# 3R - 191

# REPORTS

DATE: 2/27/1998



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

**RECEIVED** 

February 27, 1998

MAR 0 2 1998

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

Sandra D. Miller

Environmental Manager

xc: Mr. Bill Liesse, BLM w/o enclosures

Sindre I Miller

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



# 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.

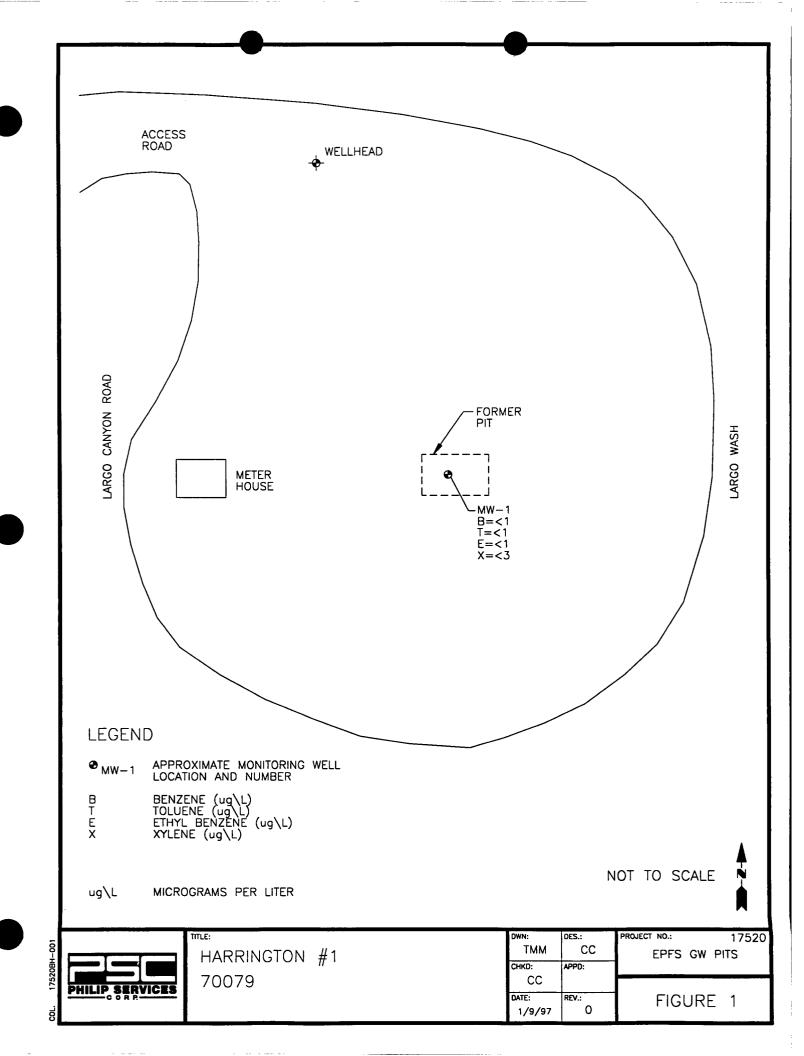
**Quarterly Groundwater Monitoring -** Quarterly groundwater monitoring was initiated on 6/9/97. Groundwater analytical data are presented in Table 1. A site map is presented in Figure 1.

#### **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.







Sample#	Meter/ Line#	Site Name	Sample Date	MW #	Project		Benzene (PPB)		luene PB)		Ethyl Bonzene (PPB)	Ţċ	riol Lylencs (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	· v	_ 3	<_	6
971276	70079	Harrington #1	12/8/97	1	Sample 4 - 3rd Qtr	<	1	<	1	<	1	<	3	<	6

#### RECORD OF SUBSURFACE EXPLORATION

#### PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road

Farmington, New Mexico 87401 (506) 326-2262 FAX (606) 326-2388

Elevation

Borehole Location T27 R 7 - S31 - Ltr M

GWL Depth 12 665

Logged By Drilled By M NONOHUE

Date/Time Started 3/10/97Date/Time Completed

Borehole # BH- **2**Well # / of / \_\_\_\_

Project Name <u>EP</u> Project Number

EPFS GW PITS

17520 Phase

6001.77

Well Logged By Personnel On-Site Contractors On-Site

Project Location

O CHARLEY

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)		r Monitorii Jnits: PPN BH	-	Drilling Conditions & Blow Counts
				BACKFILL						
5				70						
10				12'						(E)
				€W C 12'			مار الت	s co	لناك	
15					010	SAM	,			JED
20					10				:	
25				TD=23'						
30										
35										
40					1					

Comments:

ON EN COUNTERED ( 12' BGS. UNCE-DELLED TO 23' BGS SET WELL.

NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMPLETION DIAGRAM.

Geologist Signature	
---------------------	--

#### MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc. 4000 Monroe Rd. Farmington, NM 87401

Comments:

(505) 326-2262 FAX (606) 326-2388

Elevation Well Location T27N-R7W-53/ GWL Depth Installed By

Date/Time Started Date/Time Completed Borehole # 2

Project Name Project Number Site Location

EPFS GWPITS 17520 HARRINGTON HI Phase 6002.77

On-Site Geologist Personnel On-Site Contractors On-Site Client Personnel On-Site CESARK

	<del></del>	<del></del>	1 -	<del>,</del>	Top of Riser	
ltem	Material	Depth (feet)			Ground Surface	-0-
op of Protective Casing						
Bottom of Protective Casing						
op of Permanent Borehole Casing		N/A				
Bottom of Permanent Borehole Casing		N/A				
Top of Cancrete						
Bottom of Concrete						
Top of Grout	ļ					
Bottom of Grout			} }			
Top of Well Riser	SCH 40 PVC	+3'				
Bottom of Well Riser	"	7'				
Top of Well Screen	.010 SLOT -	7'			Top of Seal	-2
Bottom of Well Screen	<u> </u>	22'	X X X X	X X		
Top of Peltonite Seal	ENVIPOPLUG	2'	X X X X	X X		_ u !
Bottom of Peltonite Seal	.,	4'	X X	X X	Top of Gravel Pack	<u>-7</u>
Top of Gravel Pack	10-20 5.5AD.	41			Top of Screen	
Bottom of Gravel Pack		22'				
Top of Natural Cave-In	<u> </u>	22'				
Bottom of Natural Cave-In	<u> </u>	23'				
Top of Groundwater	<u> </u>	-12'		oxdot	Bottom of Screen	<u>- 22</u>
Total Depth of Borehole		- 23'			Bottom of Borehole	<u>-a3</u>

Geologist Signature

# 1997 GROUNDWATER ANALYTICAL



#### **CHAIN OF CUSTODY RECORD**

	/	1
Page	<u>{</u> o	

	PROJECT N				···							010	T	CONTRACT LABORATORY P. O. NUMBER		
# 24324	Pit Clo	osure l	Project			ERS ERS			HEC	WESTEL	ANALY:					
SAMPLERS: (Signature)				DATE:	1.10-	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	8.1	20	٥			띨			
		<u>-</u>	, ,	4/	2/97	ĬŠ8	A& C	HH 4		LAB PID			<u> </u>			
LABID	DATE	TIME	MATRIX	FIE	LD ID	Pb		TPH EPA 418.1	BTEX EPA 8020	3			SEQUENCE #	REMARKS		
970240	4/2	1125	W	DRC	24	3	M		X				19	HARRINGTON #1 - 70079 (MN-1)		
970241	ţ#		B	DRC	25	1	В		X				19	TRIP BLANK		
970242	и	1405	W	DRC	26	3	M		X				20	MILES FEDERAL # 1E- 94495		
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														4-3-97 1025 Marle Gronento		
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CARRIER CO.					i							EL PASO NATURAL GAS COMPAN				
					01110000000							4		P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499		
BILL NO.:					CHARGE CODE							505-59	9-2144	•		





## FIELD SERVICES LABORATORY **ANALYTICAL REPORT**

# PIT CLOSURE PROJECT

	SAMPLE	IDENTIFICA	TION			
	Fie	ld ID		Lab ID	-	
SAMPLE NUMBER:		C24		·	]	
MTR CODE   SITE NAME:	70	079	Harrington #1			1
SAMPLE DATE   TIME (Hrs):	4/2	2/97		1125		
PROJECT:		Phase II Dri	lling - Initial			]
DATE OF BTEX EXT.   ANAL.:	4/4	1/97		4/4/97		
TYPE   DESCRIPTION:	Monite	or Well		Water		
Field Remarks:						
		RESULTS	· <u>·</u>			
PARAMETER	RESULT	UNITS	DF	QUALIFIE Q	RS	
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				
The Surrogate Recovery was at OF = Dilution Factor Used	101	for this sample	All QA/QC	was accepta	ble.	
larrative:						

970240,4/8/97

Approved By:

PHILIF	We	ell	D	evelo	pme	ent a	and P	urging	Da	ta	Develo Develo	pment	Well Num	ber	<u> </u>
	2	al No.									ka-turgin)	3			Page _ / _ of _ (
Project Name		GI	NE	ITS			F	Project Manage	er	C	CHANCE		P	roject No	17520
Client Compa															0. 6003.17
Site Name			HA	RRINGT	TON H	<u> </u>	70079	Site Addres	ss					····	
Developme	nt Crite	ria					Water V	olume Calcu	lation			In	strumen	ts	Serial No. (If applicable
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Stabiliz     □ Other _					S		Initial Dep	th to Water (fe	et)	9' 8	.GS				
				<del>,</del>			Height of	Water Column	in Wel	l (feet)	13'		DO M	onitor	
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☐ Peristal				s-steel Ke			Well Casin	9	9	15		_]			
Other _							Gravel Pac	k				_  w	ater Dis	posal	
							Drilling Flui					_	<del></del>		
Water Rem	oval Da	ta					То	tel			4315				
			pment hod		Intake Depth	Ending Water Dep		Volume Removed (gallons)		t Volume d (gallons)	Temperature		Conductivit	Dissolved Y Oxygen	
Date	Tìme	Pump	Bailer	(gal/min)	(7001)	(feet)	Increment	Cumulative		Cumulative	(*0	ρН	(umhos/cm	it (mg/L)	Comments
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## CHAIN OF CUSTODY RECORD

Samplers: (Signature)  Samplers: (Signature)  Date: L-9-97  No. of Sample Containers  Date Time Comp. GRAB Sample Number  Sample Sample Sample Sample Number  Sample Sample Sample Sample Number  Sample	Type Analysis and
Date Time Comp. GRAB Sample Number	and No. of Sample Contain
MITCH 6997 139 X 970543 GB 4°C X X X HARRINGTON FI MUNI MC 70C	nber ers
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Relinquished by: (Signature)  Date/Time Received for Laboratory by: (Signature)    Date/Time   Remarks:   Date/Time   Date/Time   Remarks:   Date/Time   Date/Time   Remarks:   Date/Time   Dat	1011 1911
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7-21-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

	Fie	old ID		Lab ID	
SAMPLE NUMBER:	N	I/A		970543	
MTR CODE   SITE NAME:	70	079	Harrir		
SAMPLE DATE   TIME (Hrs):	6/9	9/97			
PROJECT:		Sample 4 -	1st Quarter		
DATE OF BTEX EXT.   ANAL.:	6/1	1/97		6/12/97	
TYPE   DESCRIPTION:	Monit	or Well		Water	
Field Remarks:		RESULTS			
		RESOLIS		<del></del>	<del></del>
PARAMETER	RESULT	UNITS	DF	QUALIFIERS Q	
BENZENE	<1	PPB			
TOLUENE	<1	PPB			
ETHYL BENZENE	<1	PPB			
TOTAL XYLENES	<3	PPB			
TOTAL BTEX	<6	PPB			
e Surrogate Recovery was at	97.8	for this sample	AII QA/QC	was acceptable.	
rrative:					
aproved By: Adm No.	och		Date	6/18/67	

970543,6/16/97





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 <sub>3</sub>	0.0	PPM	06/11/97
Alkalinity as HC0 <sub>3</sub>	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 <sub>3</sub>	262	PPM	06/11/97
Chloride as Cl	17	PPM	06/11/97
Sulfate as SO <sub>4</sub>	1,100	PPM	06/11/97
Fluoride as F	1.8	PPM	06/11/97
Nitrate as N0 <sub>3</sub> -N	< 0.6	PPM	06/11/97
Nitrite as N0 <sub>2</sub> -N	<0.6	PPM	06/11/97
Ammonium as NH <sub>4</sub> <sup>+</sup>	< 0.6	PPM	06/11/97
Phosphate as PO <sub>4</sub>	< 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: Mdw

Approved By: John Lath

Date: <u>6//8/97</u>





## 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. WOCC 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.

bd 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: \_\_\_\_\_\_

Approved By:

John Forbilla

Date: 7/17/97



#### 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 Barium	ND 0.404	ND 0.482	NA 4 4 8 4
Cadmium	0.181 ND	0.183 ND	1.1% NA
Chromium	0.0166	0.0153	8.2%
Lead Mercury	0.0065 ND	0.0069 ND	6.2% 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	T 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.

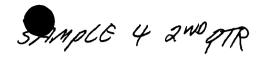
Reported By: Approved By: St. Falls

Date: 7/17/97



#### Well Development and Purging Data

	CIEIN	SERVIC	FC				vven Dev	Ciopin	JIII 4111	- · u.y	ing Date	•			
				N #/	,	_		□ <b>⊠</b>	Developme Purging	nt	Well Num	nber/	MW-1	/ <del>?</del>	
	ment C		e of Wet	er Removel		Water Vo	lume Calc	ulation				Instrun	nents		
	Stabilization	on of Indica	tor Paran	neters		Initial Depth of \\ Initial Depth to \\ Height of Water	Vell (feet)	12.14	クマ <u>エ</u>	_			pH Meter DO Monitor Conductivity	Meter	
thods	s of De	velopm	ent			Diameter (inche				_					,
·······	Pump	•	Baller			Diamoto: (illelie	Water Volum			ns to be	7		Other Do	D. CHEME	TS KIT
	Centrifuga	ı 🔀	Bottom \	/alve		Item	Cubic Feet	Galions		oved	1		-		•
	Submersi	ole 🗌	Double	Check Valve	•	Well Casing		8.2	1 24	15		Water	Disposal		_
	Peristaltic		Stainles	ıs-steel Kem	umetet	Gravel Pack					]	KUT	2 59	PARAT	OR_
						Drilling Fluids							·		
	Other					Total					7				
	<i></i>					10.01	<u></u>	<u> </u>			ل.				
ater R	lemo <u>v</u> a	I Data													
		Develop		Removal	Intake	Ending Water	Water V		1	Volume	Temperature		Conductivity	Dissolved	
Date	Time	Meth Pump	od Baller	(gal/min)	Depth (feet)	Depth (feet)	Remov Increment	ed (gal) Cumulativ		( gallons)	,	pН	μmho/cm	Oxygen mg/L	Comments
7-97	1019	1,		1	,,,,,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					149	6.99	1842		
9-97	1025					<del>-  </del>	5.0	50			13.9	7.14	2620		
9.97	1032			<del> </del>	<u> </u>		50	100		<del> </del>	13.9	727	2730	<del>  </del>	
9.97	100						5.0	150		<b>-</b>	13.9	7.3/	2780		<del></del>
0.07	1046	<u> </u>	<del> </del>	<del> </del>	<del> </del>		5.0	200	<del> </del>	<del> </del>	13.9	7.36	2740	<del>                                     </del>	<del> </del>
757/	<del></del>		<del> </del>	<del> </del>			5.0		<del> </del>	<del> </del>	130	7.40		<del>                                     </del>	
7.7/	1053	<u> </u>			ļ			250	-	<del> </del>	11/2		2790	<del>  , ,                                 </del>	
<u> 1.77</u>	1100		ļ	<del> </del>	<del> </del>		50	30.0	<del> </del>	ļ	14.3	7.42	2870	1.5	
			ļ	ļ	L	<b></b>		ļ	<del> </del>			ļ			
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mments_		00/					1						, 0		
mments_		990	n n	101	Zi	in a second			K	997	Boulous		P	D.	- Colpela-
mments_	Signature_	Le	nn	is	Bi	red			Date_S	997	Reviewer_	John	Lal	lm	Date 6/18/9





**A** 2081

#### CHAIN OF CUSTODY RECORD

Project No	pect No. Project Name  MC+70079  Inplers: (Signature)  Date: 9-17-97  Date: Time Comp. GRAB  Sample Number			Type and						Requested Analysis								
Samplers:	(Signature	Zen	ni	0 (	Zied	Date: 9-17-	97	No. of Sample Contain-	/ Qt	School on School	KY.	//	//				Remarks	
MATRIX	Date	Time	Comp.	GRAB	Sam	ple Number		ers						/				
WATER	9-17-97	1653		X	97	0989		54	40	X				HARRY	1167	ON	#1 MW-1	
WATER	9-17-97			X		7		6-1	4°C	X				TRIP	BU	ANK	#1 MW-1	
			<u> </u>															
·																		
			_							<u> </u>								
		<u> </u>	<b> </b>	<u> </u>			<del></del>			ļ					_	, , , , , , , , , , , , , , , , , , ,		
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				-														
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Relinquis	hed by: (Si	ignature)	. /	,	Date/Time	Received by: (Sig	nature)		Retinqu	l uished b	y: (Sigr	nature)			Date/	Time	Received by: (Signature)	
Ven	MO fied by: (S	(QO)	ed)		9-1797 1628 Date/Time	Received by: (Sig	naturel	<u>-</u>	Reling	uished t	y: (Sigr	sture)			Date/	Time	Received by: (Signature)	·
Heimidnie	. (3					Tiocoived by: (oig			11011114		.,. (Oig.				- Julio,	<del> </del>	Thousand by, (eightaute)	
Relinquis	hed by: (S	ignature)			Date/Time	Received for Labo	oratory by: (S	Signature)	1//	Date/T	ime 0800	Rem	arks:			<u> </u>		
Carrier C	•					7	Carrier	one No.	7			Date	Result	s Reported /	by: (Sig	inature)		



# 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	DF	OUALIFI Q	ERS	
BENZENE	<1	PPB				
TOLUENE	<1	PPB	ļ			
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--RTEX is by EPA Method 8020 -

		Dilly o of this months	1020 —
The Surrogate Recovery was at	89.9	_% for this sample	All QA/QC was acceptable.
DF = Dilution Factor Used		_	

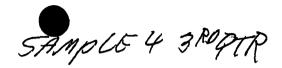
Narrative:			
	P		
Approved By:	John Farther	Date: 9 - 22 - 97	

970989BTEXMW,9/22/97



### **Well Development and Purging Data**

e Nar	ne <i>H/</i>	ARRU	VETZ	oN "	<u> </u>	<del></del>		X	Developmen Purging		Well Nur Meter Co				
	3 to 5 Cas Stabilizati Other	Criteria sing Volume on of Indica	tor Param			Water Vol Initial Depth of V Initial Depth to V Height of Water Diameter (inche	Well (feet) Water (feet) Column in We	2450 12.10 Il (feet)	2.40	_ 		X	oH Meter OO Monitor Conductivity		
	Pump	· · · · · · · · · · · · · · · · · · ·	Bailer				Water Volum	ne in Well		ns to be	1	₩.	Other Q	O. CHO	SMETS KIT
	Centrifug	al 🔀	Bottom \	Valve		Item	Cubic Feet	Gallons		oved	i	7-3	,		•
	Submers	ible 🔲	Double	Check Valve	2	Well Casing		8.2	24	16			Disposal		_
	Peristaltic	. 🗀	Stainles	s-steel Kerr	merer	Gravel Pack						KUT	2 56	OARA	TOR
	, or other lit		-, an not			1			_		1	· ــــــــــــــــــــــــــــــــــــ		,	
						Drilling Fluids					1				
نــا	Other					Total		l	L		J				
iter R	emova	i Data													
Date	Time	Develo Meth		Removal Rate	Intake Depth	Ending Water Depth	Water V Remov		1	Volume ( gallons)	Temperature °C	рН	Conductivity  µmho/cm	Dissolved Oxygen	Comments
	- 0-	Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative		100	1112	mg/L	
<u> 2-77</u>	0957					<del> </del>			<b></b>		190	6.56	1//3		
<u> 277</u>	1009					<del>                                     </del>	5.0	50			17.8	7.17	2110		
		1	ļ			<b></b>	50	10,0	<u> </u>		17.0	7.27	24/0		
12-87	1014	<del> </del>													
1297	1020					ļ	5.0	150			17.0	7.3/	2510		
1797 1797 1797	1020						50	20.0			169	7.36	2460		
1797	1020 1026 1033						50	20.0			169	7.36	2460		
1797	1020						50	20.0			169	7.36	2460	1.5	
1797	1020 1026 1033						50	20.0			169	7.36	2460	1.5	
1797	1020 1026 1033						50	20.0			169	7.36	2460	1.5	
797	1020 1026 1033						50	20.0			169	7.36	2460	1.5	
797 1787 1797	1020 1026 1033						50	20.0			169	7.36	2460	1.5	
797 17-97 17-97	1020 1026 1033 1037	19		io	<i>p</i> -		50	20.0			169	7.36 7.37 7.38	2460 2550 2580		Date 9-22-





A 2156

#### CHAIN OF CUSTODY RECORD

Samplers: (Signature)  Date: /2-597  Sample Contain-	Remarks
Date Time Comp. GRAB Sample Number	
WATER 12-897 1158 X 971276 G-1 4°C X HAPRINGTON WATER 12-897 - X - G-1 4°C X TRIP BLAN	1#1 MW-1
WATER 12-27 X - G-/ 4°C X TRIP BUAN	·/K
	· · · · · · · · · · · · · · · · · · ·
<del> </del>	
<del>                                     </del>	
Relinquished by: (Signature)  Date/Time Received by: (Signature)  Relinquished by: (Signature)  Date/Time	Received by: (Signature)
Tennis Birst 12-97 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)  12 Date/Time Remarks:    Page	
Carrier Co: Carrier Pione No. Date Results Reported / by: (Signature)  Air Bill No.:	



# 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:	:	 		 

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

**RESULTS** 

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at	96.4	% for this sample	All QA/QC was acceptable
DE = Dilution Factor Used		_	

Narrative:				
Approved By:	John Land	Date:	11-150	

971275BTEXMW,12/10/97

ELICO FIELD SERVICES	
	Well Development ar
Site Name <u>HARRINGTON</u> #	☐ Developm ☑ Purging
Development Criteria	

		⊃EI (v	rce:	•		Well Development and Purging Da									
Site Name_HARRINGTON #1							ı		Developme Purging	nt	Well Number <u>MW-1</u> Meter Code <u>70079</u>				
Develop	ment C	Criteria													
		sing Volume on of Indica				Water Volume Initial Depth of Initial Depth to Height of Wate	Weil (feet) Water (feet)	11.85	12.65	_ 		Instrum	pH Meter DO Monitor	y Meter	
Methods	s of De	velopm	ent			Diameter (inche			ack	_	_	X		re Meter	CEMETS KIT
	Pump Centrifug:	al [57]	Bailer Bottom '	Valve		Item	Water Volum Cubic Feet			ns to be		×	Other <u>U</u>	O. CH	cmold (ii)
	Submersi			Check Valv	/e	Well Casing	Odbio i cet	8.4	29			Water I	Disposal		
	Peristaltic			ss-steel Ker		Gravel Pack		<u> </u>	70			KUT	2 56%	DARA.	TOP
	renotatio	,	O CONTROL	33-3(66) (46)		1					1	1.00			······································
						Drilling Fluids		<b> </b>			{				
	Other					Total	<u></u>	<u> </u>	l		j				
Water R	Remova	I Data													
Data	Time	Develo		Removal	Intake	Ending Water	Water \		1	Volume	Temperature °C		Conductivity µmho/cm	Dissolved Oxygen	Comments
Date	Time	Meti Pump	Bailer	Rate (gal/min)	Depth (feet)	Depth (feet)	Increment	ed (gal) Cumulative		( gallons) Cumulative		pН	риппо/сти	mg/L	Comments
12-897	1107										11.8	6.56	911		
12-897	11/3						5.0	5.0			12.8	7.06	22/0		
12-8-97	1119						5.0	10.0			126	7.25	2790		
12-8-97	1128						50	15.0			122	7.41	2850		
12-8-97	1134						50	200			126	7.44	2970		
12-8-97	1142						50	15.0			12.2	7.50	3010		
12-8-97	1148						5.0	30.0			12./	7.48	3030	1.5	
			1	(	ł									]	

Comments		
Developer's Signature Tennis Bird	 Idu Forder.	
	$\bigcup$	1 6

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# 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

RECEIVED

December 1998

APR 0 5 1999

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

**Prepared For** 

El Paso Field Services Farmington, New Mexico

> Project 17520 Book 1



# EPFS GROUNDWATER PITS 1998 CLOSURE REPORT

#### HARRINGTON #1 Meter/Line ID - 70079

## RECEIVED

APR 0 5 1999

#### SITE DETAILS

Legals - Twn: 27N R

NMOCD Hazard Ranking: 30

Rng: 7W

Unit: M

Land Type: FEDERAL

Operator: BURLINGTON RESOURCES

ENVIRONMENTAL BUREAU OIL CONSERVATION DIVISION

#### PREVIOUS ACTIVITIES

Site Assessment: Jun-94

Excavation: July-94 (50cy)

Sec: 31

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.

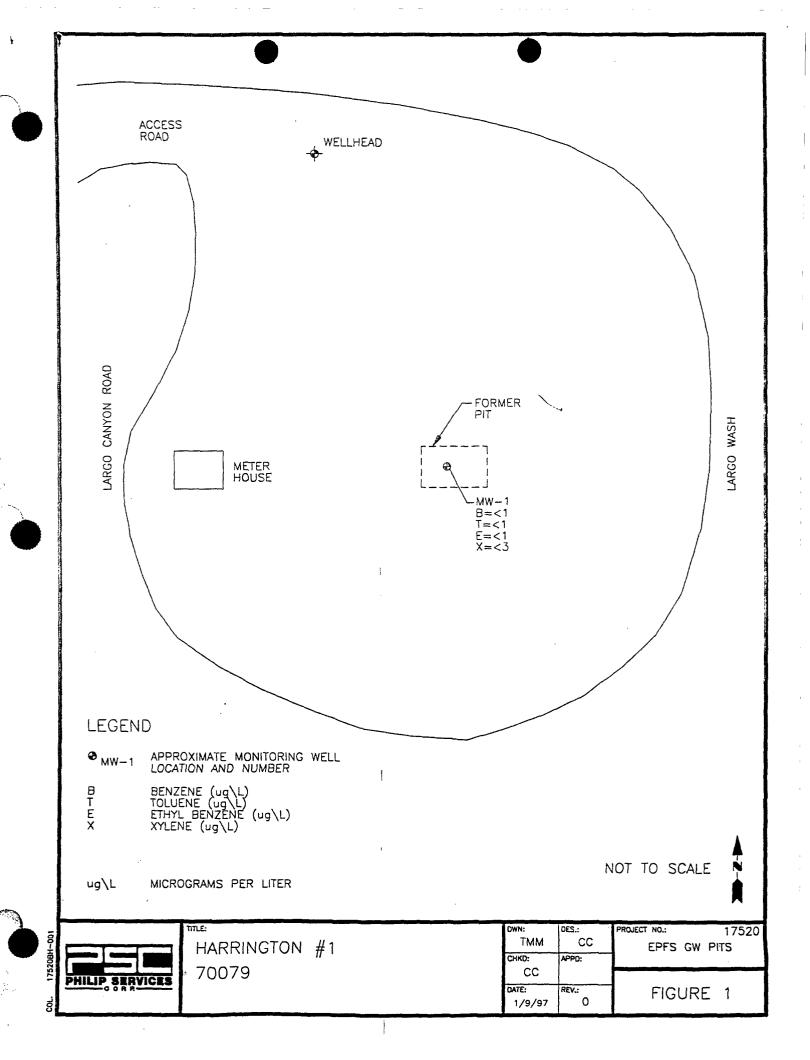
One soil boring was drilled in the center of the former pit. Groundwater was encountered at 12 feet bgs and a monitoring well was installed. No soil samples were collected from the pit. Quarterly groundwater monitoring was initiated on 6/9/97 and continued through 3/20/98. Groundwater analytical data 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.



	ORIGINAL PIT LOCATION	1
	Original Pit : a) Degrees from North <u>169°</u> Foo b) Length : <u>17′</u> Width : <u>16</u> ′	tage from Wellhead <u>112'</u> Depth :2'
ORIGINAL PIT LOCATION	ORIGINAL PIT LOCATION	
REMARKS	Remarks: TOOK PICTURES AT 2:57 RM. END DUMP	
	Completed By:  Signature	<u>6-14-94</u> Date

or Sandista

# PHASE I EXCAVATION

## FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: 70079 Location: Harrington #1  Coordinates: Letter: AL Section 31 Township: 27 Range: 7  Or Latitude Longitude  Date Started: 7/29/94 Run: 07 51
ELD OBSERVATIONS	Sample Number(s): KD/79  Sample Depth: 12 Feet  Final PID Reading 317 ppm PID Reading Depth 12 Feet  Yes No  Groundwater Encountered
SURE	Remediation Method :  Excavation  Onsite Bioremediation  Backfill Pit Without Excavation
CL0S	Soil Disposition:  Envirotech  Other Facility  Name:  Pit Closure Date: 9/1194  Pit Closed By: DET
MARKS	Remarks: Excavated pit to 12', took p.D Sample. Will Close pit on 8/1/94.
	Signature of Specialist:



# 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	196194			
TYPE   DESCRIPTION:	٧	Brown Grey Sand ClA			

REMARKS:

## RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS					
			DF	Q	M(g)	V(ml)		
BENZENE	20.25	MG/KG	10					
TOLUENE	J+340.25	MG/KG	10					
ETHYL BENZENE 3/23/9	€.53,5	MG/KG	10					
TOTAL XYLENES	9879	MG/KG	10					
TOTAL BTEX	++883	MG/KG						
TPH (418.1)	2320	MG/KG			2-03	28		
HEADSPACE PID	317	PPM		. "				
PERCENT SOLIDS	88.9	%				7		



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

Corporate Offices: 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141



#### 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
80	08 945791		07/29/94	08/04/94	08/06/94	10
09	945792	NON-AQ	08/04/94	08/06/94	10	
PARAME	TER		UNITS	07	08	09
BENZENE			MG/KG	2.1	<0.25	<0.25
UEN	E		MG/KG	75	13	<0.25
ETHYLBENZENE			MG/KG	14	6.5	3.5
TOTAL XYLENES			MG/KG		98	79
SURROG	ATE:					
BROMOF	LUOROBENZENE (%)			131*	176*	144*

\*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE





ann.	of	

PROJECT NUMBER		PROJECT NAME Pit Closure Project # 24324					TOTAL NUMBER OF CONTAINERS		REQUESTED ANALYS						CONTRACT LABORATORY P. O. NUMBER
								E SE					rsis		
SAMPLERS: (Signature)		A/ DATE:			Marla	A N	SAMPLE	3.1	20.	,			收		
		hung same			7/29/94	4 S	SAM	£ 2	Ж <u>о</u>	*			1 1		
LABID	DATE	TIME	MATRIX	s	AMPLE N	NUMBER	ρÑ		TPH EPA 418.1	BTEX EPA 8020			₹ <sub>a</sub>	400	REMARKS
	7/29/94	1200	Soil	Kr	773	•	1	VC	X	X				157	9
jak .	7/29/94	1400	soil	KD	174		1	rc	X	X				158	
					1								No.		
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						7									
RELINQUISHED BY: (Signature)			Tleyby	163c	RECEIVED BY: (Sign	nature)	1/i	RELINQUISHED BY: (Sign		t: (Signatu	1	? lea-	DATE/TIME 260 RECEIVED BY: (Signature)		
RELINQUISHED BY: (Signature) DATE/TIME RECE			RECEIVED BY: (Sign	nature)	ma mas me.	RELINQUISHED BY: (Signat					W · water of water	DATE/TIME RECEIVED OF LABORATORY BY: (Signature)			
REQUESTED TURNAROUND TIME: SAMPLE RECEIPT 6					REMARKS						RESUL	TS & INVO			
CARRIER CO.													FIELD SERVICES LABORATORY \ EL PASO NATURAL GAS COMPANY		
· · ·												P. O. BOX 4990			
				CHARGE CODE							505-59	9-2144	FARMINGTON, NEW MEXICO 87499  FAX: 505-599-2261		

# PHASE III RE-EXCAVATION

# FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

Meter: 70079 Location: Harrington #1
Coordinates: Letter: 12 Section 31 Township: 27 Range: 07
Or Latitude Longitude
Date Started : <u>8-8-95</u> Area: <u>07</u> Run: <u>51</u>
Sample Number(a): 1844 1845 1846 1847
Sample Number(s): $AP44 AP45 AP46 AP47$ Sample Depth: $AP45$ Feet
Final PID Reading 69 ppm PID Reading Depth 12 Feet
Yes No
Groundwater Encountered 🛛 (1) 🔲 (2) Approximate Depth 🔟 Feet
Dimensions: Length 1360 Width 30 Depth 12
Remediation Method :
Excavation \(\simeg(1)\) Approx. Cubic Yards \(\frac{2}{2}\) bill \(\frac{2}{3}\)
Onsite Bioremediation (2)
Backfill Pit Without Excavation (3)
Soil Disposition: Overburden Cubic Yards <u>20 '4 1/2</u> 1/45-
Envirotech ◯ (1) ☐ (3) Tierra
Other Facility (2) Name:
Pit Closure Date: 8-15-95 of Pit Closed By: Philip Env
Phase III
Remarks: Ground water encounted at 12, Contamination is appor 10 deep, approx 20 wide on North+ East walls, South
all 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 Teamon
Sint jal



## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT - Water

### SAMPLE IDENTIFICATION

**SAMPLE NUMBER:** 

947182

FIELD ID:

JP 44

MTR CODE:

70079

**SAMPLE DATE:** 

**SAMPLE TYPE:** 

EXCAVATION

SITE NAME:

Harrington #1

EXCAVATFON

PROJECT:

DATE OF BTEX ANALYSIS:

FIELD COMMENTS:

2 Containers

### EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WOCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	NIA		None
BENZENE (PPB)	75.4	D(5)	10
TOLUENE (PPB)	202	0(5)	740
ETHYL BENZENE (PPB)	209	D(2)	750
TOTAL XYLENES (PPB)	2464	D(5)	620
SURROGATE % RECOVERY	89.8	Allowed Rar 80 to 120	- I

No Bubbles in VOA's.

By: Jard



# FIELD SERVICES LABORATORY ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

## SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	91EBB/0/15 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 Jelay

Fie			

### **RESULTS**

PARAMETER	RESULT	UNITS		QUALIF	IERS	
			DF	Q	M(g)	∵V(ml)∌
BENZENE	20.025	MG/KG	l			
TOLUENE	0.026	MG/KG	1			: :
ETHYL BENZENE	20.025	MG/KG	1			
TOTAL XYLENES	0.057	MG/KG	)			
TOTAL BTEX	0.083	MG/KG				
<b>TPH</b> (418.1)	14.2	MG/KG			2.29	28
HEADSPACE PID	69	PPM				
PERCENT SOLIDS	83.1	%			e de la companya de l	

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

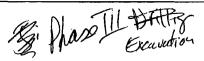
The Surrogate Recovery was at	88	for this sample	All QA/QC was acceptable.	
Narrative:	<u> </u>			
AT   Regul	t attack!	<b>.</b>		

DF = Dilution Factor Used

Approved By:

Date: 8/28/95





CHAIN OF CUS DY RECORD

- 1		
Page	- of	

PROJECT NUMBER						I								CONTRACT LABORATORY P. O. NUMBER		
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SAMPLERS: (Signature)						88	٣	-	0				Щ.			
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	ame	SAV	enes	/	5-0-75	₹8	. ბ _	<u>P</u> 4	世8	<u> </u>		l	# ₽			
LABID /	DATE	TIME	MATRIX	FII	ELD ID	TOTAL NUMBER OF CONTAINERS		TPH EPA 418.1	BTEX EPA 8020	LAB	ł		SEQUENCE #	REMARKS		
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947182	8-8-95	1615	Water	11	P2/2/	12	46	X	X				40	Harrington #1 70079		
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REQUESTED TURNAROUND TIME: SAMPLE RECEIPT				REMARK	S					RESULT	TS & INV	OICES TO:				
O ROUTINE RUSH												1		FIELD SERVICES LABORATORY		
CARRIER CO.													EL PASO NATURAL GAS COMPANY			
												P. O. BOX 4990				
					CHARGE CODE	CODE						FARMINGTON, NEW MEXICO 87499				
BILL NO.:												505-599-2144 FAX: 505-599-2261				





## CHAIN OF CUSTOY RECORD

Page	of	

PROJECT NUMBER					<del></del>	,									
									DECLIERTED ANALYSI					CONTRACT LABORATORY P. O. NUMBER	
# 24324	Pit Closure Project					E Ω REQUESTED ANALYS						515			
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Jan	res d	Lena	<u> </u>	<u>8-</u>	9-95	₹ģ	N. L.	F.4	E S	<u> </u>			<u></u>		
LABID	DATE	TIME	MATRIX		ELD ID	TOTAL NUMBER OF CONTAINERS		ТРН ЕРА 418.1	BTEX EPA 8020	LAB PID			SEQUENCE	REMARKS	
947199	8-9-95	1200	Soil	4	1945	1	VC	X	X				4//	Harrington #1 70079	
947200	8-9-95	ſ		1	PHO	1	PE	X	X				42	Harrington 1 70079	
947201	8-9-95	1205	Soil	1	047	1	B	X	Х				4/3	/1	
				7									,		
													/		
								-							
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REQUESTED TURNAROUND TIME: SAMPLE RECEIPT				REMARKS	3		<b></b>		**	RESU	TS & INV	/OICES TO:			
☐ ROUTINE ☐ RUSH													FIELD SERVICES LABORATORY		
CARRIER CO.												EL PASO NATURAL GAS COMPANY			
1					<u> </u>							P. O. BOX 4990			
}					CHARGE CODE							1		FARMINGTON, NEW MEXICO 87499	
BILL NO.:											505-5	505-599-2144 FAX: 505-599-2261			



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.

KININAU

Kimberly D. McNeill Project Manager

MR: jt

Enclosure

H. Mitchell Rubenstein, Ph.D. Laboratory Manager





#### 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

SAMPI ID. #		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
PARAM	IETER		UNITS	01	02	03
BENZE	ENE		MG/KG	<0.025	<0.025	<0.025
TOLUE	ENE		MG/KG	<0.025	0.026	<0.025
ETHYL	BENZENE		MG/KG	<0.025	<0.025	<0.025
TOTAL	XYLENES		MG/KG	<0.025	0.057	0.058
SURRO	GATE:			C		
BROMO	FLUOROBENZENE (%)			88	88	93

# PHASE II SOIL BORING

#### RECORD OF SUBSURFACE EXPLORATION

#### PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road

Farmington, New Mexico 87401

(506) 326-2262 FAX (505) 326-2388

Elevation **Borehole Location** GWL Depth Logged By Drilled By Date/Time Started Date/Time Completed

Borehole #	BH- 2
Well #	
Page	of /

**EPFS GW PITS** Project Name

Project Number **Project Location** 

17520 Phase 6001.77 HARRINGTON #1

Well Logged By Personnel On-Site Contractors On-Site

ARCHULET.

Drilling Method

4 1/4" ID HSA

Air Monitoring Method

Client Personnel On-Site

PID, CGI

Depth	Sample	Sample	Sample Type &	Sample Description	uscs	Depth Lithology	1	r Manitoi		Drilling Conditions
(Feet)	Number	interval		Classification System: USCS	Symbol	•	1			& Blow Counts
(Feet)  0  10  15	Number	Interval	Recovery (inches)	BACKFILL TO 12' GWC12'	Symbol	Change (feet)	BZ	Phits: PP	5)	& Blow Counts
20				TD=23'						
35		·								

Comments:

EW EN COUNTERED ( 12' BGS. UVER-DenleD TO 23' BGS SET WELL.
NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMPLETION DIAGRAM.

Carlaria Simonum	01	
Geologist Signature		

#### MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc. 4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (506) 326-2388

Elevation

Well Location T27N-R7W-531 - L'M'

GWL Depth 12' 865

Installed By M NONOHUE

Date/Time Started 3/10/97 - 0945

Date/Time Completed 11 - 1/00

Borehole # 2 Weil # / of /

Project Name <u>FPFS GW P1TS</u>
Project Number <u>1752D</u> Phase 6002.77
Site Location HARRINGTON HI 870079

On-Site Geologist

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

oths in Reference to Gr	ouna Surface	
Item	Material	Depth
		(feet)
p of Protective Casing		
Bottom of Protective Casing		
op of Permanent Borehole Casing		N/A
lottom of Permanent Borehole Casing		N/A
op of Concrete		
Bottom of Concrete		
op of Grout		
Bottom of Grout		
Top of Well Riser	SCH 40 PVC	+31
Bottom of Well Riser	"	7'
Top of Well Screen	.010 SLOT	7'
Bottom of Well Screen		-a2'
Top of Peltonite Seal	ENVIROPLUG	-2'
Bottom of Peltonite Seal	•'	4"
Top of Gravel Pack	10-20 S.SAD	-41
Bottom of Gravel Pack		-221
Top of Natural Cave-In		32'
Bottom of Natural Cave-In		-23'
Top of Groundwater		-12'
Total Depth of Borehole		- a3'

Comments.			
	· · · · · · · · · · · · · · · · · · ·	$\theta \lambda \lambda \lambda$	
	Geologist Signature		

roject Ņame		il No. GV					· Pr	oject Manager		C	CHANCE		Pro		Page of
lient Compar	ηγ		EP	FS									Ph	ase,Task No	6003.77
					TON H	1	70079	Site Address	s						
evelopme: QN3 to 5 ( XI Stabilized Other _	Casing Vo	lume ndica	tor F	arameter	'S	1	Initial Depth	ume Calcula of Well (feet) to Water (fee ater Column i					strument: DpH Meta D DO Mor	er	Serial No. (II applicab
Methods of	Develo	pme	nt					iches): Well_					<b>B</b> Conduc	tivity Meter	
Pump  Centrifu  Submer	ıgai Ø sible □	Dou	ble (	Check Va			ltem	Water Vol Cubic Feet	G	illons	Gallons to be Removed	.	•		
☐ Peristal☐ Other				s-steel Ke			Well Casing Gravel Pack Drilling Fluid:		-5	315		d w	ater Disp	osal	
Vater Rem	oval Da	ta				ļ	Tota				4315				
Date	Time	Develo Met Pump	pod	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depi		lume Removed pallons) Cumulative	Remark	t Voluma d Igalloriai Cumulativa	Temperature (°C)	рН	Conductivity (wmhos/cm)	Dissolved Oxygen (mg/L)	Comments
4/2/97	1015		X	15			10	10			12,3	6,34	216		
1.	1030		χ				10	20			12,2	6.88	220		
,,	1050		X				10	30			12.3	7.06	203		
į (	1105		X				12.5	42.5			12.3	7.23	215		
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	and time the	t the	devel	opment crit	eria are met			l				<u> </u>	_ <del></del>		. ` `

PHIL	ĮP	V	Vat	er	Sa	mpli	ng ]	Da	ta				Loca	tion 1	۷٥	MW-1
		S	erial No	. WS	5D-		Ŭ						Gro	up Li	st Numb	er
Sample T	ype:					□ Surfac	e Water		] Oth	er					Date .	4/2/97
Project Na	me _															7520
Project M																6003.77
Site Name		HAR	RINE	-ton	1#1	-7	0079									
Reque	sted S h Inte sted V	Sampl rval ( Vait R	ling feet) Follow	ing	rs)		_	Tim Initi	e Ela al Wa	ater D	From epth	Final (			·	(hours)
Water C	lualit	y/W	ater (	Colle	ction					_		1	DO = Diss	olved (	Oxygen; (	Cond. = Conductivi
					N	ater Qua	ality Rea	ding	s		V	Vater C	ollection	Data		
Date	Tic	ne	Sam Initi	•	Temp.	рH	DO (mg/L)	(¿m	, ond. nhos/ an)	Volu Remo (galle	oved	Remov Rate (gal/mir	Depth	Bañ	Final Water Depth (feet)	Notes (Explain in Comments Below
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-	L			Cont	ainer Ty	pe: G = (	Jear Glas	. A	= Amt	per Glas	.s; P	= Plastic	- V = V	)A Vial	(Glass);	0 = Other (Specify
ample (	Conta	iner	s										) = Other			
				_			1	eld			1	ring				
Analytic Parameter		Nu	mber		ntainer /pe	Volume (m		No	Pres	served	<b> </b>	No			Comment	s
RTEV	,	<del>                                     </del>	c24			40	10, 103	X	<del> </del>	У	X					
BTEX	<b></b>	DR	C 27	<u> </u>		- 10			-	<u>/</u>	^	-			<del></del>	
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nature		للا	1/1				_ Date	4	12/	97		Revi	ewer		_ Date _	





# FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

		_			_	_	 		
~	Α		D	-	10	P-8	10/	TIC	N R I

	SAMPLE	IDENTIFICA	HUN	····					
	Fiel	id ID		Lab ID					
SAMPLE NUMBER:		C24		970240					
MTR CODE   SITE NAME:	70	079	Н						
SAMPLE DATE   TIME (Hrs):	4/2	2/97		1125					
PROJECT:		Phase II Dri	lling - Initial						
DATE OF BTEX EXT.   ANAL.:	4/4	/97							
TYPE   DESCRIPTION:	Monito	or Well		Water					
Field Remarks:									
		RESULTS				<del></del> -			
PARAMETER	RESULT	UNITS	DF	QUALIFIER Q					
BENZENE	<1	PPB							
TOLUENE	<1	PPB							
ETHYL BENZENE	<1	PPB	<u> </u>						
TOTAL XYLENES	<3	PPB							
TOTAL BTEX	<6	PPB							
e Surrogate Recovery was at ⇒ Dilution Factor Used	101	for this sample	All QA/QC	was acceptab	le.	ļ			
rrative:						1			
DF ⇒ Dilution Factor Used	. 0		Date:	4/8/97					

970240,4/8/97



## **CHAIN OF CUSTODY RECORD**

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Page		of _/	

PROJECT NUMBER	PROJECT NAME PIT Closure Project								BEC	UESTE	ANALV	CIC		CONTRACT LABORATORY P. O. NUMBER			
# 24324 SAMPLERS: (Signature)	PIT CI	osure	Project	DATE:		MERS		ļ		10,00101	AIALI						
O					2/97	N TA	SAMPLE	18.1	×82	윤		[	SC				
LABID	DATE	TIME	MATRIX		ELD ID	TOTAL NUMBER OF CONTAINERS	S'	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 (MIN-1)			
970241	11		B	DRC	25	1	B		X				19	TRIP BLANK			
970242	ü	1405	W	DRC	26	3	M		X				20	MILES FEDERAL # 1E- 94495			
		14	_														
										,							
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LU	<u> </u>	4/	2/97	l	l				1(b	<u> بن ل</u>	<u> </u>	De	am	0 4-397 1025 84° DATE/TIME RECEIVED OF LABORATORY BY: (Signalure)			
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														4-3-97 1025 Marle arments			
REQUESTED TURNARO					SAMPLE RECEIPT	REMARK	s					RESU	LTS & INV	OICES TO: FIELD SERVICES LABORATORY			
CARRIER CO.								EL PASO NA						EL PASO NATURAL GAS COMPANY			
					CHARGE CODE							-	/	P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499			
BILL NO.:	I I												505-599-2144 FAX: 505-599-2261				

# QUARTERLY MONITORING RESULTS

- 4	
M	ar a

Sample#	Meter/ Line#	Site Name	Sample Date	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	<b>S</b> 7	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		Sample 4 - 4th Qtr	<	1	<	1	<	1	<	3	<	6

<sup>\*</sup> Analytical reports provided to NMOCD in prior annual report.



نده.	5	MOC	T .	4	Lit	#47	х <sup>р</sup>				<b>D</b> ISO	- ·	11	9]] G	1.2	- SJ .	Hest.	Ü	262	-9 %	
		17		/	/	/ '	(		CHAIN	Natura	eas Co	mpan REC	y Opn	CH.	W 4.	2-90	P Poto	Δ	262	24	~
Project No	).	Project N	ame	سر	#70	079	<del></del>		CHAIR	Туре	STODY RECORD CAU 4.2-98 Polo  Requested  Analysis										
Samplers:	(Signature	Wer.	en	ie	El	red	Date: 🕏	-20	78	and No. of Sample	No. of Sample					Remarks					
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WATER WATER	3-70-18	1050	>	X		9	POA	44	1	G-1	400	X				HA	PRIN	STON	/#/ /	MW	<u>/</u>
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# 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	DF	QUALIFIE Q	RS	
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		<del></del>	

Narrative:			
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980244BTEXMW,3/25/98

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	FIE	SERVICES

# Well Development and Purging Data

evelopr			0/0	N #1	<i></i>			, X	Purging		Well Nur Meter Co	$de_{\underline{Z}}$	2079			
	ment C	riteria														
	3 to 5 Casing Volumes of Water Removel Stabilization of Indicator Parameters Other					Water Volinitial Depth of Initial Depth to Meight of Water		Instruments  pH Meter  DO Monitor  Conductivity Meter								
ethods of Development					Diameter (inche					Temperature Meter  Other <u>O.O.</u> C HEMETS KIT						
Pump Bailer Centrifugal Bottom Valve						Item	Water Volum Cubic Feet		Gallo	ons to be	/	×	Other <u>O</u>	.O. CH	EMETS KIT	
	Submersi	ble	Double	Check Valv	e	Well Casing		8,4	25.	./ 4	(	Water	Disposal	l		
	Peristaltic		Stainle	ss-steel Ken	nmerer	Gravel Pack						KUTO	2 55	OARAT	OP	
						Drilling Fluids							,			
	Other		·			Total										
ater Re	emova	l Data														
Date	Time	Development Removal Intake Method Rate Depth		Ending Water Water Volume Depth Removed (gal)				Volume	Temperature °C	داء	Conductivity		Comments			
		Pump Bailer (gal/min) (feet)		(feet)	Increment	Cumulative		( gallons) Cumulative	e	PΗ	μmho/cm	Oxygen mg/L	Comments			
20.98	1005										10,6	6.23	1546			
20.98	100						5.0	5.0			11.1	6.83	2610			
	1016	<del></del> _			<del></del>		50	10.0			11.6	7.1/	3750			
20-98		<del></del>					50	15.0			11.8	7.26	2920			
2098	1028	·					5.0	20.0			12/	7.33	3030			
20-92	1034		<del> </del>				5.0	75.0		<del> </del>	11.9	7.38	3040	1		
20-98	1040		<del> </del>				5.0	30.0		<b> </b>	120	7.40	3070	1.5		
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veloper's S	Signature	Ver	mi	is 8	ied	/		ſ	Date 3-70	D98 ,	Reviewer	tole	n Hentel	1	Date 3/25/98	



### QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 980232, 980234, 980235, 980240 to 980246

QA/QC for 3/23/98 Sample Set

ABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

ABORATORY CALIBRATI	UN CHECKS / LABORA	TORI CONTR	ANALYTICAL T	**************************************	ACCEPTABLE
SAMPLE		EXPECTED	ANALYTICAL	%R	
NUMBER	TYPE	RESULT	RESULT	70 N	YES NO
ICV LA-52589		PPB	PPB		RANGE
50 PPB				104.6	75 - 125 % X
Benzene	Standard	50.0	52.3		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	ACCEPTABLE
SAMPLE		EXPECTED	ANALYTICAL		ACCERTABLE
NUMBER	TYPE	RESULT	RESULT	%R	YES NO
LCS LA-45476		PPB	PPB		
25 PPB					RANGE
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		EXPECTED	ANALYTICAL		ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	%R	
CCV LA-52589		PPB	PPB		YES NO
50 PPB					RANGE
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		EXPECTED	ANALYTICAL		ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	%R	
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SYNTHER OF FREE PROPERTY (FINE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE P			PPB		YES NO
CCV LA-52589		PPB	되는 점심이 없면 많으면 이렇다고		YES NO RANGE
CCV LA-52589 50 PPB		PPB	되는 점심이 없면 많으면 이렇다고	104.4	Augusta de la Talencia de la Augusta de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración de la Caración
CCV LA-52589 50 PPB Benzene	Standard	PPB 50.0	52.2	104.4 105.4	RANGE
GCV LA-52589 50 PPB Benzene Toluene	Standard Standard	PPB 50.0 50.0	52.2 52.7	1	75 - 125 % X 75 - 125 % X
CCV LA-52589 50 PPB  Benzene Toluene Ethylbenzene	Standard Standard Standard	50.0 50.0 50.0	52.2 52.7 53.8	105.4	75 - 125 % X 75 - 125 % X
CCV LA-52589 50 PPB Benzene Toluene	Standard Standard	PPB 50.0 50.0	52.2 52.7 53.8 108.4	105.4 107.6 108.4	75 - 125 % X 75 - 125 % X 75 - 125 % X 75 - 125 % X

Narrative: Acceptable.

SAMPLE		EXPECTED	ANALYTICAL		ACCEPTABLE
NUMBER	TYPE	RESULT	RESULT	%R	
CCV LA-52589 50 PPB		PPB	PPB		YES NO RANGE
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

varrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980232	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE YES NO 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	SPIKE	SAMPLE	SPIKE		ACCEPTABLE
İĎ	ADDED	RESULT	SAMPLE	%R	
2nd Analysis	PPB	PPB	RESULT		YES NO
980232			PPB		RANGE
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	<b>Boiled Water</b>	<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.

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CONTAMINATION  CORRYOVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
THE THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T		(none dialyzed with day so the	
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

Varrative: 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:

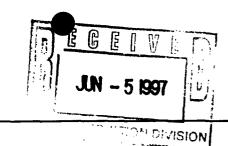
Approved By: John Surder Date: 3/25/98

# 3R - 191

# REPORTS

DATE: 6/2/1997





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

Location/Line Name	LTR	Sec	TN	RG		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	5'-9'	No
GALLEGOS CANYON UT 145 E	D	26	29	12		Closure Plan. PZ1 in center of pit below standards.	6'-9'	No
JOHNSTON FEDERAL #3A	<u> </u>	12	30	09	+1	Develop Closure Plan. 4 clean quarters.	67.5'	No
FLORANCE #1 DE-NA-HAZ-ZA #1	D	08 18	30 26	11 08	+1	MW1 installed 05/07/97. Develop and sample MW1. MW1 installed 05/06/97.	14'	No ·
Ramenta Et Al #1	J	13	27		+ 1	Develop and sample MW1.  MW1 installed 05/06/97.	14'	No
HAMMOND 41 A	O	25	27	08	+ 1	Develop and sample MW1.  MW1 installed 05/05/97.	5'-9'	No
VALDEZ GAS UNIT A #1E CH	G	24	29	11	-1, +1	Develop and sample MW1.  MW1 installed 05/07/97.  Develop and sample MW1.	15'-24'	No No

Location/Line Name	LTR	Sec	TN	RG	Monitor Wei	Status	Depth to GW	Product Level
					Status			
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	ı	27	29	12	+1	MW1 Developed and sampled 03/10/97. Evaluate Data.	19.1'	No
HARRINGTON #1	М	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	111	+1	Same as Above	5'	No
SAN JUAN 28-6 UNIT #79 MV	М	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	Р	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	М	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	В	13	27	09	+1	MW1 Developed and sampled 03/13/97. Evaluate Data.	19'	No
CANDADO 23 MV	В	09	26	07	+ 1	MW1 Developed and sampled 04/16/97. Evaluate Data.		
		<u> </u>	<u>:</u>	<u> </u>		<u> </u>	6'-9'	No

Location/Line Name	LTR	Sec	TN	RG	Monitor Wal	Status	Depth to GW	Product Lavel
GALLEGOS CANYON UNIT 188E	В	30	29	12	+1	MW1 Developed and sampled 04/03/97. Evaluațe Data.	3'-5'	No
JOHNSON #1E	Р	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	С	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	С	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	<b></b>	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	Α	34	26	06		Install MW1	10'	No
Mesa CPD	С	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	М	31	30	09	+1	Install well points on four sides of pit to establish gradient.	30'-36'	No .
CANYON LARGO UNIT 304	С	11	24	06	+1	Install downgradient well points and sample.	17.5'-18'	No

Location/Line Name	LTR	Sec	TN	RG	Monitor W	ell Status	Depth to GW	Product Leve
					Stetus			
K-27 LINE DRIP	E	04	25	06	+1	Establish gradient with well points.	40'	No
LAT 0-21 LINE DRIP	0	12	30	09	+ 1	Establish gradient with well points.	33'-36'	No
Trunk D loop Line Drip	1	33	28	08	+ 1	Establish gradient with well	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	~ <del> -</del>	
		,,,				points and sample.	40'	No
HAMNER #9	Α	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		
***************************************					<b>,</b>		NA	No
BURROUGHS COM #1	Н	36	27	08		NMOCD Closure Approved		No
OLF VELAND 40					<u> </u>	NIMOOD O	NA	NO NO
CLEVELAND #6	В	21	27	09	+1	NMOCD Closure Approved	NA	No
CHARLEY PAH 4	K	12	27	09	ļ	NMOCD Closure Approved		110
CHARLET PAR 4	^	12	21	US		NWOCD Closure Approved	NA	No
GRACE PEARCE #1	О	22	29	11	<u> </u>	NMOCD Closure Approved		<del></del>
			-	1		, , , , , , , , , , , , , , , , , , ,	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	Α	14	24	06		NMOCD Closure Approved		
					<u></u>		NA	No
LINDRITH UNIT #23	D	09	24	03		NMOCD Closure Approved		
ODEEN COM #4					ļ		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		140
FIAMMINIONU FEU #3	D	20	21	00	T'	MINIOCD Closule Approved	NA	No
FLORA VISTA #1	F	22	30	12	ļ	NMOCD Closure Approved		-  <del></del>
. LOID VIOLENT	· · · · · · · · · · · · · · · · · · ·		-				NA	No ·
MARSHALL B #1J	О	14	27	09	<b></b>	NMOCD Closure Approved		1
: : -							NA	No .
HAMMOND #92	О	25	27	08		NMOCD Closure Approved		
				<u>.</u>			NA	No
PRICE #3	Α	15	28	08		NMOCD Closure Approved		
•	-	<u> </u>	<u> </u>	<u> </u>			NA	No

Location/Line Name	LTR	Sec	TN	RG	Monitor We	Status	Depth to GW	Product Level
					Stetus			
KRAUSE WN FEDERAL #1E	С	32	28	11		NMOCD Closure Approved	NA	No
CANYON LARGO UNIT #298	Α	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	Α	28	29	10		NMOCD Closure Approved	NA	No
VALDEZ #2	G	24	29	11	-1	NMOCD Closure Approved	NA	No
FEDERAL R #2	Р	15	27	08	+1	NMOCD Closure Approved	NA	No
CANYON LARGO UNIT #336	С	24	25	06		NMOCD Closure Approved	NA	No
CANDELARIA GAS COM C #1	С	27	29	10		NMOCD Closure Approved	NA	No
HOWELL #3	С	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	Н	28	31	09	+1	MW1 above B standards. Inject nutrient slurry in corners of pit.	5.3'	No
LAT 3B-39	М	10	29	09	+1	MW1 above B standards. Inject nutrient slurry in corners	31'-36'	No
JOHNSTON FEDERAL #4	Н	33	31	09	+3	of pit.  Determine Remedial Design Options.	48,94'50,38'	Yes
STATE GAS COM N #1	Н	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	35.4'	Yes
JOHNSTON FEDERAL #8A	F	35	31	09	+4	Determine Remedial Design Options.	40'-44.6'	Yes
JAMES F. BELL #1E	Р	10	30	13	+4	Determine Remedial Design Options.	23.5'-24.5'	Yes
CANADA MESA #2	Ì	24	24	06	+1	Determine Remedial Design Options.	30'	Yes

Location/Line Name	LTA	Sec	TN	RG	Monitor	Well Status	Depth to GW	Product Leve
					Status			
FIELDS A #7A	E	34	32	11	+4	Confirm groundwater gradient.		
						Initiate product removal from		
				. <u>.</u>		MW4.	21.8'-28.8'	Yes
FOGELSON 4-1 COM #14	Р	04	29	11	+1	Re-excavate site. Evaluate		
	*					operators open pits as sources		Ì
				. <b>j</b>	ļ	of contamination.	31'-36'	No
SANDOVAL GAS COM A 1A	С	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		İ
	***					in B analysis through 4		ļ.,
***************************************					•	quarters.	46.3'50.31'	No
JENNAPAH #1	. }H	36	28	09	+1	Sample Quarterly, Develop and		-
						Sample MW1 03/13/97.		<b>.</b> .
				. <b></b>	<b></b>		20'	No
FLORANCE C LS 7	F	30	28	08	+1	Sample Quarterly. Need 2	l	1
					<u>.</u>	more clean quarters.	40'	No
GRAHAM #53	ĮL.	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		l.,
			. <b>j</b>		ļ	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	04 51 051	
***************************************		~ <u></u>				ORB socks.	24.5'-25'	No
2C-22 #1 LINE DRIP	N	35	24	06	+1	Develop Closure Plan. 4 clean	00.01	<b> </b>
						quarters.	28.8'	No
2C-22 #3 LINE DRIP	G	13	24	06	+1	Sample Quarterly. Need 3	4 41 041	
					ļ <u>.</u>	more clean quarters.	14'-24'	No
2C - 45 Line Drip	P	13	25	06	+1	Sample Quarterly. Need 3	40.01	NI-
1005114411 040 0014 74	В		ِنْ إِنْ		ļ <u>.</u>	more clean quarters.	42.2'	No
USSELMAN GAS COM #1	}₿	04	31	10	+ 1	Sample Quarterly, Need 2	101	<b>.</b>
Note:				. <del> </del>	ļ	more clean quarters	10'	No
MW=Monitor Well			+	<del> </del> -	ļ			
MVV = Monitor VVeil PZ = Piezometer		+	+	<del> </del>				
			-	<del></del>	-			
BH = Bore Hole					L			