3R - 191

REPORTS

DATE:

2/27/1998

EL PASO ENERGY

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

February 27, 1998

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for 57 groundwater impacted locations that were identified during our pit closure project of 1994/1995.

Of the 57 reports, EPFS hereby requests your approval for closure of 11 of these locations. The 11 reports for which EPFS requests closure, are in 2 separate binders entitled "Request for Closure".

After you have had an opportunity to review these updates, EPFS would like to schedule a meeting with you to discuss issues related to closure criteria for some of the more complex locations that are currently being addressed.

If you have any questions regarding this information, please call me at 505/599-2141. I will contact you within the next quarter to schedule a meeting.

Sincerely,

Sandra D. Miller
Environmental Manager

xc: Mr. Bill Liesse, BLM w/o enclosures
Mr. Denny Foust, NMOCD - Aztec w/enclosures; **Certified Mail #Z 295 387 298; #Z 295 387 299**
Ms. Charmaine Tso, Navajo EPA w/enclosures; **Certified Mail #Z 295 387 292**

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

HARRINGTON #1
Meter/Line ID - 70079

SITE DETAILS

Legals - Twn: 27N **Rng:** 7W **Sec:** 31 **Unit:** M
NMOCD Hazard Ranking: 30 **Land Type:** FEDERAL
Operator: BURLINGTON RESOURCES

PREVIOUS ACTIVITIES

Site Assessment: Jun-94 **Excavation:** Aug-94 (50cy) **Re-Excavation:** Aug-95 (624 cy)
Soil Boring: Mar-97 **Monitor Well:** Mar-97

1997 ACTIVITIES

Monitor Well Installation - One groundwater monitor well was installed in the center of the former pit.

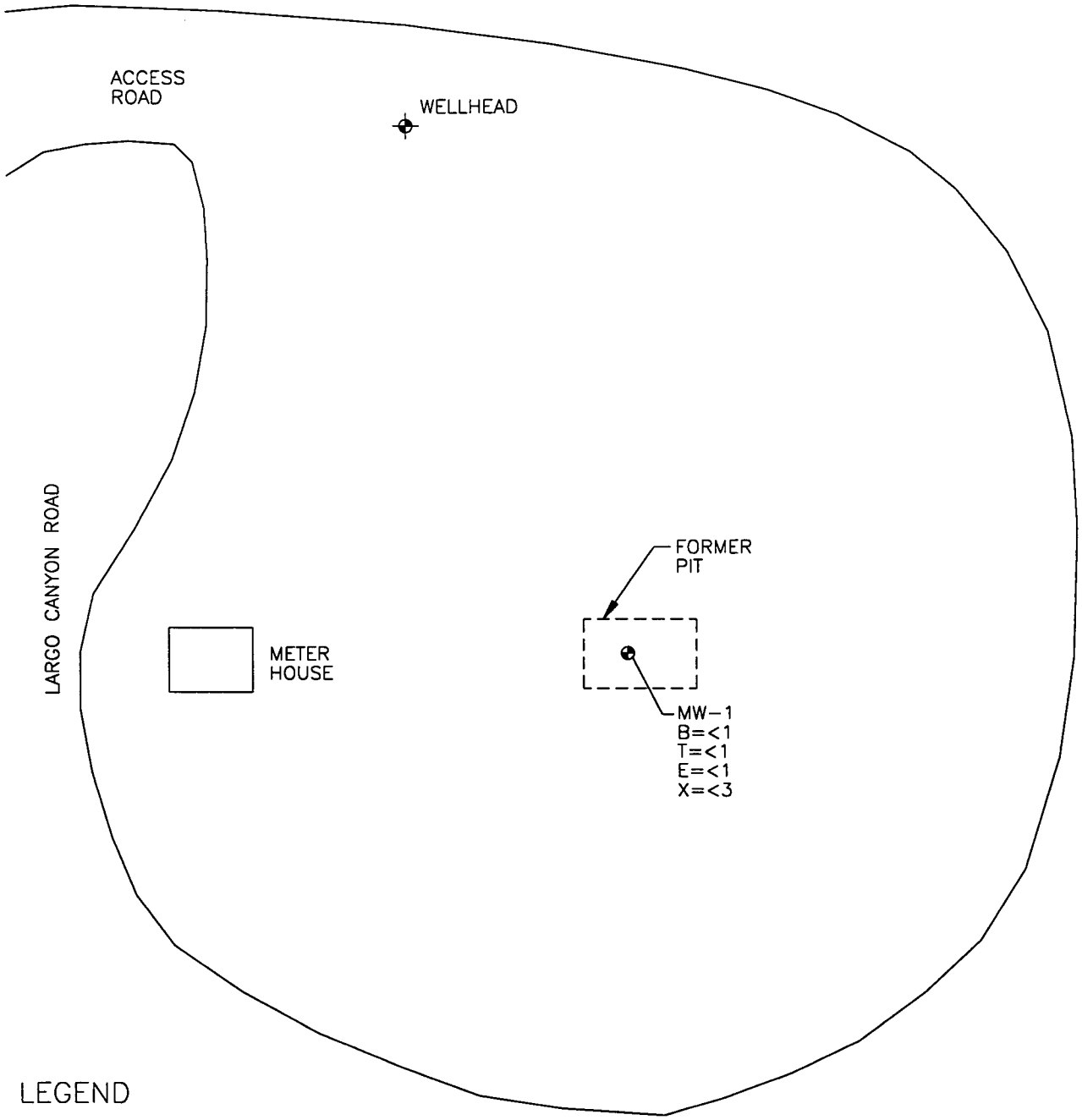
Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 6/9/97. Groundwater analytical data are presented in Table 1. A site map is presented in Figure 1.

CONCLUSIONS

Groundwater analytical data has been below standards since quarterly sampling was initiated at MW-1. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

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



LEGEND

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

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:
HARRINGTON #1
70079

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD: CC	APPD:	
DATE: 1/9/97	REV.: 0	FIGURE 1

COL. 17520BH-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970240	70079	Harrington #1	4/2/97	1	Phase II Drilling - Initial	< 1	< 1	< 1	< 3	< 6
970543	70079	Harrington #1	6/9/97	1	Sample 4 - 1st Qtr	< 1	< 1	< 1	< 3	< 6
970989	70079	Harrington #1	9/17/97	1	Sample 4 - 2nd Qtr	< 1	< 1	< 1	< 3	< 6
971276	70079	Harrington #1	12/8/97	1	Sample 4 - 3rd Qtr	< 1	< 1	< 1	< 3	< 6

RECORD OF SUBSURFACE EXPLORATION

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

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

Project Name EPFS GW PITS
Project Number 17520 Phase 6001.77
Project Location HARRINGTON #1 - 70079

Elevation
Borehole Location T27 R 7 - S31 - Ltr M
GWL Depth 12' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/10/97 - 0915
Date/Time Completed " - 0945

Well Logged By D CESARK
Personnel On-Site D CHARLEY, S ARCHULETA
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 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 Units: PPM BZ	BH	S	Drilling Conditions & Blow Counts
0				BACKFILL TO 12'						
5										
10				GWC 12'						
15										
20				TD = 23'						
25										
30										
35										
40										

NO SAMPLES COLLECTED

Comments: GW ENCOUNTERED @ 12' BGS. OVER-DRILLED TO 23' BGS SET WELL. NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMPLETION DIAGRAM.

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Borehole # 2
Well # 1
Page 1 of 1

Philip Environmental Services, Inc.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location HARRINGTON #1 - 870079

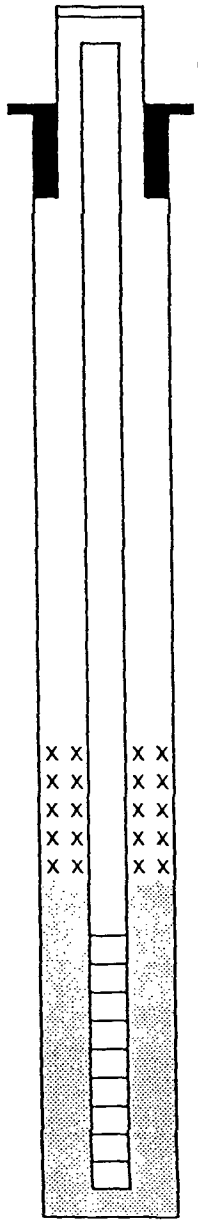
Elevation
Well Location T27N-R7W-S31 - L'M'
GWL Depth 12' BGS
Installed By M DONOHUE

On-Site Geologist D CESARK
Personnel On-Site D CHARLEY, S ARCHULETA
Contractors On-Site
Client Personnel On-Site

Date/Time Started 3/10/97 — 0945
Date/Time Completed " — 1100

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete		
Bottom of Concrete		
Top of Grout		
Bottom of Grout		
Top of Well Riser	SCH 40 PVC	+3'
Bottom of Well Riser	"	-7'
Top of Well Screen	.010 SLOT	-7'
Bottom of Well Screen	"	-22'
Top of Peltonite Seal	ENVIROPLUG	-2'
Bottom of Peltonite Seal	"	-4'
Top of Gravel Pack	10-20 S.SAND	-4'
Bottom of Gravel Pack	"	-22'
Top of Natural Cave-In		-22'
Bottom of Natural Cave-In		-23'
Top of Groundwater		-12'
Total Depth of Borehole		-23'



Top of Protective Casing
Top of Riser +3'
Ground Surface -0-
Top of Seal -2
Top of Gravel Pack -4'
Top of Screen -7'
Bottom of Screen -22'
Bottom of Borehole -23'

Comments:

Geologist Signature

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) DATE: 4/2/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970240	4/2	1125	W	DRC 24	3	M		X				19	HARRINGTON #1 — 70079 (MW-1)
970241	"	—	B	DRC 25	1	B		X				19	TRIP BLANK
970242	"	1405	W	DRC 26	3	M		X				20	MILES FEDERAL #1E - 94495

CONTRACT LABORATORY P. O. NUMBER

REQUESTED ANALYSIS

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	4/2/97 1550		Cari Williams	4-3-97 1025	84°
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				4-3-97 1025	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

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

EL PASO FIELD SERVICES

5-22-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC24	970240
MTR CODE | SITE NAME:	70079	Harrington #1
SAMPLE DATE | TIME (Hrs):	4/2/97	1125
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	4/4/97	4/4/97
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				

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

Narrative:

Approved By: _____ Date: 4/8/97

970240,4/8/97

PHILIP ENVIRONMENTAL Well Development and Purging Data

☒ Development ☒ Purging Well Number MW-1

Serial No. WDPD-

Page 1 of 1

Project Name GW PITS Project Manager C CHANCE Project No. 17520

Client Company EPFS Phase.Task No. 6003.17

Site Name HARRINGTON #1 — 70079 Site Address

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) 22' BGS

Initial Depth to Water (feet) 9' BGS

Height of Water Column in Well (feet) 13'

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.5	
Gravel Pack			
Drilling Fluids			
Total			42.5

Instruments

Serial No. (If applicable)

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

Water Disposal

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Comments
4/2/97	1015		X	.5			10	10			12.3	6.34	216		
"	1030		X				10	20			12.2	6.88	220		
"	1050		X				10	30			12.3	7.06	203		
"	1105		X				12.5	42.5			12.3	7.23	215		

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

Comments Water clear 1st several bails, then muddy. Well had excellent recovery.

Developer's Signature(s) [signature] Date 4/2/97 Reviewer Date

Form A0101 Rev. 03/21/94

PHILIP ENVIRONMENTAL Water Sampling Data

Location No. MW-1

Serial No. WSD-

Group List Number

Sample Type: [X] Groundwater [ ] Surface Water [ ] Other Date 4/2/97

Project Name EPFS GW PITS Project No. 17520

Project Manager C CHANCE Phase.Task No. 6003.77

Site Name HARRINGTON #1 - 70079

Sampling Specifications

Requested Sampling Depth Interval (feet)

Requested Wait Following Development/Purging (hours)

Initial Measurements

Time Elapsed From Final Development/Purging (hours)

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)	

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

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

Sample Containers

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
BTEX	DRC24	VV	40		X	Y	X		

Filter Type Chain-of-Custody Form Number

Comments * PLEASE REFER TO WELL DEVELOPMENT + PURGING DATA FORM

Signature Date 4/2/97 Reviewer Date

Form A0202 Rev. 02/24/94

El Paso Natural Gas Company

A 2001

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	HOERFAUD PIPELINE			BTXE	GENERAL CHEMISTRY	RCRA 8 METALS		
Samplers: (Signature) Dennis Bird	Date: 6-9-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	6-9-97	1139		X	970543	G2 P2	4°C	X	X	X		HARRINGTON #1 MW-1 MC 70079
WATER	6-9-97	—		X	—	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	6-9-97 1633				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Hopper	6/10/97 0735		
Carrier Co:		Carrier Phone No.	Date Results Reported / by: (Signature)		
Air Bill No.:					

EL PASO FIELD SERVICES

7-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970543
MTR CODE | SITE NAME:	70079	Harrington #1 MW-1
SAMPLE DATE | TIME (Hrs):	6/9/97	1139
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	6/11/97	6/12/97
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				

The Surrogate Recovery was at 97.8 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Faulk Date: 6/18/97

970543,6/16/97

EL PASO FIELD SERVICES

7-21-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970543
DATE SAMPLED:	06/09/97
TIME SAMPLED (Hrs):	1139
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	70079
SAMPLE SITE NAME:	Harrington #1
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.0	Units	06/11/97
Alkalinity as $C0_3$	0.0	PPM	06/11/97
Alkalinity as $HC0_3$	363	PPM	06/11/97
Calcium as Ca	82	PPM	06/11/97
Magnesium as Mg	14	PPM	06/11/97
Total Hardness as $CaC0_3$	262	PPM	06/11/97
Chloride as Cl	17	PPM	06/11/97
Sulfate as $S0_4$	1,100	PPM	06/11/97
Fluoride as F	1.8	PPM	06/11/97
Nitrate as $N0_3$-N	<0.6	PPM	06/11/97
Nitrite as $N0_2$-N	<0.6	PPM	06/11/97
Ammonium as NH_4^+	<0.6	PPM	06/11/97
Phosphate as PO_4	<0.6	PPM	06/11/97
Potassium as K	1	PPM	06/11/97
Sodium as Na	552	PPM	06/11/97
Total Dissolved Solids	1,950	PPM	06/11/97
Conductivity	2,660	umhos/cm	06/11/97
Anion/Cation %	0.3%	%, <5.0 Accepted	06/16/97

Lab Remarks:

Reported By: [signature] Approved By: [signature] Date: 6/18/97

EL PASO FIELD SERVICES

7-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970543
SAMPLE DATE:	06/09/97
SAMPLE TIME (Hrs):	1139
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	70079
SAMPLE SITE NAME:	Harrington #1
SAMPLE POINT:	MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.029	0.100
BARIUM	0.12	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.019	0.050
LEAD	0.006	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.005	0.050
SILVER	0.0006	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: mda Approved By: _____ Date: 7/17/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970543
Date Reported: 07/16/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	97%
Barium	0.062	0.065	96%
Cadmium	0.0025	0.0024	104%
Chromium	0.0049	0.0048	103%
Lead	0.033	0.030	111%
Mercury	0.0043	0.0046	93%
Selenium	0.038	0.041	94%
Silver	0.0051	0.0043	118%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.181	0.183	1.1%
Cadmium	ND	ND	NA
Chromium	0.0166	0.0153	8.2%
Lead	0.0065	0.0069	6.2%
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	0.0003	0.0004	8.7%

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.001	0.126	0.100	118%
Barium	0.183	1.253	1.00	107%
Cadmium	ND	0.0103	0.010	103%
Chromium	0.017	0.065	0.050	97.0%
Lead	0.007	0.054	0.050	94.4%
Mercury	ND	0.0018	0.0020	90.0%
Selenium	ND	0.053	0.050	101%
Silver	0.0003	0.0539	0.050	107%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.027
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.002
Mercury	ND	0.0002
Selenium	ND	0.011
Silver	ND	0.0005

ND: Not Detected at stated detection level. NA: Not Applicable.

Reported By: mh Approved By: John Faddis Date: 7/17/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name HARRINGTON #1

Meter Code 70079

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 24.50
Initial Depth to Water (feet) 12.14
Height of Water Column in Well (feet) 12.36
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.2	24.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
6-9-97	1019										14.9	6.99	1842		
6-9-97	1025						5.0	5.0			13.9	7.14	2620		
6-9-97	1032						5.0	10.0			13.9	7.27	2730		
6-9-97	1040						5.0	15.0			13.9	7.31	2780		
6-9-97	1046						5.0	20.0			13.9	7.36	2740		
6-9-97	1053						5.0	25.0			13.9	7.40	2790		
6-9-97	1100						5.0	30.0			14.3	7.42	2870	1.5	

Comments

Developer's Signature Dennis Bird Date 6-9-97 Reviewer John Faldon Date 6/18/97

SAMPLE 4 2ND QTR

El Paso Natural Gas Company

A 2081

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC # 70079			BTXE				
Samplers: (Signature) Dennis Bird	Date: 9-17-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	9-17-97	1053		X	970989	G-1	4°C	X				HARRINGTON #1 MW-1
WATER	9-17-97	—		X	—	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	9-17-97 1628				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marsha Happe	9/18/97 0800		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970989
MTR CODE | SITE NAME:	70079	Harrington #1
SAMPLE DATE | TIME (Hrs):	9/8/97	1400
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	9/17/97	9/17/97
TYPE | DESCRIPTION:	MW-1	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 89.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Saenz Date: 9-22-97

970989BTEXMW,9/22/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-1

Site Name HARRINGTON #1

Meter Code 70079

Development Criteria

- [X] 3 to 5 Casing Volumes of Water Removel
- [ ] Stabilization of Indicator Parameters
- [ ] Other

Methods of Development

Pump		Bailer	
[ ]	Centrifugal	[X]	Bottom Valve
[ ]	Submersible	[ ]	Double Check Valve
[ ]	Peristaltic	[ ]	Stainless-steel Kemmerer

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 24.50
Initial Depth to Water (feet) 12.10
Height of Water Column in Well (feet) 12.40
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.2	24.6
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- [X] pH Meter
- [ ] DO Monitor
- [X] Conductivity Meter
- [X] Temperature Meter
- [X] Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
9-17-97	0957										19.0	6.56	1113		
9-17-97	1009						5.0	5.0			17.8	7.17	2110		
9-17-97	1014						5.0	10.0			17.0	7.27	2410		
9-17-97	1020						5.0	15.0			17.0	7.31	2510		
9-17-97	1026						5.0	20.0			16.9	7.36	2460		
9-17-97	1032						5.0	25.0			17.0	7.37	2550		
9-17-97	1037						5.0	30.0			17.0	7.38	2520	1.5	

Comments

Developer's Signature Dennis Bird Date 9-17-97 Reviewer John Faldi Date 9-22-97

SAMPLE 4 3RD QTR

El Paso Natural Gas Company

A 2156

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	MC #70079	Dennis Bird	12-8-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE				Remarks
WATER	12-8-97	1158		X	971276	G-1	4°C	X				HARRINGTON #1 MW-1
WATER	12-8-97	—		X	—	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	12-8-97 1512				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Hopper	12/9/97 1015		

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

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971276
MTR CODE | SITE NAME:	70079	Harrington #1
SAMPLE DATE | TIME (Hrs):	12/8/97	1158
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	12/9/97	12/9/97
TYPE | DESCRIPTION:	MW-1	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 96.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 1/2/98

971275BTEXMW,12/10/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name HARRINGTON #1

Meter Code 70079

Development Criteria

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

Methods of Development

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

☐ Other_____

Water Volume Calculation

Initial Depth of Well (feet) 24.50
Initial Depth to Water (feet) 11.85
Height of Water Column in Well (feet) 12.65
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.4	25.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
12-8-97	1107										11.8	6.56	911		
12-8-97	1113						5.0	5.0			12.8	7.06	2210		
12-8-97	1119						5.0	10.0			12.6	7.25	2790		
12-8-97	1128						5.0	15.0			12.2	7.41	2850		
12-8-97	1134						5.0	20.0			12.6	7.44	2970		
12-8-97	1142						5.0	25.0			12.2	7.50	3010		
12-8-97	1148						5.0	30.0			12.1	7.48	3030	1.5	

Comments_____

Developer's Signature Dennis Bird Date 12-8-97 Reviewer John Fowler Date 1/2/98

3R - 191

REPORTS

DATE:
1998

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services
Final Closure Report For Groundwater Sites With Four Consecutive Quarters Below Standards

December 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520
Book 1

PHILIP SERVICES CORP.

EPFS GROUNDWATER PITS
1998 CLOSURE REPORT

RECEIVED
APR 0 5 1999
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

HARRINGTON #1
Meter/Line ID - 70079

SITE DETAILS

Legals - Twn: 27N **Rng:** 7W **Sec:** 31 **Unit:** M
NMOCD Hazard Ranking: 30 **Land Type:** FEDERAL
Operator: BURLINGTON RESOURCES

PREVIOUS ACTIVITIES

Site Assessment: Jun-94 **Excavation:** July-94 (50cy) **Re-Excavation:** Aug-95 (624 cy)
Soil Boring: Mar-97 **Monitor Well:** Mar-97

The pit was excavated to 12 feet beneath ground surface (bgs) and a composite soil sample was collected from the excavation bottom and four walls. Approximately 50 cubic yards of impacted soil were removed during excavation. The headspace soil reading from the excavation bottom was 317 ppm. Soil analytical was as follows; benzene - <0.25 mg/kg, total BTEX - 83 mg/kg, TPH (418.1) - 2320 mg/kg.

The pit was re-excavated to 12 feet bgs and a composite soil sample was collected from the excavation bottom and four side walls. Approximately 624 additional cubic yards of impacted soil were removed during re-excavation. The headspace soil reading from the excavation bottom was 69 ppm. Soil analytical was as follows; benzene - <0.025 mg/kg, total BTEX – 0.083 mg/kg, TPH (418.1) – 14.2 mg/kg.

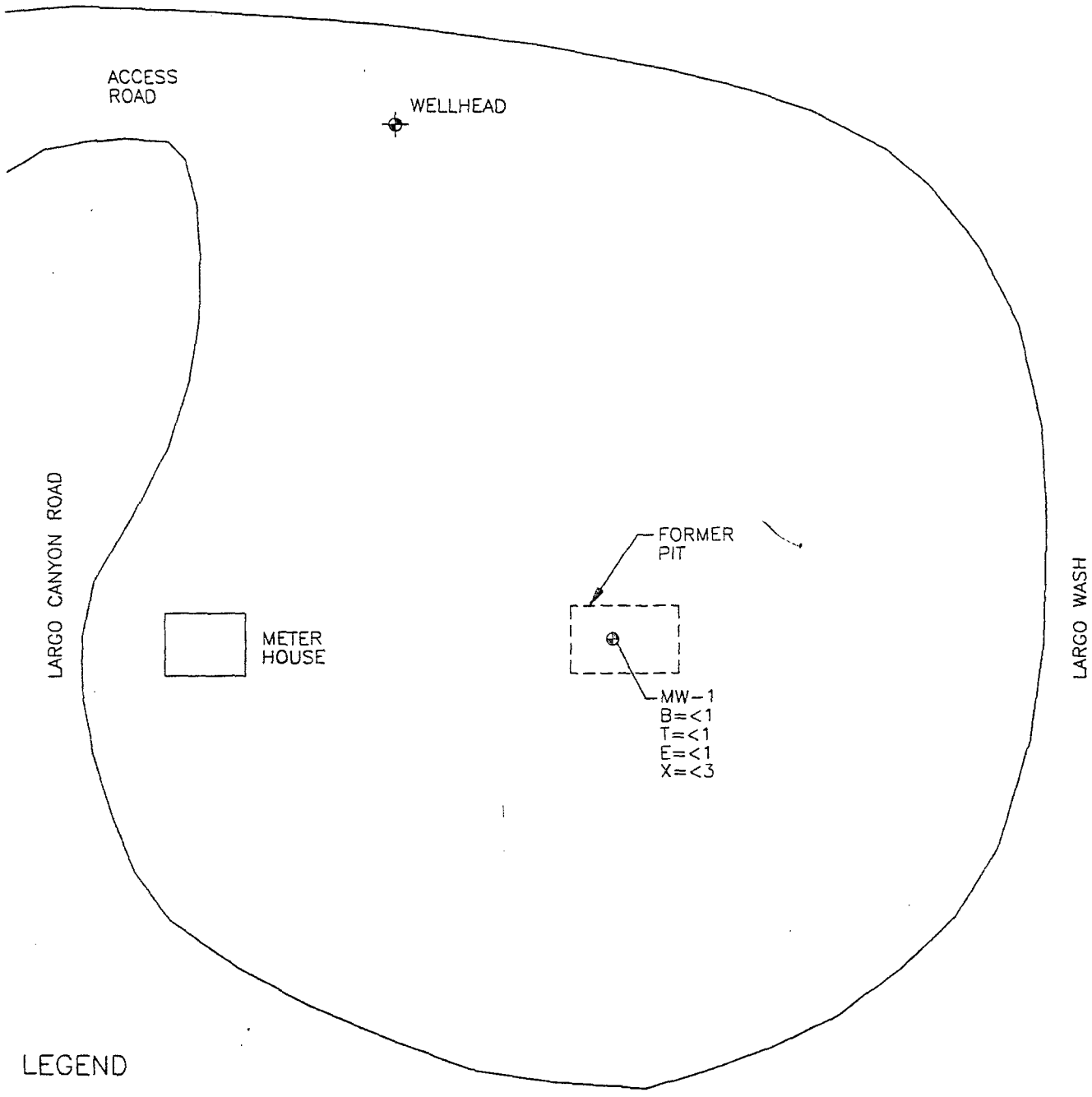
One soil boring was drilled in the center of the former pit. Groundwater was encountered at 12 feet bgs and a monitoring well was installed. No soil samples were collected from the pit. Quarterly groundwater monitoring was initiated on 6/9/97 and continued through 3/20/98. Groundwater analytical data are presented in Table 1. Groundwater analytical data collected prior to 1998 has been previously submitted in the 1997 Annual Report.

CONCLUSIONS

After re-excavation of the pit and the removal of an additional 640 cubic yards of impacted soil, soil samples collected from the excavation indicated soils below NMOCD standards. Groundwater samples collected from the center of the pit have been below NMWQCC standards since quarterly sampling was initiated. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

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



LEGEND

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

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:
HARRINGTON #1
70079

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 1
1/9/97	0	

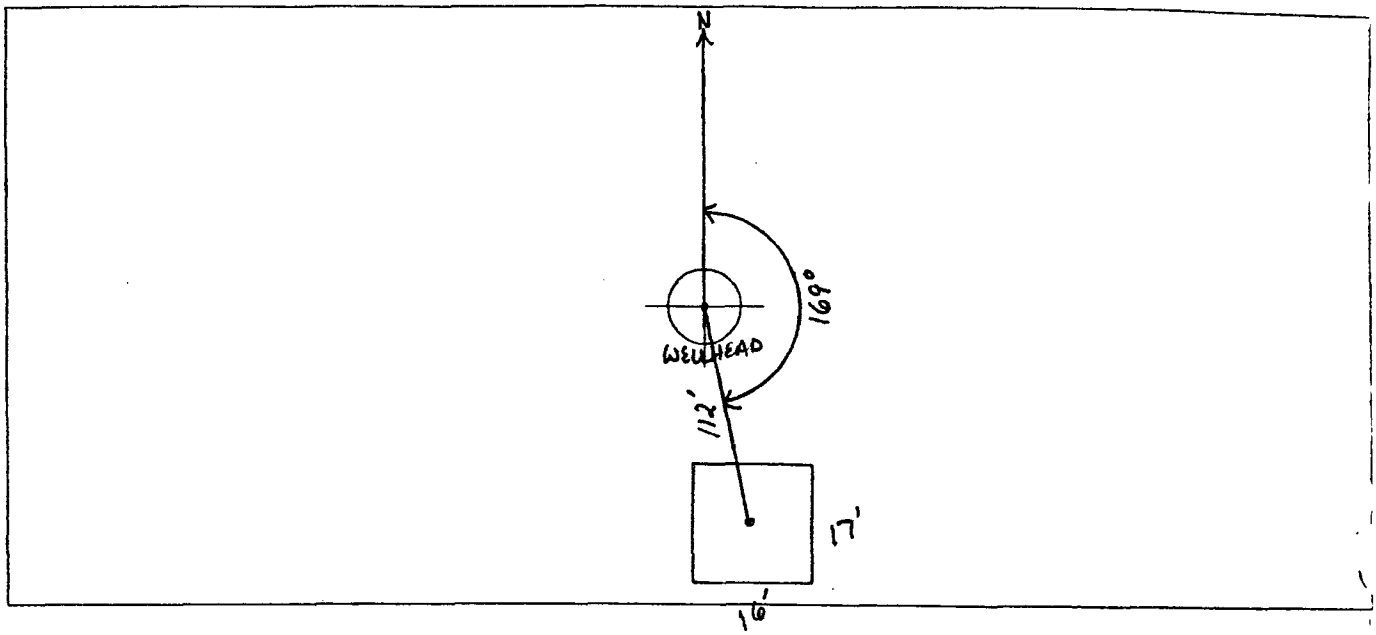
COL. 17520BH-001

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 169° Footage from Wellhead 112'

b) Length : 17' Width : 16' Depth : 2'



REMARKS

Remarks :

TOOK PICTURES AT 2:57 P.M.

END DUMP

Completed By:

Robert Thompson
Signature

6-14-94
Date

PHASE I EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 70079 Location: Harrington #1

Coordinates: Letter: M Section 31 Township: 27 Range: 7

Or Latitude _____ Longitude _____

Date Started : 7/29/94 Run: 07 51

FIELD OBSERVATIONS

Sample Number(s): KD174 _____ _____ _____

Sample Depth: 12' Feet

Final PID Reading 317 ppm PID Reading Depth 12' Feet

	Yes	No
Groundwater Encountered	☐	☒

Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation ☒ Approx. Cubic Yards 50

Onsite Bioremediation ☐

Backfill Pit Without Excavation ☐

Soil Disposition:

Envirotech ☒ ☐ Tierra

Other Facility ☐ Name: _____

Pit Closure Date: 8/1/94 Pit Closed By: BEI

REMARKS

Remarks : Excavated pit to 12', took PID Sample. Will close pit on 8/1/94.

Signature of Specialist: Kay Ader

(SP3181) 03/16/94

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KD 174	945792
MTR CODE | SITE NAME:	70079	N/A
SAMPLE DATE | TIME (Hrs):	7-29-94	1400
SAMPLED BY:	N/A	
DATE OF TPH EXT. | ANAL.:	8-2-94	8/2/94
DATE OF BTEX EXT. | ANAL.:	8/4/94	8/6/94
TYPE | DESCRIPTION:	VC	Brown/Grey Sandy/Clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.25	MG/KG	10			
TOLUENE	~~+3~~ <0.25	MG/KG	10			
ETHYL BENZENE (dwtl 8/23/94)	~~0.5~~ 3.5	MG/KG	10			
TOTAL XYLENES	~~98~~ 79	MG/KG	10			
TOTAL BTEX	~~+8~~ 83	MG/KG				
TPH (418.1)	2320	MG/KG			2.03	28
HEADSPACE PID	317	PPM				
PERCENT SOLIDS	88.9	%				

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

Surrogate Recovery was at ~~+10~~ 144 % for this sample (dwtl 8/23/94) All QA/QC was acceptable.

Narrative:

ATI results attached. Surrogate recovery was outside ATI QC limits due to matrix interference.

DF = Dilution Factor Used

Approved By: D.F. Date: 9/2/94

Analytical Technologies, Inc.

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

ATI I.D. **408313**

August 12, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On **08/03/94**, 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.

8015 analysis was added on 08/08/94 for sample 945789 per John Lambdin.

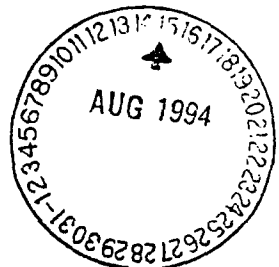
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)

CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 408313

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
07	945790	NON-AQ	07/29/94	08/04/94	08/05/94	10
08	945791	NON-AQ	07/29/94	08/04/94	08/06/94	10
09	945792	NON-AQ	07/29/94	08/04/94	08/06/94	10

PARAMETER	UNITS	07	08	09
BENZENE	MG/KG	2.1	<0.25	<0.25
TOLUENE	MG/KG	75	13	<0.25
ETHYLBENZENE	MG/KG	14	6.5	3.5
TOTAL XYLENES	MG/KG	160	98	79
SURROGATE:				
BROMOFLUOROBENZENE (%)		131*	176*	144*

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS						CONTRACT LABORATORY P. O. NUMBER
	Pit Closure Project # 24324									
SAMPLERS: (Signature) Kenny Dean	DATE: 7/29/94									
LAB ID / DATE / TIME / MATRIX / SAMPLE NUMBER				TPH EPA 418.1	BTEX EPA 8020				5pt	REMARKS
7/29/94	1200 soil KD 173	1	VC	X	X				157	
7/29/94	1400 soil KD 174	1	VC	X	X				158	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Kenny Dean	7/29/94 1630	Brenda Lieco	Brenda Lieco	8/1/94 0953	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

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

PHASE III RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

Meter: 70079 Location: Harrington #1

Coordinates: Letter: M Section 31 Township: 27 Range: 07

Or Latitude _____ Longitude _____

Date Started : 8-8-95 Area: 07 Run: 51

Sample Number(s): 4P44 4P45 4P46 4P47

Sample Depth: 12' Feet

Final PID Reading 69 ppm PID Reading Depth 12 Feet

Yes No

Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 12 Feet

Final Dimensions: Length ~~45~~ 60 Width 30 Depth 12

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards ~~2624~~ 2

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Overburden Cubic Yards 20 LF 9/27/95

Soil Disposition:

Envirotech ☒ (1) ☐ (3) Tierra

Other Facility ☐ (2) Name: _____

Pit Closure Date: 8-15-95 Pit Closed By: Philip Env

PHase III

Remarks : Ground water encounted at 12', Contamination is appox 10' deep, approx 20" wide on North + East walls, South wall approx 4", West wall starting at 5' deep, approx 5-6' Thick could not dig West wall much more, due to position of Loc. Drip over

Signature of Specialist: James L Lemon

Sent to Jal

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	947182
FIELD ID:	JP 44
MTR CODE:	70079
SAMPLE DATE:	8/8/95
SAMPLE TYPE:	EXCAVATION
SITE NAME:	Harrington #1
PROJECT:	Phase III EXCAVATION
DATE OF BTEX ANALYSIS:	8/11/95

FIELD COMMENTS: 2 Containers

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WQCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	N/A		None
BENZENE (PPB)	75.4	D(5)	10
TOLUENE (PPB)	202	D(5)	740
ETHYL BENZENE (PPB)	209	D(5)	750
TOTAL XYLENES (PPB)	2464	D(5)	620
SURROGATE % RECOVERY	89.8	Allowed Range 80 to 120 %	

FS:

No Bubbles in VOA's.

Approved By: [signature] 8/18/95

El Paso Natural Gas Company

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	~~9~~ EB8/10/15 JP 45	947199
MTR CODE | SITE NAME:	70079	Harrington #1
SAMPLE DATE | TIME (Hrs):	08/09/95	12:00
PROJECT:	Phase III Drilling	
DATE OF TPH EXT. | ANAL.:	8/11/95	8/11/95
DATE OF BTEX EXT. | ANAL.:	8/18/95	8/18/95
TYPE | DESCRIPTION:	VC	Brown Sand & Clay

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.025	MG/KG	1			
TOLUENE	0.026	MG/KG	1			
ETHYL BENZENE	<0.025	MG/KG	1			
TOTAL XYLENES	0.057	MG/KG	1			
TOTAL BTEX	0.083	MG/KG				
TPH (418.1)	14.2	MG/KG			2.29	28
HEADSPACE PID	69	PPM				
PERCENT SOLIDS	83.1	%				

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

The Surrogate Recovery was at 88 for this sample All QA/QC was acceptable.

Narrative:

AT1 Results attached.

DF = Dilution Factor Used

Approved By: _____ Date: 8/28/95

El Paso Natural Gas Company

Phase III Excavation

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) James F Powers DATE: 8-8-95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
							REQUESTED ANALYSIS						CONTRACT LABORATORY P. O. NUMBER
947182	8-8-95	1615	Water	4P414	2	W VG	X	X				40	Harrington #1 70079

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
James F Powers	8-8-95 1430	Kelly Stwall	Kelly Stwall	8/9/95 10:35	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

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

505-599-2144 FAX: 505-599-2261

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

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

EL PASO Natural Gas Company

Phase III Drilling

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) James F Peirce DATE: 8-9-95

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
947199	8-9-95	1200	Soil	4P45	1	VC	X	X				41	Harrington #1 70079
947200	8-9-95	1200	Soil	4P46	1	VC	X	X				42	" "
947201	8-9-95	1205	Soil	4P47	1	B	X	X				43	" "

CONTRACT LABORATORY P. O. NUMBER

REQUESTED ANALYSIS

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
James F Peirce	9-10-95 0730	Kelly Stovall	Kelly Stovall	9/10/95 11:05	RB 8/10/95
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

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

505-599-2144 FAX: 505-599-2261

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

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

Analytical Technologies, Inc.

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

ATI I.D. **508390**

August 23, 1995

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

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

Attention: John Lambdin

On **08/16/95**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

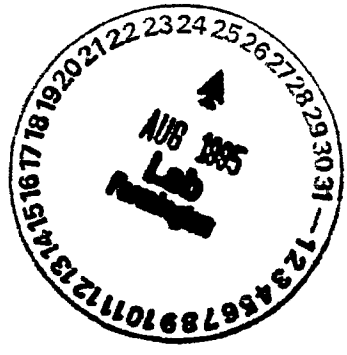
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)

CLIENT : EL PASO NATURAL GAS CO ATI I.D.: 508390

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE/PHASE II & III

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	947198	NON-AQ	08/09/95	08/18/95	08/18/95	1
02	947199	NON-AQ	08/09/95	08/18/95	08/18/95	1
03	947200	NON-AQ	08/09/95	08/18/95	08/18/95	1

PARAMETER	UNITS	01	02	03
BENZENE	MG/KG	<0.025	<0.025	<0.025
TOLUENE	MG/KG	<0.025	0.026	<0.025
ETHYLBENZENE	MG/KG	<0.025	<0.025	<0.025
TOTAL XYLENES	MG/KG	<0.025	0.057	0.058
SURROGATE:				
BROMOFLUOROBENZENE (%)		88	88	93

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

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

PHILLIP ENVIRONMENTAL SERVICES INC.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPFS GW PITS
Project Number 17520 Phase 6001.77
Project Location HARRINGTON #1 - 76079

Elevation
Borehole Location T27 R 7 - S31 - Ltr M
GWL Depth 12' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/10/97 - 0915
Date/Time Completed " - 0945

Well Logged By D CESARK
Personnel On-Site D CHARLEY, S ARCHULETA
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 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 Units: PPM BZ	BH	S	Drilling Conditions & Blow Counts
0				BACKFILL TO 12'						
5										
10				GW @ 12'						
15										
20				TD = 23'						
25										
30										
35										
40										

NO SAMPLES COLLECTED

Comments: GW ENCOUNTERED @ 12' BGS, OVER-DRILLED TO 23' BGS SET WELL. NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMPLETION DIAGRAM.

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Borehole # 2
Well # 1
Page 1 of 1

Philip Environmental Services, Inc.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (606) 326-2388

Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location HARRINGTON #1 - 870079

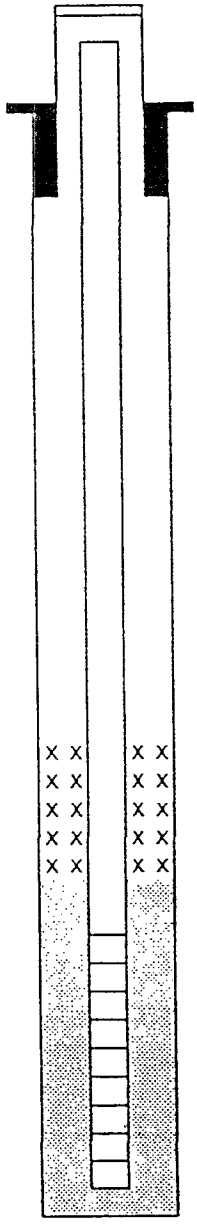
Elevation
Well Location T27N-R7W-S31 - L'M'
GWL Depth 12' BGS
Installed By M DONOHUE

On-Site Geologist D CESARK
Personnel On-Site D CHARLEY, S ARCHULETA
Contractors On-Site
Client Personnel On-Site

Date/Time Started 3/10/97 — 0945
Date/Time Completed " — 1100

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete		
Bottom of Concrete		
Top of Grout		
Bottom of Grout		
Top of Well Riser	SCH 40 PVC	+3'
Bottom of Well Riser	"	-7'
Top of Well Screen	.010 SLOT	-7'
Bottom of Well Screen	"	-22'
Top of Peltonite Seal	ENVIROPLUG	-2'
Bottom of Peltonite Seal	"	-4'
Top of Gravel Pack	10-20 S.SAND	-4'
Bottom of Gravel Pack	"	-22'
Top of Natural Cave-In		-22'
Bottom of Natural Cave-In		-23'
Top of Groundwater		-12'
Total Depth of Borehole		-23'



Top of Protective Casing
Top of Riser +3'
Ground Surface -0-
Top of Seal -2
Top of Gravel Pack -4'
Top of Screen -7'
Bottom of Screen -22'
Bottom of Borehole -23'

Comments:

Geologist Signature

PHILIP ENVIRONMENTAL Well Development and Purging Data

☒ Development ☒ Purging Well Number MW-1

Serial No. WDPD-

Page 1 of 1

Project Name GW PITS Project Manager C CHANCE Project No. 17520

Client Company EPFS Phase.Task No. 6003.77

Site Name HARRINGTON #1 — 70079 Site Address

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) 22' BGS

Initial Depth to Water (feet) 9' BGS

Height of Water Column in Well (feet) 13'

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		8.5	
Gravel Pack			
Drilling Fluids			
Total			42.5

Instruments

Serial No. (If applicable)

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

Water Disposal

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Comments
4/2/97	1015		X	.5			10	10			12.3	6.34	216		
"	1030		X				10	20			12.2	6.88	220		
"	1050		X				10	30			12.3	7.06	203		
"	1105		X				12.5	42.5			12.3	7.23	215		

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

Comments Water clear 1st several bails, then muddy. Well had excellent recovery.

Developer's Signature(s) Date 4/2/97 Reviewer Date

PHILIP ENVIRONMENTAL

Water Sampling Data

Location No. MW-1

Serial No. WSD-

Group List Number

Sample Type: [X] Groundwater [ ] Surface Water [ ] Other Date 4/2/97

Project Name EDFS GW PITS Project No. 17520

Project Manager C CHANCE Phase.Task No. 6003.77

Site Name HARRINGTON #1 — 70079

Sampling Specifications

Requested Sampling Depth Interval (feet)

Requested Wait Following Development/Purging (hours)

Initial Measurements

Time Elapsed From Final Development/Purging (hours)

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)	

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

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

Sample Containers

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
BTEX	DRC24	VV	40		X	Y	X		

Filter Type Chain-of-Custody Form Number

Comments * PLEASE REFER TO WELL DEVELOPMENT + PURGING DATA FORM

Signature Date 4/2/97 Reviewer Date

Form A0202 Rev. 02/24/94

EL PASO FIELD SERVICES

5-22-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC24	970240
MTR CODE | SITE NAME:	70079	Harrington #1
SAMPLE DATE | TIME (Hrs):	4/2/97	1125
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	4/4/97	4/4/97
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				

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

Narrative:

Approved By: _____ Date: 4/8/97

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) DATE: 4/2/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970240	4/2	1125	W	DRC 24	3	M		X				19	HARRINGTON #1 — 70079 (MV-1)
970241	"	—	B	DRC 25	1	B		X				19	TRIP BLANK
970242	"	1405	W	DRC 26	3	M		X				20	MILES FEDERAL #1E - 94495

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
[signature]	4/2/97 1550		Bri Williams	4-3-97 1025	34°
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				4-3-97 1025	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144
FAX: 505-599-2261

QUARTERLY MONITORING RESULTS

Sample #	Meter/ Line #	Site Name	Sample Date	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	S7	Total BTEX PPB
970240 *	70079	Harrington #1	4/2/97	Phase II Drilling - Initial	<	1	<	1	<	1	<	3	<	6
970543 *	70079	Harrington #1	6/9/97	Sample 4 - 1st Qtr	<	1	<	1	<	1	<	3	<	6
970989 *	70079	Harrington #1	9/17/97	Sample 4 - 2nd Qtr	<	1	<	1	<	1	<	3	<	6
971276 *	70079	Harrington #1	12/8/97	Sample 4 - 3rd Qtr	<	1	<	1	<	1	<	3	<	6
980244	70079	Harrington #1	3/20/98	Sample 4 - 4th Qtr	<	1	<	1	<	1	<	3	<	6

* Analytical reports provided to NMOCD in prior annual report.

Samples 4 4th QTR

El Paso Natural Gas Company

CRU 4-2-98 Hds.

CRU 4-2-98 Pds

CRU 4-3-9 Chem

A 2624

CHAIN OF CUSTODY RECORD

Project No.	Project Name: MC#70079
Samplers: (Signature) Dennis Bird	Date: 3-20-98

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE				Remarks
WATER	3-20-98	1050		X	980244 ✓	G-1	4°C	X				HARRINGTON #1 MW-1
WATER	3-20-98	→		X	———	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	3-20-98 1623				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature) Marlon Hopper	Date/Time 3/23/98 0710	Remarks:	
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980244
MTR CODE | SITE NAME:	70079	Harrington #1
SAMPLE DATE | TIME (Hrs):	3/20/98	1050
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	3/23/98	3/23/98
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Stabler Date: 3/25/98

EL SO
FIE SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name HARRINGTON #1

Meter Code 70079

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 24.50
Initial Depth to Water (feet) 11.85
Height of Water Column in Well (feet) 12.65
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.4	25.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
3-20-98	1005										10.6	6.23	1546		
3-20-98	1010						5.0	5.0			11.1	6.82	2610		
3-20-98	1016						5.0	10.0			11.6	7.11	2750		
3-20-98	1023						5.0	15.0			11.8	7.26	2920		
3-20-98	1028						5.0	20.0			12.1	7.33	3030		
3-20-98	1034						5.0	25.0			11.9	7.38	3040		
3-20-98	1040						5.0	30.0			12.0	7.40	3070	1.5	

Comments

Developer's Signature Dennis Bird Date 3-20-98 Reviewer John Lawler Date 3/25/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980232, 980234, 980235, 980240 to 980246

QA/QC for 3/23/98 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	52.3	104.6	75 - 125 %	X	
Toluene	Standard	50.0	53.3	107	75 - 125 %	X	
Ethylbenzene	Standard	50.0	54.1	108	75 - 125 %	X	
m & p - Xylene	Standard	100	108.9	108.9	75 - 125 %	X	
o - Xylene	Standard	50.0	53.5	107	75 - 125 %	X	

SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	25.0	26.6	106.6	39 - 150	X	
Toluene	Standard	25.0	27.2	109	46 - 148	X	
Ethylbenzene	Standard	25.0	27.5	110	32 - 160	X	
m & p - Xylene	Standard	50.0	55.9	112	Not Given	X	
o - Xylene	Standard	25.0	27.2	109	Not Given	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	52.3	104.7	75 - 125 %	X	
Toluene	Standard	50.0	53.1	106.2	75 - 125 %	X	
Ethylenzene	Standard	50.0	54.4	108.8	75 - 125 %	X	
m & p - Xylene	Standard	100	109.6	109.6	75 - 125 %	X	
o - Xylene	Standard	50.0	53.3	107	75 - 125 %	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	52.2	104.4	75 - 125 %	X	
Toluene	Standard	50.0	52.7	105.4	75 - 125 %	X	
Ethylbenzene	Standard	50.0	53.8	107.6	75 - 125 %	X	
m & p - Xylene	Standard	100	108.4	108.4	75 - 125 %	X	
o - Xylene	Standard	50.0	52.8	105.7	75 - 125 %	X	

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	51.9	103.9	75 - 125 %	X	
Toluene	Standard	50.0	51.9	103.9	75 - 125 %	X	
Ethylbenzene	Standard	50.0	52.1	104.1	75 - 125 %	X	
m & p - Xylene	Standard	100	105.0	105.0	75 - 125 %	X	
o - Xylene	Standard	50.0	51.9	103.8	75 - 125 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980232	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
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 2nd Analysis 980232	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	52.7	105.4	75 - 125 %	X	
Toluene	50	<1	53.3	107	75 - 125 %	X	
Ethylbenzene	50	<1	54.6	109	75 - 125 %	X	
m & p - Xylene	100	<2	110.0	110.0	75 - 125 %	X	
o - Xylene	50	<1	53.4	107	75 - 125 %	X	

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (4 analyzed with set)	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 Lot MB1461	PPB (none analyzed with set)	STATUS
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 (none analyzed with this set)	STATUS
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.

TRIP BLANK	SOURCE	PPB (4 analyzed with this set)	STATUS
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

arrative: Acceptable.

eported By: CPC Approved By: John Gardner Date: 3/25/98

3R - 191

REPORTS

DATE:

6/2/1997

EL PASO
FIELD SERVICES

Bill Olson
New Mexico Oil Conservation Commission
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Date: June 2, 1997

Subject: Semi-Annual El Paso Field Services Pit Project Groundwater Report

Mr. Olson,

El Paso Field Services (EPFS) has encountered groundwater at various locations while investigating and or remediating exempt hydrocarbon unlined pits. The enclosed list includes all locations which are in this category. Please find enclosed, the locations and status of each individual pit.

These pits are being remediated according to the "EPFS Remediation Plan for Groundwater Encountered During Pit Closure Activities" dated November 29,1995.

EPFS requests that future reports for this project be submitted on a yearly basis to begin December 1, 1997 which will include soil boring logs, monitoring well completion diagrams, analytical data, groundwater elevation data, any risk analysis and type of remediation method.

For questions regarding this report please contact Ricky Cosby at (505)599-2158.

Ricky D. Cosby
Compliance Specialist

cc: Denny Foust - Aztec District

El Paso Field Services
Pit Project Ground Water Report

Location/Line Name	LTR	Sec	TN	RG	Monitor Well Status	Status	Depth to GW	Product Level
MCGRATH #1	F	07	30	11	+1	GW encountered during drilling activities, MW results below standards, Develop Closure Plan	17'	No
Mae Gail Com #1	E	24	29	11		PZ1 in center of pit below standards. All other samples below standards. Develop Closure Plan	0.5'-6'	No
NM COM G1	P	36	30	10		MW1 was removed during site re-excavation, PZ1 installed with samples below standards. Develop Closure Plan.	17'-18'	No
MARY ACKROYD #1	J	18	30	11		Geoprobe samples all below standards. Develop Closure Plan.	3'-6'	No
JACQUEZ #3	E	25	30	09	-1	MW1 removed during re-excavation. 3 piezos and 1 probehole around pit all below standards. Operator has placed a production tank over the pit location. Develop Closure Plan.	13'-15'	No
SALAZAR G 34-1	K	34	25	06	+1	MW1 results all below standards. Develop Closure Plan.	35'	No
ANDERSON GAS COM A#1 PC	C	28	29	10		PH4 in center of pit is below standards. All of PH's around pit below standards. Develop Closure Plan.	5'-9'	No
GALLEGOS CANYON UT 145 E	D	26	29	12		PZ1 in center of pit below standards.	6'-9'	No
JOHNSTON FEDERAL #3A	I	12	30	09	+1	Develop Closure Plan. 4 clean quarters.	67.5'	No
FLORANCE #1	J	08	30	11	+1	MW1 installed 05/07/97. Develop and sample MW1.	14'	No
DE-NA-HAZ-ZA #1	D	18	26	08	+1	MW1 installed 05/06/97. Develop and sample MW1.	14'	No
Ramenta Et Al #1	J	13	27	09	+1	MW1 installed 05/06/97. Develop and sample MW1.	5'-9'	No
HAMMOND 41 A	O	25	27	08	+1	MW1 installed 05/05/97. Develop and sample MW1.	15'-24'	No
VALDEZ GAS UNIT A #1E CH	G	24	29	11	-1, +1	MW1 installed 05/07/97. Develop and sample MW1.	11'-12'	No

Location/Line Name	LTR	Sec	TN	RG	Monitor Well Status	Status	Depth to GW	Product Level
GALLEGOS CANYON COM A142E	G	25	29	12	+1	MW1 Developed and sampled 03/10/97. Evaluate Data.	13'	No
GALLEGOS CANYON UT D#160	I	27	29	12	+1	MW1 Developed and sampled 03/10/97. Evaluate Data.	19.1'	No
HARRINGTON #1	M	31	27	07	+1	MW1 Developed and sampled 04/02/97. Evaluate Data.	13'	No
Turner A1 "PM" (Pit #2)	G	34	31	11	+1	MW1 Developed and sampled 03/12/97. Evaluate Data.	2.3'--2.5'	No
TURNER #1A (Pit #1)	K	34	31	11	+1	Same as Above	5'	No
SAN JUAN 28-6 UNIT #79 MV	M	11	27	06	+1	MW1 Developed and sampled 04/14/97. Evaluate Data.	30'	No
KNIGHT #1	A	05	30	13	+4	Installed Oxegenate Socks 11/25/96. Geoprobe 02/25/97. Evaluate Data.	22'-25'	No
Ohio C. Govt. #3	P	26	28	11		Install MW1 and sample quarterly.	6'-16'	No
NICKLES #1	K	11	31	13	+1	MW1 Developed and sampled 03/28/97. Evaluate Data.	12'-15'	No
BUD-DOS-PAH #1	M	19	26	08		Soil Boring 02/19/97. Operator has placed a compressor over excavated pit area. Evaluate Data.	13'	No
SANCHEZ GAS COM B#1	G	28	29	10	+1	MW1 Developed and sampled 03/11/97. Evaluate Data.	6'-9'	No
GE-ELE-GU-LITH-E #2	L	07	26	08		Soil Boring 02/20/97. Operator has placed a compressor over excavated pit area. Evaluate Data.	13'	No
JOHN CHARLES #8	B	13	27	09	+1	MW1 Developed and sampled 03/13/97. Evaluate Data.	19'	No
CANDADO 23 MV	B	09	26	07	+1	MW1 Developed and sampled 04/16/97. Evaluate Data.	6'-9'	No

Location/Line Name	LTR	Sec	TN	RG	Monitor Well Status	Status	Depth to GW	Product Level
GALLEGOS CANYON UNIT 188E	B	30	29	12	+1	MW1 Developed and sampled 04/03/97. Evaluate Data.	3'-5'	No
JOHNSON #1E	P	21	31	13	+1	MW1 Developed and sampled 03/28/97. Evaluate Data.	3'-9'	No
MILES FEDERAL #1E	N	05	26	07	+1	MW1 Developed and sampled 04/02/97. Evaluate Data.	13.5'-30'	No
TRUJILLO GAS COM A#1	C	28	29	10	+1	MW1 Developed and sampled 04/03/97. Evaluate Data.	3'-9'	No
ANDERSON GAS COM A#1 CH	C	28	29	10	+1	MW1 Developed and sampled 03/11/97. Evaluate Data.	5'-9'	No
TRUNK D LINE DRIP (LOOPD8)	F	20	28	08	+1	MW1 Developed and sampled 03/31/97. Evaluate Data.	10.8'-24'	No
K-31 LINE DRIP	N	16	25	06	+1	MW1 Developed and sampled 04/16/97. Evaluate Data.	18'-24'	No
K-17 LINE DRIP	C	26	27	08	+1	MW1 Developed and sampled 03/31/97. Evaluate Data.	17.8'-27'	No
TRUNK 2B DRIP X-1	J	01	27	11	+1	MW1 Developed and sampled 03/11/97. Evaluate Data.	6'-10'	No
Trujillo Gas Com #1 PC	M	21	29	10		Install MW1	4'	No
OHIO C GOVERNMENT #3 TD	P	26	28	11		Install MW1	6'-16'	No
LINDRITH B #24	N	09	24	03		Install MW1	21'-27'	No
K - 51 Line Drip	A	34	26	06		Install MW1	10'	No
Mesa CPD	C	04	29	14	+1	Install well points around pit and sample. MW1 needs 3 more clean quarters.	3'-6.5'	No
STANDARD OIL COM #1	N	36	29	09	+1	Install well points on four sides of pit to establish gradient.	20.89'	No
W.D. HEATH B#5	M	31	30	09	+1	Install well points on four sides of pit to establish gradient.	30'-36'	No
CANYON LARGO UNIT 304	C	11	24	06	+1	Install downgradient well points and sample.	17.5'-18'	No

Location/Line Name	LTR	Sec	TN	RG	Monitor Well Status	Status	Depth to GW	Product Level
K-27 LINE DRIP	E	04	25	06	+1	Establish gradient with well points.	40'	No
LAT 0-21 LINE DRIP	O	12	30	09	+1	Establish gradient with well points.	33'-36'	No
Trunk D loop Line Drip	I	33	28	08	+1	Establish gradient with well points.	33'-36'	No
Bisti Flare Pit	C	21	12	26		Establish GW gradient	15'	No
LAT L-40 LINE DRIP	H	13	28	04	+1	Install downgradient well points and sample.	40'	No
HAMNER #9	A	20	29	09	+1	Establish gradient with well points.	29'-31'	No
GARTNER LS #7	K	26	30	08		NMOCD Closure Approved	NA	No
HAMMOND FED #1	L	25	27	08	+1	NMOCD Closure Approved	NA	No
BURROUGHS COM #1	H	36	27	08		NMOCD Closure Approved	NA	No
CLEVELAND #6	B	21	27	09	+1	NMOCD Closure Approved	NA	No
CHARLEY PAH 4	K	12	27	09		NMOCD Closure Approved	NA	No
GRACE PEARCE #1	O	22	29	11		NMOCD Closure Approved	NA	No
HAMMOND #7	G	26	27	08		NMOCD Closure Approved	NA	No
ONA MCGEE #1	P	04	30	11		NMOCD Closure Approved	NA	No
CUTLER #2	A	14	24	06		NMOCD Closure Approved	NA	No
LINDRITH UNIT #23	D	09	24	03		NMOCD Closure Approved	NA	No
GREEN COM #1	E	36	29	09		NMOCD Closure Approved	NA	No
HAMMOND FED #5	D	25	27	08	+1	NMOCD Closure Approved	NA	No
FLORA VISTA #1	F	22	30	12		NMOCD Closure Approved	NA	No
MARSHALL B #1J	O	14	27	09		NMOCD Closure Approved	NA	No
HAMMOND #92	O	25	27	08		NMOCD Closure Approved	NA	No
PRICE #3	A	15	28	08		NMOCD Closure Approved	NA	No

Location/Line Name	LTR	Sec	TN	RG	Monitor Well Status	Status	Depth to GW	Product Level
KRAUSE WN FEDERAL #1E	C	32	28	11		NMOCD Closure Approved	NA	No
CANYON LARGO UNIT #298	A	03	24	06		NMOCD Closure Approved	NA	No
ARGO #1E	N	18	27	10		NMOCD Closure Approved	NA	No
CANYON LARGO UNIT #302	J	03	24	06		NMOCD Closure Approved	NA	No
FEDERAL 6 #32 CH	G	06	26	07		NMOCD Closure Approved	NA	No
SANCHEZ GAS COM C#1	A	28	29	10		NMOCD Closure Approved	NA	No
VALDEZ #2	G	24	29	11	-1	NMOCD Closure Approved	NA	No
FEDERAL R #2	P	15	27	08	+1	NMOCD Closure Approved	NA	No
CANYON LARGO UNIT #336	C	24	25	06		NMOCD Closure Approved	NA	No
CANDELARIA GAS COM C #1	C	27	29	10		NMOCD Closure Approved	NA	No
HOWELL #3	C	03	27	08		NMOCD Closure Approved	NA	No
LAT 2C-55 LINE DRIP	F	17	25	07	+1	NMOCD Closure Approved	NA	No
HORTON 1-E	H	28	31	09	+1	MW1 above B standards. Inject nutrient slurry in corners of pit.	5.3'	No
LAT 3B-39	M	10	29	09	+1	MW1 above B standards. Inject nutrient slurry in corners of pit.	31'-36'	No
JOHNSTON FEDERAL #4	H	33	31	09	+3	Determine Remedial Design Options.	48.94'--50.38'	Yes
STATE GAS COM N #1	H	16	31	12	+4	Determine Remedial Design Options.	75.66'--76.90'	Yes
COLDIRON COM A#1	K	02	30	11	+1	Determine Remedial Design Options.	35.4'	Yes
JOHNSTON FEDERAL #6A	F	35	31	09	+4	Determine Remedial Design Options.	40'-44.6'	Yes
JAMES F. BELL #1E	P	10	30	13	+4	Determine Remedial Design Options.	23.5'-24.5'	Yes
CANADA MESA #2	I	24	24	06	+1	Determine Remedial Design Options.	30'	Yes

Location/Line Name	LTR	Sec	TN	RG	Monitor Well Status	Status	Depth to GW	Product Level
FIELDS A #7A	E	34	32	11	+4	Confirm groundwater gradient. Initiate product removal from MW4.	21.8'-28.8'	Yes
FOGELSON 4-1 COM #14	P	04	29	11	+1	Re-excavate site. Evaluate operators open pits as sources of contamination.	31'-36'	No
SANDOVAL GAS COM A 1A	C	35	30	09	+1	Refusal with Geoprobe. Re-excavate pit and re-install MW1.	35'	No
MILES FEDERAL 1A (CH)	F	05	26	07	+1	Evaluate Data. Sandstone refusal at 25'.	29'	Yes
SHEETS #2	H	28	31	09	+4	Sample Quarterly. Steady drop in B analysis through 4 quarters.	46.3'--50.31'	No
JENNAPAH #1	H	36	28	09	+1	Sample Quarterly. Develop and Sample MW1 03/13/97.	20'	No
FLORANCE C LS 7	F	30	28	08	+1	Sample Quarterly. Need 2 more clean quarters.	40'	No
GRAHAM #53	L	10	27	08	+1	Sample Quarterly. Need 3 more clean samples	28.33'	No
MILES FEDERAL 1 A MV	F	05	26	07	+1	Sample Quarterly. Need 2 more clean quarters.	27.8'	No
LAT. H-37 DRIP Y-3	F	01	31	13	+4	Sample Quarterly. Remove socks. 4 clean quarters with ORB socks.	24.5'-25'	No
2C-22 #1 LINE DRIP	N	35	24	06	+1	Develop Closure Plan. 4 clean quarters.	28.8'	No
2C-22 #3 LINE DRIP	G	13	24	06	+1	Sample Quarterly. Need 3 more clean quarters.	14'-24'	No
2C - 45 Line Drip	P	13	25	06	+1	Sample Quarterly. Need 3 more clean quarters.	42.2'	No
USSELMAN GAS COM #1	B	04	31	10	+1	Sample Quarterly. Need 2 more clean quarters	10'	No
Note:								
MW = Monitor Well								
PZ = Piezometer								
BH = Bore Hole								