

D LOOP LINE DRIP

Meter/Line ID - LD169

SITE DETAILS

Legals - Twn: 28N Rng: 8W Sec: 33 Unit: 1
NMOCD Hazard Ranking: 30 Land Type: FEDERAL
Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jan-95 Excavation: Feb-95 (80 cy) Soil Boring: Nov-95
Monitor Well: Nov-95 Geoprobe: Dec-96

1997 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 11/6/96 and has continued into 1997. Groundwater analytical data are presented in Table 1.

Well Point Installation - Groundwater samples were collected from temporary monitoring wells. In addition, groundwater gradient was determined using the temporary monitoring wells.

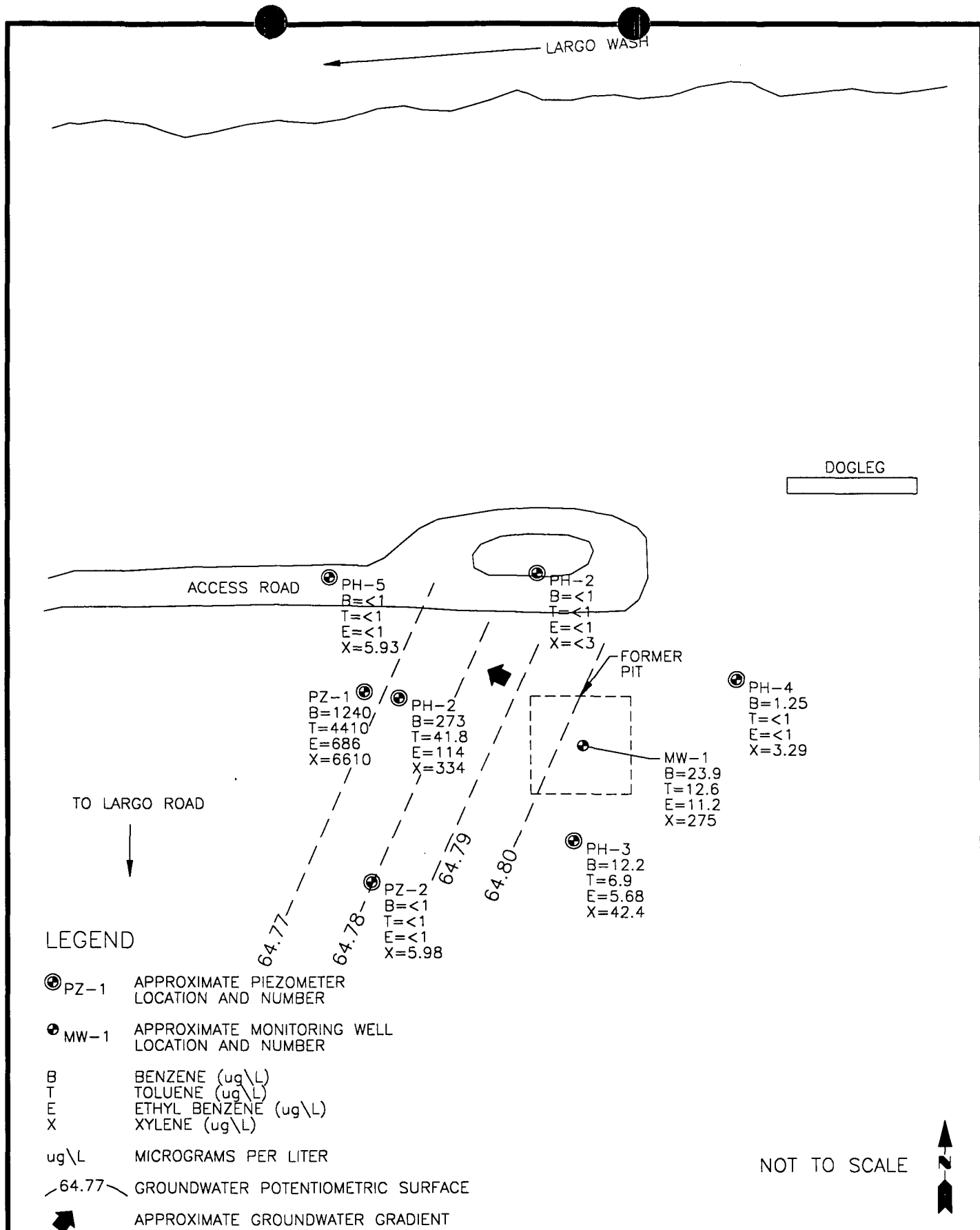
CONCLUSIONS

Based on groundwater levels collected from Well Point data, the groundwater flow trends to the northwest on this site, as presented in Figure 1. This site is approximately 200 yards from Largo Wash in a remote location.

Groundwater samples collected from MW-1 have been above standards for benzene only, since quarterly sampling was initiated. Groundwater samples were collected from temporary monitoring wells and a Geoprobe up and down-gradient of MW-1. With the exception of the down-gradient sample, only one sample was above standards. One groundwater sample collected from PH-3, which is cross-gradient of MW-1, was in excess of standards for benzene only, at 12.2 ppb. One downgradient groundwater sample was in excess of standards for benzene, toluene, and total xylenes.

RECOMMENDATIONS

- Collect groundwater sample further downgradient of MW-1. If no further migration has occurred, site may be candidate for risk based closure.
- Quarterly sampling will continue at MW-1 until 4 consecutive clean quarters are achieved.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



COL. 17520BC-001



TITLE:

D LOOP LINE DRIP
LD169

DWN:
TMM

DES.:
CC

PROJECT NO.:

17520

CHKD:
CC

APPD:

EPFS GW PITS

DATE:
1/20/98

REV.:
0

FIGURE 1

EPFS 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
960922	LD169	D Loop Line Drip	11/06/96	1	Sample 4 - 1st Quarter	= 44.5	= 49.5	= 45.5	= 114	= 254
970072	LD169	D Loop Line Drip	2/7/97	1	Sample 4 - 2nd Qtr	= 12.7	< 1	= 12.5	= 54	= 80
970393	LD169	D Loop Line Drip	5/6/97	1	Sample 4 - 3rd Qtr	= 15.5	= 5.59	= 10.5	= 53.6	= 85
970833	LD169	D Loop Line Drip	8/8/87	1	Sample 4 - 4th Qtr	= 14.9	= 7.92	= 5.74	= 129	= 158
971191	LD169	D Loop Line Drip	11/6/97	1	Sample 4 - 5th Qtr	= 23.9	= 12.6	= 11.2	= 275	= 323

07-32

Ballard

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

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 6000 77

Project Location D Loop Drip

Well Logged By

CM Chance

Personnel On-Site

K Padilla, D. Charlie

Contractors On-Site

Client Personnel On-Site

Elevation

Borehole Location QI-S33-T28-R8

GWL Depth 34.4 BGS

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 11/6/95-1221

Date/Time Completed 11/6/95-1440

11/7/95-0915

Drilling Method 4 1/4" ID HSA / 8 1/4" I.D. HSA

Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	HS	
0				Backfill to 121						
5										
10										
15	1	13-17	12	Gry clayey SAND, vF sand, loose, dry, odor			0	0	487 868	1220 h
20	2	20-22	8	DK gry/blk SAND, vF-F sand, loose, sl moist, odor			0	280	780 820	1236
25	3	25-27	14	AA			0	360	946 1036	1243
30	4	30-32	12	DK gry SAND, vF sand, loose, dry, odor grading to DK gry SILT, 0			4	280	690 1051	1249
35	5	35-37	3	DK Gry SAND, vF-F sand loose, wet, odor			8	178	765 NA	34.4'
40										

Comments:

GW @ 34.4' BGS. No sample due to very high PIA, & discolored soil. Will set well @ 44.4'. At 35', pull 4 1/4 augers & go back in w/ 8 1/4 auger.

Geologist Signature

Cory Chaney

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

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 6000 77
Project Location D Loop Drive

Elevation _____
Borehole Location QT - S33 - T28 - R8
GWL Depth 34.4' BGS
Logged By CM CHANCE
Drilled By K Padilla
Date/Time Started 11/6/95 - 1221
Date/Time Completed 11/6/95 - 1410 CMT
11/7/95 - 0915

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

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring			Drilling Conditions & Blow Counts
							Units: PPM	S	HS	
40							BZ	BH	HS	
45										
50										
55										
60										
65										
70										
75										
80										

Comments:

Geologist Signature

CM Chance

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH-1Well # MW-1Page 1 of 1Project Name EPNG PITSProject Number 14509 Phase 6001.77Project Location D Loop Line DripOn-Site Geologist CM ChancePersonnel On-Site O. Charlie

Contractors On-Site

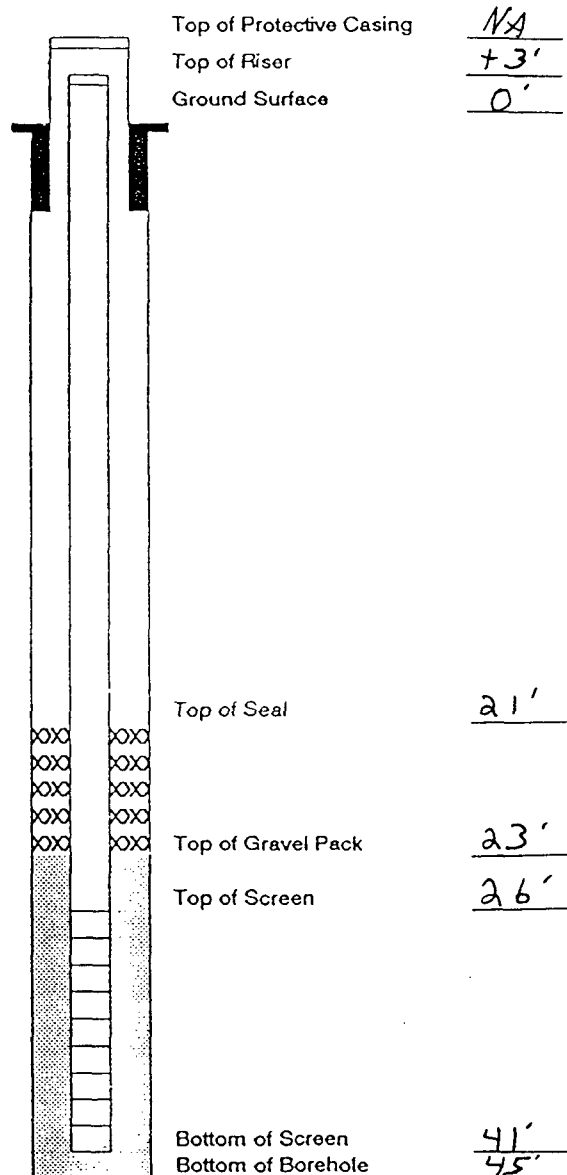
Client Personnel On-Site

Elevation

Well Location QI-S33-T28-R8GWL Depth 33.9' BGSInstalled By K. PadillaDate/Time Started 11/6/95 - 11:20 11/7/95 - 0915Date/Time Completed 11/6/95 11/7/95 - 1130

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		NA
Bottom of Protective Casing		NA
Top of Permanent Borehole Casing		NA
Bottom of Permanent Borehole Casing		NA
Top of Concrete		NA
Bottom of Concrete		NA
Top of Grout	- 94# Type I-II	0'
Bottom of Grout	- 50# Portland Powdered Bentonite	21'
Top of Well Riser	1/4" dia SCH40	+3'
Bottom of Well Riser	Flush Thread PVC	26'
Top of Well Screen	1/4" dia SCH40 Flush Thread	26'
Bottom of Well Screen	0.01 Slot PVC	41'
Top of Peltonite Seal	- 50# Enviro Plug	21'
Bottom of Peltonite Seal	Bentonite	23'
Top of Gravel Pack	- 50# 10-20	23'
Bottom of Gravel Pack	Silica Sand	41'
Top of Natural Cave-In		41'
Bottom of Natural Cave-In		45'
Top of Groundwater		33.9
Total Depth of Borehole		45'



Comments: BH had 4' of slough. Well set @ 41' BGS. Bentonite hydrated w/ 10 gal
potable water. Locking well cap & padlock placed on well. GW @ 33.9' BGS after well
install.

Geologist Signature

GEOPROBE

SITE ACTIVITIES

21-Feb-97

Meter/Line #: LD169

Location/Line #: D Loop Line Drip

MW#:

Depth to GW:

Depth to Product:

Product Thickness:

Date: 12/9/96

Activity: Geoprobe

Comments: Collect GW samples from 5 probe holes. MW1 in center of pit. Could not install piezos due to depth of GW and geology.



CHAIN OF CUSTODY RECORD

Page -

[illegible]

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



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC280	948043
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	12/10/96	920
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	12/11/96	12/11/96
TYPE DESCRIPTION:	PH4	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	O		
BENZENE	1.25	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	3.29	PPB				
TOTAL BTEX	4.54	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 90.7 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: _____

12/16/96



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC281	948044
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	12/10/96	1005
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	12/11/96	12/11/96
TYPE DESCRIPTION:	PH5	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	5.93	PPB				
TOTAL BTEX	5.93	PPB				

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at
DF = Dilution Factor Used

94.2

% for this sample All QA/QC was acceptable.

Narrative: _____

Approved By: _____

A handwritten signature in dark ink, appearing to read 'John Tardella', written over a horizontal line.

Date: _____

12/13/96



CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project		DATE 12/9/96		REQUESTED ANALYSIS				REMARKS	
LAB #		DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #
RELINQUISHED BY: (Signature) <i>Cory Chavez</i> RECEIVED BY: (Signature) <i>Vicky Stoval</i> DATE/TIME 12/9/96 1700 DATE/TIME 12/10/96 10:45 RELINQUISHED BY: (Signature) RECEIVED BY: (Signature)											
948040	12/9/96	1050	WATER	TRIP BLANK	1	Grb		X			TRIP BLANK
948041	12/9/96	1210	↓	CMC277	2	Grb		X			PH1 D Loop Line Drip L0169
948042	12/9/96	1424	↓	CMC278	2	↓		X			PH2 (Product Odor)
				CMC279	2	↓		X			PH3
<i>Cut 12/9/96</i>											
RELINQUISHED BY: (Signature) <i>Cory Chavez</i> RECEIVED BY: (Signature) <i>Vicky Stoval</i> DATE/TIME 12/9/96 1700 DATE/TIME 12/10/96 10:45 RELINQUISHED 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					

**EL PASO
FIELD SERVICES****FIELD SERVICES LABORATORY****ANALYTICAL REPORT****PIT CLOSURE PROJECT****SAMPLE IDENTIFICATION**

	Field ID	Lab ID
SAMPLE NUMBER:	CMC277	948040
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	12/9/96	1050
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	12/11/96	12/11/96
TYPE DESCRIPTION:	PH1	Water

Field Remarks: _____

RESULTS

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

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at 97.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: _____

12/13/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC278	948041
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	12/9/96	1210
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	12/11/96	12/13/96
TYPE DESCRIPTION:	PH2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	273	PPB	2	D		
TOLUENE	41.8	PPB	2	D		
ETHYL BENZENE	114	PPB	2	D		
TOTAL XYLENES	334	PPB	2	D		
TOTAL BTEX	763	PPB				

—BTEX is by EPA Method 8020—

The Surrogate Recovery was at 98.0 % 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: 12/13/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC279	948042
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	12/9/96	1424
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	12/11/96	12/11/96
TYPE DESCRIPTION:	PH3	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	12.2	PPB				
TOLUENE	6.90	PPB				
ETHYL BENZENE	5.68	PPB				
TOTAL XYLENES	42.4	PPB				
TOTAL BTEX	67.2	PPB				

-BTEX Is by EPA Method 8020 -

The Surrogate Recovery was at
DF = Dilution Factor Used

96.2

% for this sample All QA/QC was acceptable.

Narrative: _____

Approved By: _____

Date: _____

12/13/96

WELLPOINTS

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NAME # 24324 Pit Closure Project		DATE: 8/4/97		FIELD ID		TOTAL NUMBERS OF CONTAINERS		SAMPLE TYPE		REQUESTED ANALYSIS				CONTRACT LABORATORY P. O. NUMBER	
LAB ID	DATE	TIME	MATRIX	TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #	REMARKS							
970806	8/4/97	1410	Water	CMC 325	2	V6									
970807	↓	-	↓	Trip Blank	1	TB									
				CMC 326	2	V6									
Cmc 8/4/97															
Note: PZ1 had hydrocarbon odor ↓ Water reacted w/ HCL 35°															
RELINQUISHED BY: (Signature) <i>Corey Chase</i>		DATE/TIME 8/4/97 1700		RECEIVED BY: (Signature) <i>Corey Chase</i>		DATE/TIME 8/5/97 1015		RELINQUISHED BY: (Signature) <i>Corey Chase</i>		DATE/TIME 8/5/97 1015		RECEIVED BY: (Signature) <i>Mark Gruninger</i>			
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH		CARRIER CO.		SAMPLE RECEIPT REMARKS		CHARGE CODE		RESULTS & INVOICES TO:							

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

505-599-2144

FAX: 505-599-2261



8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC325	970806
MTR CODE SITE NAME:	LD169	D Loop Drip
SAMPLE DATE TIME (Hrs):	8/4/97	1410
PROJECT:	WellPoints	
DATE OF BTEX EXT. ANAL.:	8/6/97	8/6/97
TYPE DESCRIPTION:	PZ-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1240	PPB	50	D		
TOLUENE	4410	PPB	50	D		
ETHYL BENZENE	686	PPB	50	D		
TOTAL XYLENES	6610	PPB	50	D		
TOTAL BTEX	13000	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.6 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 Ladd

Date: 8/7/97



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970807
MTR CODE SITE NAME:	LD169	D Loop Drip
SAMPLE DATE TIME (Hrs):	8/4/97	1410
PROJECT:	WellPoints	
DATE OF BTEX EXT. ANAL.:	8/5/97	8/5/97
TYPE DESCRIPTION:	<i>Top</i> Blank	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.7 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: *John Lardi*

Date: 8/7/97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 970790, 970794-970798, 970804-970807

QA/QC for 8/05/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	47.9	95.8	75 - 125 %	X
Toluene	Standard	50.0	48.1	96.2	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.5	97.0	75 - 125 %	X
m & p - Xylene	Standard	100	96.0	96.0	75 - 125 %	X
o - Xylene	Standard	50.0	48.9	97.8	75 - 125 %	X
SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	25.0	24.1	96.4	39 - 150	X
Toluene	Standard	25.0	24.5	98.0	46 - 148	X
Ethylbenzene	Standard	25.0	24.7	98.8	32 - 160	X
m & p - Xylene	Standard	50.0	48.9	97.8	Not Given	X
o - Xylene	Standard	25.0	25.0	100	Not Given	X
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	47.6	95.2	75 - 125 %	X
Toluene	Standard	50.0	47.4	94.8	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.4	94.8	75 - 125 %	X
m & p - Xylene	Standard	100	93.1	93.1	75 - 125 %	X
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	47.9	95.8	75 - 125 %	X
Toluene	Standard	50.0	47.6	95.2	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.3	94.6	75 - 125 %	X
m & p - Xylene	Standard	100	92.8	92.8	75 - 125 %	X
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X

Narrative: Acceptable.

**EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX**

Samples: 970790, 970794-970798, 970804-970807

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
970804					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 970804					RANGE	
Benzene	50	<1	49.1	98.2	75 - 125 %	X
Toluene	50	<1	47.6	95.2	75 - 125 %	X
Ethylbenzene	50	<1	47.8	95.6	75 - 125 %	X
m & p - Xylene	100	<2	94.1	94.1	75 - 125 %	X
o - Xylene	50	<1	48.3	96.6	75 - 125 %	X

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE	PPB	STATUS
	Lot MB1461	(None analyzed with this set)	
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB	STATUS
		(Four analyzed with this set)	
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: mda

Approved By: [Signature]

Date: 8/8/97
QW0805.XLS



Well Points

CHAIN OF CUSTODY RECORD

PROJECT NAME # 24324		PROJECT NAME Pit Closure Project		DATE: 8/6/97		FIELD ID		TOTAL NUMBERS OF CONTAINERS		SAMPLE TYPE		REQUESTED ANALYSIS				CONTRACT LABORATORY P. O. NUMBER	
LAB ID	DATE	TIME	MATRIX									TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #	REMARKS	
970818	8/6/97	1000	Water	CMC 326	2	V6						✓	✓			D Loop Drip LP 169 P22	
970819				Trip Blank	1	TB						✓	✓			Trip Blank	
970820	1310			CMC 327	2	V6						✓	✓			Canada Mesa #287640 PZ1	
970821	1430			CMC 327	2	V6						✓	✓			11 P22	
* SAMPLE BOTTLE TAKEN @ 1430 LISTED AS CMC 328 - order 1050																	
Can 8/6/97																	
35°																	
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)					
Cory Chave		8/6/97 1700				8/7/97 1037		Cory Williams		8/7/97 1037		8/7/97 1037		Marta Jimenez			
RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)					
Cory Chave		8/6/97 1700				8/7/97 1037		Cory Williams		8/7/97 1037		8/7/97 1037		Marta Jimenez			
REQUESTED TURNAROUND TIME:				SAMPLE RECEIPT REMARKS				RESULTS & INVOICES TO:				FIELD SERVICES LABORATORY					
☐ ROUTINE ☐ RUSH												EL PASO NATURAL GAS COMPANY					
CARRIER CO.												P. O. BOX 4990					
												FARMINGTON, NEW MEXICO 87499					
BILL NO.:				CHARGE CODE				505-599-2144				FAX: 505-599-2261					



FIELD SERVICES LABORATORY

ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC326	970818
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	8/6/97	1000
PROJECT:	WellPoints	
DATE OF BTEX EXT. ANAL.:	8/11/97	8/11/97
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	5.98	PPB				
TOTAL BTEX	5.98	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.6 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Fawcett

Date:

8/13/97

970818,8/13/97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	NA	970819
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	8/6/97	1000
PROJECT:	WellPoints	
DATE OF BTEX EXT. ANAL.:	8/11/97	8/11/97
TYPE DESCRIPTION:	Trip Blank	Water

Field Remarks:

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at
DF = Dilution Factor Used

98.8

% for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John Swisher

Date:

8/13/97

970819,8/13/97

**1997 GROUNDWATER
ANALYTICAL**



A 2672

CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960922
MTR CODE SITE NAME:	LD169	D Loop Line Drip MW-1
SAMPLE DATE TIME (Hrs):	11/6/96	1052
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	11/6/96	11/6/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	44.5	PPB	10	D		
TOLUENE	49.5	PPB	10	D		
ETHYL BENZENE	45.5	PPB	10	D		
TOTAL XYLENES	114	PPB	10	D		
TOTAL BTEX	254	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 107 % 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: 11/12/96



EL PASO FIELD SERVICES



Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	960922
DATE SAMPLED:	11/06/96
TIME SAMPLED (Hrs):	1052
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	LD169
SAMPLE SITE NAME:	Huerfano Pipeline
SAMPLE POINT:	D Loop Line Drip MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.5	Units	11/06/96
Alkalinity as CO ₃	0.0	PPM	11/06/96
Alkalinity as HCO ₃	540	PPM	11/06/96
Calcium as Ca	95	PPM	11/07/96
Magnesium as Mg	18	PPM	11/07/96
Total Hardness as CaCO ₃	314	PPM	11/07/96
Chloride as Cl	14	PPM	11/06/96
Sulfate as SO ₄	1,050	PPM	11/06/96
Fluoride as F	1.7	PPM	11/07/96
Nitrate as NO ₃ -N	<0.6	PPM	11/06/96
Nitrite as NO ₂ -N	<0.6	PPM	11/06/96
Ammonium as NH ₄ ⁺	<0.1	PPM	11/07/96
Phosphate as PO ₄	<0.6	PPM	11/06/96
Potassium as K	1.7	PPM	11/07/96
Sodium as Na	540	PPM	11/07/96
Total Dissolved Solids	2,030	PPM	11/06/96
Conductivity	2,630	umhos/cm	11/06/96
Anion/Cation %	2.3%	%, <5.0 Accepted	11/18/96

Lab Remarks:

Reported By:

Inde

Approved By:

John L. Loebe

Date:

11/20/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960922
SAMPLE DATE:	11/06/96
SAMPLE TIME (Hrs):	1052
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	LD169
SAMPLE SITE NAME:	Huerfano Pipeline
SAMPLE POINT:	D Loop Line Drip MW-1

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.08	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.004	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	<.003	0.050
SILVER	<.0005	0.050

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

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By:

Sndr

Approved By:

John L. Linder

Date:

12/18/96

QUALITY CONTROL REPORT

Sample ID: 960922
Date Sampled: 11/06/96

Date Reported: 12/16/96

STANDARD REFERENCE MATERIAL

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

DUPLICATE ANALYSIS (mg/L)

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

SPIKE ANALYSIS (µg/L)

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

METHOD BLANK

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

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: _____

Date: _____



Well Development and Purging Data

Well Number MR-1
Meter Code LD169

☐	Development
☒	Purging

Site Name D Loop Line DRIP

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 44.77
Initial Depth to Water (feet) 32.36
Height of Water Column in Well (feet) 12.41

Instruments

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

Water Disposal

KUTZ SEPARATOR

Methods of Development

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

☐ Other

Water Removal Data

[illegible]

Comments
ZIG HT HYDROCARBON SMELL.

Developer's Signature Dennis Bied

Date 11-6-96

Reviewer_

John T. L. L.

Date 11/12/96



Natural Gas Company

A 2217

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Requested Analysis		Remarks			
Samplers: (Signature)		Date: 2-7-97		Preservation Technique					
Date	Time	Comp.	GRAB	Type and No. of Sample Containers	Relinquished by: (Signature)	Date/Time	Received by: (Signature)		
WATER	2-7-97 10:37		X	62	40C X				
WATER	2-7-97		X		X				
DIAGONAL LINE								DLOOP LINE DRIP MW-1 MC L0169	
								TRIP BLANK	
Relinquished by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
2-7-97 1712									
Relinquished by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
Relinquished by: (Signature)		Date/Time		Remarks:					
				2 / 10/97 1010					
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)					
Air Bill No.:									



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID N/A	Lab ID 970072
MTR CODE SITE NAME:	LD169	D Loop Line Drip MW-1
SAMPLE DATE TIME (Hrs):	2/7/97	1037
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	2/12/97	2/12/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	12.7	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	12.5	PPB				
TOTAL XYLENES	54.0	PPB				
TOTAL BTEX	79.2	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 94.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John Smith

Date: 2-19-97



Well Development and Purging Data

Well Number MW-1
Meter Code 60169

Site Name Loop Line Drip

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) 44.77
Initial Depth to Water (feet) 36.87
Height of Water Column in Well (feet) 7.9

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.2	15.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ 550

Water Removal Data

[illegible]

Comments

Developer's Signature:

Date 2.7.97

Reviewer_

John Fitch

Date:

219-67



CHAIN OF CUSTODY RECORD

San Juan repro Form 71-55 A



5-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970393
MTR CODE SITE NAME:	LD169	D Loop Line Drip MW-1
SAMPLE DATE TIME (Hrs):	5/6/97	1118
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. ANAL:	5/13/97	5/13/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	15.5	PPM				
TOLUENE	5.59	PPM				
ETHYL BENZENE	10.5	PPM				
TOTAL XYLENES	53.6	PPM				
TOTAL BTEX	85.2	PPM				

The Surrogate Recovery was at 95.6 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: _____

5/16/97

970393,5/15/97



Well Number MW-1
Meter Code LD169

Site Name Loop LINE DRIP

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 44.77
Initial Depth to Water (feet) 36.68
Height of Water Column in Well (feet) 8.09

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.3	16.0
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 THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis B. Bick Date 5-6-97 Reviewer James T. Lick Date 5/14/97



A 2049

Project No.	Project Name			Requested Analysis		Remarks
Samplers: (Signature)	Date	Time	Type and No. of Sample Containers	Preservation Technique		
5597	5-3-97	1219	5-1	49C X	DOORPLATE DRAP. NW-1 MC-20169	
Relinquished by: (Signature) Relinquished by: (Signature) Relinquished by: (Signature) Received by: (Signature) Received by: (Signature) Received by: (Signature)						
Carrier Co.: _____ Date Results Reported / by: (Signature) _____						



✓✓

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970833
MTR CODE SITE NAME:	LD169	D Loop Line Drip MW-1
SAMPLE DATE TIME (Hrs):	8/8/97	1219
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. ANAL.:	8/11/97	8/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	14.9	PPB				
TOLUENE	7.92	PPB				
ETHYL BENZENE	5.74	PPB				
TOTAL XYLENES	129	PPB				
TOTAL BTEX	158	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 97.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John F. [Signature]

Date: 8/25/97

970833BTEX, 8/22/97



Well Number MW-1
Meter Code L0169

Environment	Development	Purging
Development	☐	☒
Production	☒	☐

Site Name Deep LINT DRIP

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 |

Water Volume Calculation

Initial Depth of Well (feet) 44.71
Initial Depth to Water (feet) 32.35
Height of Water Column in Well (feet) 7.20

Diameter (inches): Well Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.9	14.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- | | |
|-------------------------------------|--------------------|
| ☒ | PH Meter |
| ☐ | DO Monitor |
| ☒ | Conductivity Meter |
| ☒ | Temperature Meter |
| ☒ | Other <u>D.O.C</u> |

Temperature Meter
Other D.O. CHEMISTS KIT

Water Disposal

KUTZ SEP 19 1962

Water Removal Data

[illegible]

Comments THE WATER WAS A LIGHT HYDROGEN SULFIDE SMOEL.

Developer's Signature *Dennis Bird* Date *8/25/97*
Reviewer *DR97* Date *8/25/97*



A 2131

CHAIN OF CUSTODY RECORD

Project No.	Project Name		MC# LD169		Date: 11-6-97		Type and No. of Sample Containers		Preservation Technique		Requested Analysis		Remarks	
Samplers: (Signature)			Dennis Bird			Date: 11-6-97			Type and No. of Sample Containers			Remarks		
Date	Time	Comp.	GRAB	Sample Number		Type and No. of Sample Containers		Preservation Technique		Requested Analysis		Remarks		
WATER	11-6-97	1202	X	971191		G-1	40C	X	D Loop LINE DRIP MW-1					
WATER	11-6-97	1202	X	971192		G-1	40C	X	D Loop LINE DRIP MW-1 (FD)					
Relinquished by: (Signature)			Dennis Bird			Date/Time			11-6-97 1715			Received by: (Signature)		
Relinquished by: (Signature)						Date/Time						Received by: (Signature)		
Relinquished by: (Signature)						Date/Time						Received by: (Signature)		
Carrier Co.			Morton Hopper			Carrier Phone No.			11/17/97 0715			Date Results Reported / by: (Signature)		



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971191
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	11/6/97	1202
PROJECT:	Sample 4 5th Quarter	
DATE OF BTEX EXT. ANAL.:	11/7/97	11/7/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	23.9	PPB				
TOLUENE	12.6	PPB				
ETHYL BENZENE	11.2	PPB				
TOTAL XYLENES	275	PPB				
TOTAL BTEX	323	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

Narrative: _____

Approved By: _____

John L. Linder

Date: _____

11/12/97

971191BTEXMW,11/10/97



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971192
MTR CODE SITE NAME:	LD169	D Loop Line Drip
SAMPLE DATE TIME (Hrs):	11/6/97	1202
PROJECT:	Sample 4 5th Quarter	
DATE OF BTEX EXT. ANAL.:	11/7/97	11/7/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

Field Duplicate

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	22.3	PPB				
TOLUENE	11.4	PPB				
ETHYL BENZENE	10.6	PPB				
TOTAL XYLENES	257	PPB				
TOTAL BTEX	302	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Larch

Date:

11/12/97

971192BTEXMW,11/10/97

Well Development and Purging Data

Site Name Loop Line Drip

☐	Development
☒	Purging

Well Number MW-1
Meter Code LD169

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 | |

□

Water Volume Calculation

Initial Depth of Well (feet) 43.48
Initial Depth to Water (feet) 35.80
Height of Water Column in Well (feet) 7.68

4 Diameter (inches): Well Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.1	15.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOTZ SEPARATION

Water Removal Data

[illegible]

Comments

THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bied

Date 11-6-97

Reviewer

John F. Latta

Date 11/12/97