3R - 154

REPORTS

DATE:

1997

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**

El Paso Energy Corporation 614 Reilly Avenue Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119

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

CANDADO #23 (MV/CH)
Meter/Line ID - 93195/93196

SITE DETAILS

Legals - Twn: 26N **Rng:** 7W **Sec:** 9 **Unit:** B
NMOCD Hazard Ranking: 40 **Land Type:** FEDERAL
Operator: CENTRAL RESOURCES INC.

PREVIOUS ACTIVITIES

Site Assessment: May-94 **Excavation:** Jun-94 (80 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.

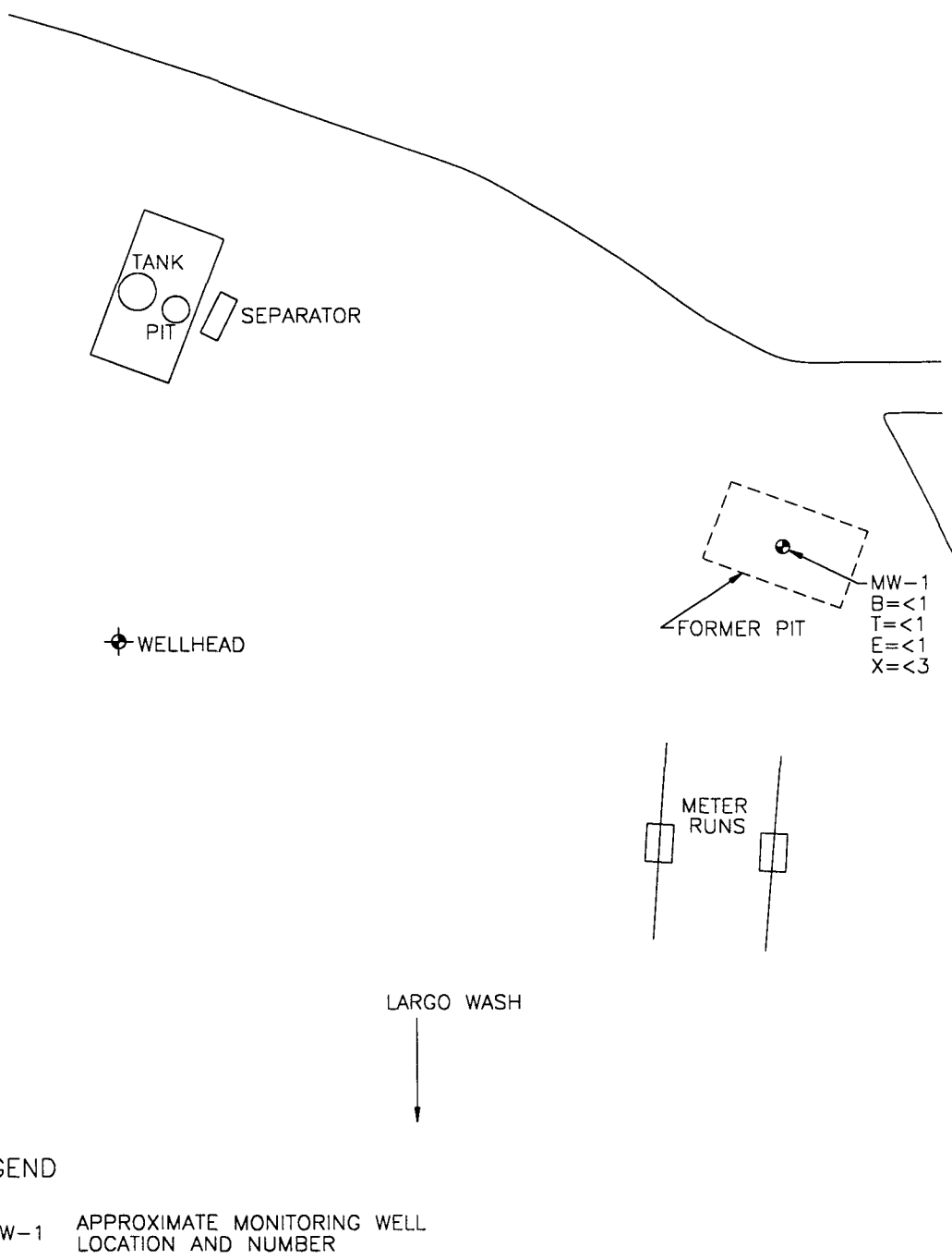
Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 6/5/97. Groundwater analytical data are presented in Table 1. A site map is presented in Figure 1.

CONCLUSIONS

The soil sample from the June 1994 excavation was below standards for benzene, total BTEX, and TPH. Groundwater analytical data from MW-1 has been below standards since quarterly sampling was initiated. 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

PHILIP SERVICES CORP.

TITLE:
CANDADO #23
93195

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 1
12/8/97	0	

COL. 17520AC-002

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970315	93195	Candado 23 (MV, CH)	4/16/97	1	Phase II Drilling - Initial	= 1.98	< 1	= 4.15	= 6.31	= 12
970529	93195	Candado 23 (MV, CH)	6/5/97	1	Sample 4 - 1st Qtr	< 1	< 1	< 1	3	6
970971	93195	Candado 23 (MV, CH)	9/11/97	1	Sample 4 - 2nd Qtr	< 1	< 1	< 1	< 3	< 6
971262	93195	Candado 23 (MV, CH)	12/2/97	1	Sample 4 - 3rd Qtr	< 1	< 1	< 1	< 3	< 6

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH- 2
Well #
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 CANADA #23 (MV)(CH)
93195/93196

Elevation
Borehole Location T26 R7 - S9 - Ltr B
GWL Depth 6' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/10/97 - 1200
Date/Time Completed " - 1230

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 6'						
5				GW@6'						
10				TD = 13'						
15										
20										
25										
30										
35										
40										

NO SAMPLES COLLECTED

Comments: GW ENCOUNTERED @ 6' BGS. OVER-DRILLED TO 13' BGS. COMPLETED MW, NO SAMPLES WERE 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

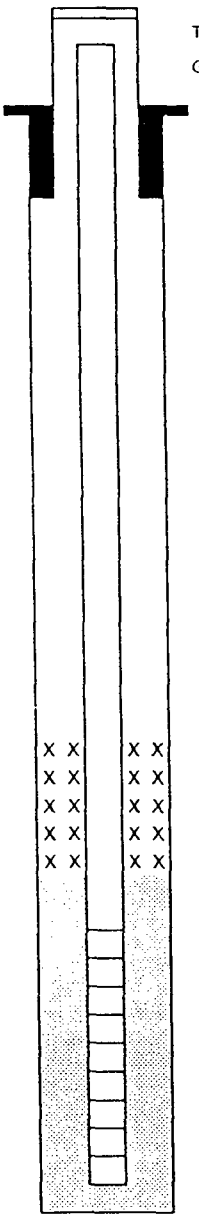
Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location CANADA #23 (MV)(CH)
93195/93196
On-Site Geologist D CESARK
Personnel On-Site D CHARLEY
Contractors On-Site
Client Personnel On-Site

Elevation
Well Location T26N - R7W - 5 9 - L B'
GWL Depth 6' BGS
Installed By M DONOHUE

Date/Time Started 3/10/97 — 1230
Date/Time Completed " — 1300

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	"	-3'
Top of Well Screen	.010 SLOT	-3'
Bottom of Well Screen	"	-13'
Top of Peltonite Seal	ENVIROPLUG	-1'
Bottom of Peltonite Seal	"	-2'
Top of Gravel Pack	10-20 S.SND.	-2'
Bottom of Gravel Pack	"	-13'
Top of Natural Cave-In		-13'
Bottom of Natural Cave-In		-13'
Top of Groundwater		-6'
Total Depth of Borehole		-13'



Top of Protective Casing
Top of Riser +3'
Ground Surface -0-
Top of Seal -1'
Top of Gravel Pack -2'
Top of Screen -3'
Bottom of Screen -13'
Bottom of Borehole -13'

Comments:

Geologist Signature

1997 GROUNDWATER ANALYTICAL

4/16/97 - INITIAL WATER SAMPLING

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) DATE: 4/16/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970314	4/16	1025	B	DEC 38	1	B		X				28	TRIP BLANK
970315	4/16	1030	W	DEC 39	2	M		X				28	CANADO 23 (MV, CH) - 93196/93195 (MW-1)
970316	4/16	1340	W	DEC 40	2	M		X				29	K-31 LINE DRIP - LD087 - (MW-1)
													32°

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	4/16 1530		Lauri Dean	4/17 11:25	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				4/17/97 1125	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

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

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

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

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

EL PASO FIELD SERVICES

5-5-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC 39	970315
MTR CODE | SITE NAME:	93196/93195	Canado 23
SAMPLE DATE | TIME (Hrs):	4/16/97	1030
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	4/18/97	4/18/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.98	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	4.15	PPB				
TOTAL XYLENES	6.31	PPB				
TOTAL BTEX	12.4	PPB				

The Surrogate Recovery was at 90.0 % for this sample All QA/QC was acceptable.

Narrative:

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

970315.XLS,4/21/97

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 EPES Phase.Task No. 6003.77

Site Name CANADO 23 (MV,CH)-93196/93195 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) 13' BGS

Initial Depth to Water (feet) 3' BGS

Height of Water Column in Well (feet) 10'

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		6.5	
Gravel Pack			
Drilling Fluids			
Total			32.5

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 (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
4/16/97	0933		X				10	10			10.8	6.98	340		
1	0950		1				10	20			11.0	7.28	347		
	1010		1				12.5	32.5			11.2	7.53	356		

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

Comments WELLHEAD WAS LOCKED + INTACT. 1ST SEVERAL BAILERS WERE CLEAR. REMOVED ALOT OF MUD. NEARLY BAILED WELL DRY. NO EVIDENCE OF HC's.

Developer's Signature(s) Date 4/16/97 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: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 4/16/97

Project Name EPFS GW PITS Project No. 17520

Project Manager C CHANCE Phase.Task No. 6003.77

Site Name CANADO 23 (MV, CH) - 93196 | 93195

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)	

*

Sample Containers

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

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
EPA 8020 BTEX	1 ~~3~~	G/VV	40		X	~~Y~~	X		DRC 38 - TRIP BLANK
"	2	"	"		X	Y	X		DRC 39 - MW-1

Filter Type _____ Chain-of-Custody Form Number _____

Comments * PLEASE REFER TO WELL DEVELOPMENT + PURGING DATA FORM.

Signature _____ Date 4/16/97 Reviewer _____ Date _____

Form A0202 Rev. 02/24/94

El Paso Natural Gas Company

A 2477

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	BLOOMFIELD PIPELINE			BTXE	GENERAL CHEMISTRY	RCRA METALS		
Samplers: (Signature) Dennis Bird	Date: 6-5-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	6-5-97	1419		X	970529	G1 G2	4°C	X	X	X		CANYON #23 MW-1 MC 93195 93196 AV CH

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	6-5-97 1748				
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 Hoffman	6/6/97 1020		
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	970529
MTR CODE | SITE NAME:	93195/93196	Candado #23 MW-1
SAMPLE DATE | TIME (Hrs):	6/5/97	1419
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	6/6/97	6/6/97
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 91.7 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Labbe Date: 6-18-97

970529,6/16/97

EL PASO FIELD SERVICES

7-21-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970529
DATE SAMPLED:	06/05/97
TIME SAMPLED (Hrs):	1419
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	93195/93196
SAMPLE SITE NAME:	Candado #23
SAMPLE POINT:	MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.4	Units	06/09/97
Alkalinity as $C0_3$	11.6	PPM	06/09/97
Alkalinity as $HC0_3$	558	PPM	06/09/97
Calcium as Ca	34	PPM	06/09/97
Magnesium as Mg	11	PPM	06/09/97
Total Hardness as $CaC0_3$	127	PPM	06/09/97
Chloride as Cl	13	PPM	06/06/97
Sulfate as $S0_4$	1,600	PPM	06/06/97
Fluoride as F	4.6	PPM	06/10/97
Nitrate as $N0_3$-N	<0.6	PPM	06/06/97
Nitrite as $N0_2$-N	<0.6	PPM	06/06/97
Ammonium as NH_4^+	<0.6	PPM	06/09/97
Phosphate as PO_4	<0.6	PPM	06/06/97
Potassium as K	1	PPM	06/09/97
Sodium as Na	1000	PPM	06/11/97
Total Dissolved Solids	2,890	PPM	06/09/97
Conductivity	4,030	umhos/cm	06/06/97
Anion/Cation %	2.9%	%, <5.0 Accepted	06/16/97

Lab Remarks:

Reported By: mda Approved By: John Laubhan Date: 6/18/97

EL PASO FIELD SERVICES

7-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970529
SAMPLE DATE:	06/05/97
SAMPLE TIME (Hrs):	1419
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	93195/93196
SAMPLE SITE NAME:	Candado #23
SAMPLE POINT:	MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.029	0.100
BARIUM	0.11	1.00
CADMIUM	0.0002	0.010
CHROMIUM	0.010	0.050
LEAD	0.004	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.005	0.050
SILVER	0.0010	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.

od 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

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

Reported By: mdv Approved By: John Laulder Date: 7/17/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970529
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	ND	ND	NA
Cadmium	ND	ND	NA
Chromium	0.0052	0.0048	8.3%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	0.0024	0.0023	4.3%

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.012	0.107	0.100	95.1%
Barium	0.018	0.960	1.00	94.2%
Cadmium	ND	0.0091	0.010	91.2%
Chromium	0.005	0.054	0.050	96.9%
Lead	ND	0.039	0.050	77.3%
Mercury	ND	0.0017	0.0020	84.5%
Selenium	ND	0.047	0.050	93.2%
Silver	0.0020	0.0509	0.050	97.8%

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: [signature] Date: 7/17/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name CANADA #23

Meter Code 93195 / 93196

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) 15.90
Initial Depth to Water (feet) 6.17
Height of Water Column in Well (feet) 9.73
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.4	19.3
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	Cumulativ	Increment	Cumulative					
6-5-97	1329										20.0	7.28	3910		
6-5-97	1334						5.0	5.0			17.5	7.54	3850		
6-5-97	1340						5.0	10.0			17.0	7.57	3820		
6-5-97	1350						5.0	15.0			17.0	7.71	3910		
6-5-97	1408						5.0	20.0			18.0	7.78	3940	2.5	

Comments

Developer's Signature Dennis Bird Date 6-5-97 Reviewer John Fowler Date 6/18/97

SAMPLE 4 2ND QTR

El Paso Natural Gas Company

A 2076

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC # 93196 9/22/97			BTXE				
Samplers: (Signature) Dennis Bird	Date: 9-11-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	9/11/97	1348		X	970971	G-1	4°C	X				CANADO #23 MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	9/11/97 1728				
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	9/12/97 0730		

Carrier Co: Carrier Phone No.

Air Bill No.:

Date Results Reported / by: (Signature)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970971
MTR CODE | SITE NAME:	93195	Canado #23
SAMPLE DATE | TIME (Hrs):	9/11/97	1348
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	9/16/97	9/16/97
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 109.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9-22-97

970971BTEXMW,9/18/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name CANADO #23

Meter Code 93195

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) 15.90
Initial Depth to Water (feet) 6.45
Height of Water Column in Well (feet) 9.45
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		6.2	18.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
9-11-97	1256										22.8	7.22	3210		
9-11-97	1301						5.0	5.0			20.3	7.51	3230		
9-11-97	1309						5.0	10.0			19.5	7.51	3360		
9-11-97	1321						5.0	15.0			19.3	7.57	3280		
9-11-97	1338						4.0	19.0			19.3	7.70	3340	3.5	

Comments_____

Developer's Signature Dennis Bird Date 9-11-97 Reviewer John Taddie Date 9-22-97

SAMPLE 4 3RD QTR

El Paso Natural Gas Company

A 2147

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	MC #93195	Dennis Bird	12-2-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE				Remarks
WATER	12-2-97	1311		X	971262	G-1	4°C	X				CANADO #23 MW-1
WATER	12-2-97	—		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	12-2-97 1722				
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	12/3/97 0715		

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	971262
MTR CODE | SITE NAME:	93195	Candado #23
SAMPLE DATE | TIME (Hrs):	12/2/97	1311
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	12/3/97	12/3/97
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 101.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

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

971262BTEXMW,12/5/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name CANADO #3

Meter Code 93195

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) 15.90
Initial Depth to Water (feet) 5.77
Height of Water Column in Well (feet) 10.13
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.7	20.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KVT2 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					
12-2-97	1151										10.2	6.89	4350		
12-2-97	1156						5.0	5.0			11.6	7.40	4270		
12-2-97	1203						5.0	10.0			11.9	7.52	4310		
12-2-97	1215						5.0	15.0			12.0	7.66	4320		
12-2-97	1237						5.0	20.0			11.1	7.79	4280	3.5	

Comments_____

Developer's Signature Dennis Bird Date 12-2-97 Reviewer Jon Jack Date 1/2/98