3R - 199

REPORTS

DATE:

1997

EL PASO ENERGY

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

RECEIVED
MAR 0 2 1998
Environmental Bureau
Oil Conservation Division

February 27, 1998

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

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

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

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

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

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

Sincerely,

Sandra D. Miller
Environmental Manager

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

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project Groundwater Report
Annual Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP ENVIRONMENTAL

EPFS GROUNDWATER PITS
1997 ANNUAL GROUNDWATER REPORT

JOHNSON #1E
Meter/Line ID - 93357

SITE DETAILS

Legals - Twn: 31N **Rng:** 13W **Sec:** 21 **Unit:** P
NMOCD Hazard Ranking: 20 **Land Type:** FEE
Operator: P-R-O MANAGEMENT

PREVIOUS ACTIVITIES

Site Assessment: Mar-94 **Excavation:** May-94 (20 cy) **Geoprobe:** Nov-96
Soil Boring: Mar-97 **Monitor Well:** Mar-97

1997 ACTIVITIES

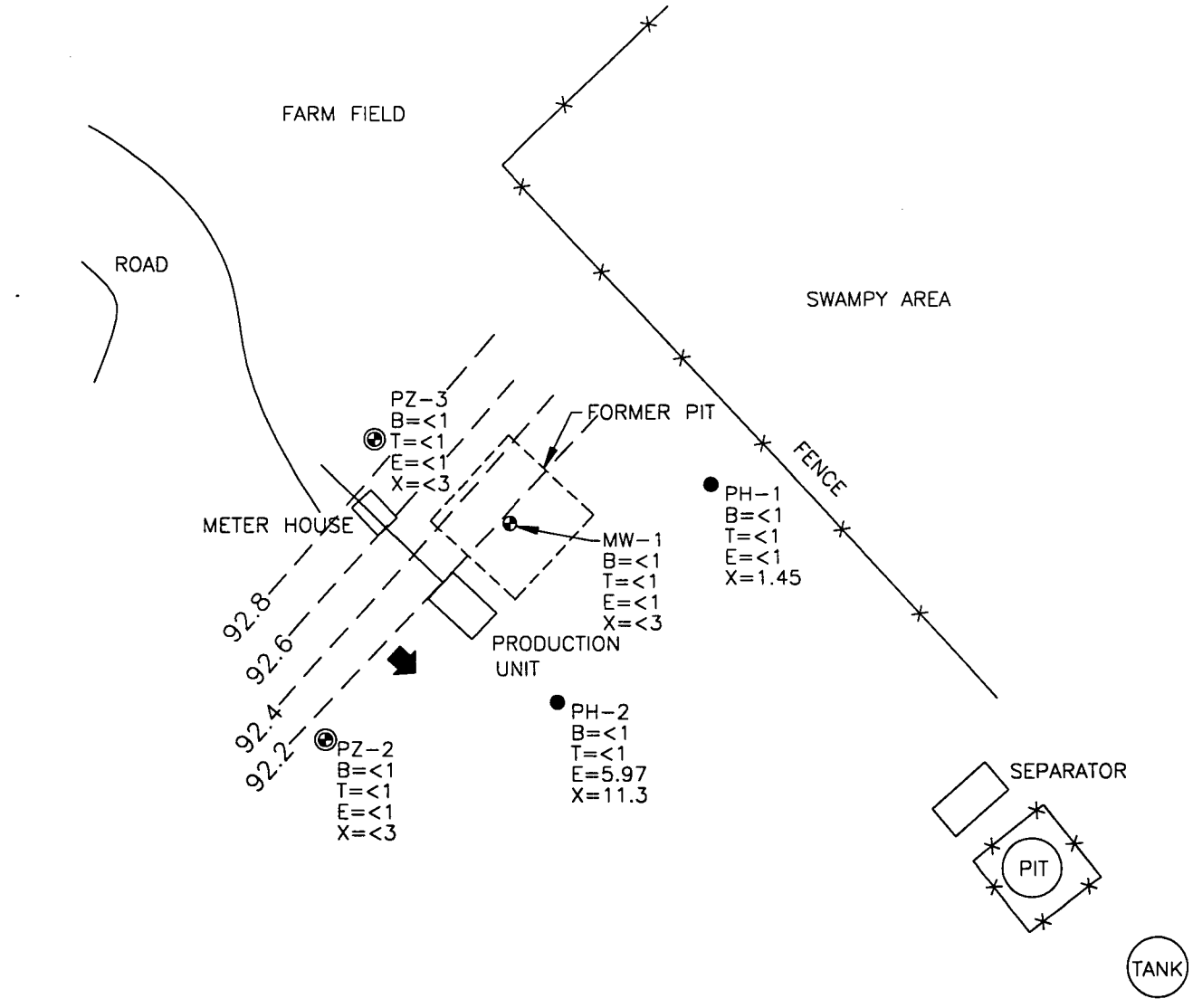
Monitor Well Installation - One groundwater monitor well was installed in the center of the former pit. Quarterly groundwater sampling was initiated on 6/2/97. Groundwater analytical data are presented in Table 1.

CONCLUSIONS

Based on Geoprobe groundwater levels, groundwater flow trends to the southeast on this location, as presented in Figure 1. Groundwater samples have been below standards for BTEX since quarterly sampling was initiated. In addition, Geoprobe groundwater analytical data collected from four sides of MW-1 are all below standards.

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

PZ-1	APPROXIMATE PIEZOMETER LOCATION AND NUMBER
PH-1	APPROXIMATE PROBEHOLE LOCATION AND NUMBER
MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
B	BENZENE (ug\L)
T	TOLUENE (ug\L)
E	ETHYL BENZENE (ug\L)
X	XYLENE (ug\L)
ug\L	MICROGRAMS PER LITER
92.2	GROUNDWATER POTENTIOMETRIC SURFACE
	APPROXIMATE GROUNDWATER GRADIENT
	WELLHEAD

0 30
FEET

N

PHILIP SERVICES CORP

TITLE:
JOHNSON #1 E
93357

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD: CC	APPD:	
DATE: 1/20/98	REV.: 0	FIGURE 1

COL. 17520Y-002

EPFS Groundwater Pits
1997 Annual Groundwater Report

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970233	93357	Johnson #1E	3/28/97	1	Phase II Drilling - Initial	= 15.3	= 18	= 11.5	= 194	= 239
970520	93357	Johnson #1E	6/2/97	1	Sample 4 - 1st Qtr	< 1	< 1	< 1	< 3	< 6
971042	93357	Johnson #1E	9/22/97	1	Sample 4 - 2nd Qtr	< 1	< 1	< 1	< 3	< 6
971293	93357	Johnson #1E	12/10/97	1	Sample 4 - 3rd Qtr	< 1	< 1	< 1	< 3	< 6

RECORD OF SUBSURFACE EXPLORATION

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

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

Project Name EPFS GW PITS
Project Number 17520 Phase 6001.77
Project Location JOHNSON #1E - 93357

Elevation
Borehole Location T31-R13 S 21- Ltr P
GWL Depth 5.35' BGS (PZ-1)
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/11/97 — 0900
Date/Time Completed " — 1000

Well Logged By D CESARK
Personnel On-Site ~~A 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 5'						
5				GW @ 5' BGS						
				7'-11' GRAVEL/COBBLE ZONE						
10				TD = 13'						
15										
20										
25										
30										
35										
40										

Comments: GROUNDWATER ENCOUNTERED @ 5'BGS IN BACKFILL. OVER-DRILLED TO 13'BGS + SET WELL. TD = 13'BGS. NO SAMPLES COLLECTED. PLEASE REFER TO MW COMP. 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 JOHNSON #1E - 93357

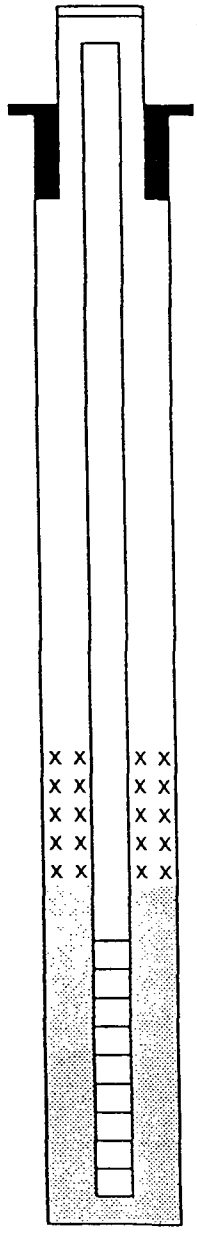
Elevation
Well Location T31N-R13W-S21-L P'
GWL Depth 5.35' BGS
Installed By M DONOHUE

Date/Time Started 3/11/97 — 1000
Date/Time Completed " — 1100

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

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 SAND	-2'
Bottom of Gravel Pack	"	-13'
Top of Natural Cave-In		-13'
Bottom of Natural Cave-In		-13.5'
Top of Groundwater		-5'
Total Depth of Borehole		-13.5'



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 -13.5'

Comments:

Geologist Signature

GEOPROBE

SITE ACTIVITIES

21-Feb-97

Meter/Line #: 93357

Location/Line #: Johnson #1E

MW#:

Depth to GW:

Depth to Product:

Product Thickness:

Date: 11/14/96

Activity: Geoprobe

Comments: Install 3 piezos and 2 probeholes. PZ1 in center of pit.

PIEZOMETER INSTALLATION RECORD

Borehole # PZ - 1
Well #
Page 1 of 1

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

Project Name EPFS PITS
Project Number 16297 Phase 6004
Site Location Johnson 1E 93257
R13-T31-S21-P

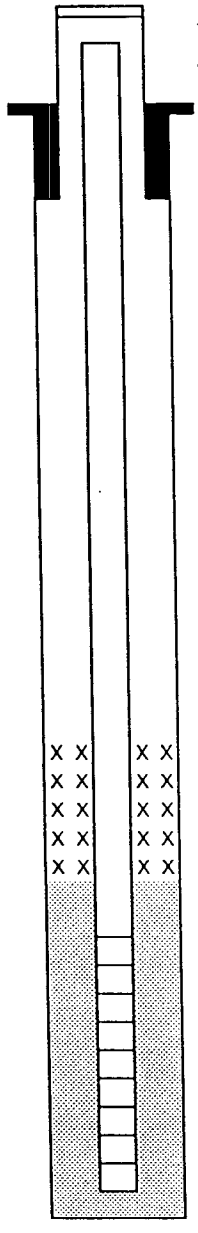
Elevation
Well Location Center of Pit
GWL Depth 6.10 BGS 8.61 TOP
Installed By K PADILLA

Date/Time Started 11/14/96
Date/Time Completed 11/14/96

On-Site Geologist CM CHANCE
Personnel On-Site ~~D CHARLEY~~ F. Rivera
Contractors On-Site
Client Personnel On-Site

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		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing NA
Top of Riser
Ground Surface
Top of Seal
Top of Gravel Pack
Top of Screen 2.5
Bottom of Screen 7.3'
Bottom of Borehole 9'

Comments: 5' screen 5' riser

Geologist Signature

PIEZOMETER INSTALLATION RECORD

Borehole # PZ - 2
Well #
Page 1 of 1

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

Project Name EPFS PITS
Project Number 16297 Phase 6004
Site Location Johnson 1E 93257

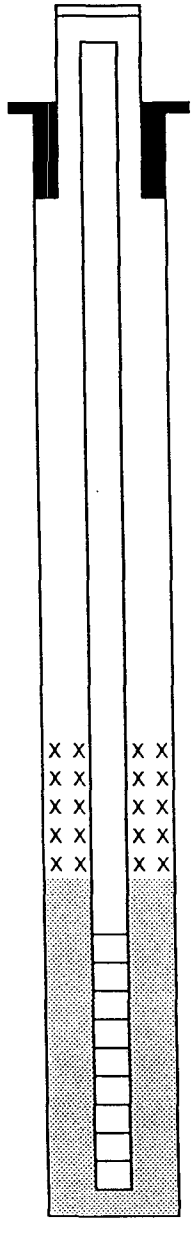
Elevation
Well Location SW of PZ1
GWL Depth 5.15 BGS 7-17-96
Installed By K PADILLA

Date/Time Started 11/18/96
Date/Time Completed 11/18/96

On-Site Geologist CM CHANCE
Personnel On-Site ~~D CHARLEY~~ F. Rivera
Contractors On-Site
Client Personnel On-Site

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		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing NA
Top of Riser
Ground Surface
Top of Seal
Top of Gravel Pack
Top of Screen 0.65
Bottom of Screen 5.65
Bottom of Borehole 9.00

Comments: V. gravelly. 5' screen 1' riser

Geologist Signature

MWINSTAL.wk1

PIEZOMETER INSTALLATION RECORD

Borehole # PZ - 3
Well #
Page 1 of 1

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

Project Name EPFS PITS
Project Number 16297 Phase 6004
Site Location Johnson 1E 93357

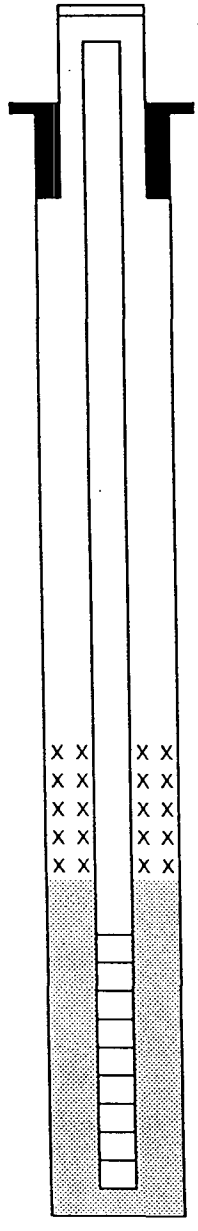
Elevation
Well Location N. of PZ 1
GWL Depth 4.45 TOR 4.1 BGS
Installed By K PADILLA

Date/Time Started 11/18/96
Date/Time Completed 11/18/96

On-Site Geologist CM CHANCE
Personnel On-Site ~~D CHARLEY~~ F. Rivera
Contractors On-Site
Client Personnel On-Site

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		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing NA
Top of Riser
Ground Surface
Top of Seal
Top of Gravel Pack
Top of Screen
Bottom of Screen 4.46
Bottom of Borehole

Comments: 5' screen

Geologist Signature

MWINSTAL.wk1

A 2330

Geoprobe

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No.	Project Name
16297	EPFS PITS

Samplers: (Signature) Cory Chavez Date: 11/14/96

	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTEX	Requested Analysis: PAH	Remarks
247996	11/14/96	1010		✓	CMC245	2	HCl/4°C	X		PH1 Mary McKay PH1 93256
247999	"			-	TRIP BLANK	1		X		TRIP BLANK
247999		1025		✓	CMC246	2		X		PH2
247998		1040		✓	CMC247	2		X		PH3
247999	"	1100		✓	CMC248	2		X		PH4
248000		1250		✓	CMC249	3		X	X	PZ1 Johnson IE 93257 (STRONG PROD. ODOR)
248001		1325		✓	CMC250	2		X		PH1
248002	↓	1355		✓	CMC251	2		X		PH2 (STRONG PROD. ODOR)

Cory 11/14/96

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Cory Chavez	11/14/96 1600	Kelly Sorrell	Kelly Sorrell	11-15-96 1150	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
				11-15-96 1410	Maria Armenta
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	

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

Air Bill No.:

san juan repro Form 71-55 A

ELPASO NO.REG.LAB ID:505-599-2261 DEC 05'96 15:53 No.001 P.15

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC249	948000
MTR CODE | SITE NAME:	93357	Johnson 1E
SAMPLE DATE | TIME (Hrs):	11/14/96	1255
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	11/18/96	11/19/96
TYPE DESCRIPTION:	PZ1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	145	PPB	5	D		
TOLUENE	112	PPB	5	D		
ETHYL BENZENE	207	PPB	5	D		
TOTAL XYLENES	2380	PPB	5	D		
TOTAL BTEX	2840	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 89.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Sanders Date: 11/25/96

947999.XLS,11/22/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC250	948001
MTR CODE | SITE NAME:	93357	Johnson 1E
SAMPLE DATE | TIME (Hrs):	11/14/96	1335
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	11/18/96	11/19/96
TYPE | DESCRIPTION:	PH1	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 87.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/25/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC251	948002
MTR CODE | SITE NAME:	93357	Johnson 1E
SAMPLE DATE | TIME (Hrs):	11/14/96	1355
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	11/19/96	11/19/96
TYPE | DESCRIPTION:	PH2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q		
BENZENE	<1	PPB	2	D		
TOLUENE	<1	PPB	2	D		
ETHYL BENZENE	5.97	PPB	2	D		
TOTAL XYLENES	11.3	PPB	2	D		
TOTAL BTEX	17.3	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 86.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Scrudato Date: 11/25/96

El Paso Natural Gas Company

A 2551

Geoprobe

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Date
16297	EPFS GW PITS	11/18/96

Samplers: (Signature) Cory Chavez

	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTEX	Remarks
	11/18/96	—		CMC 11/18/96	TRIP BLANK	1	HCl/4°C	X	Johnson E 93357
SPEC13		1015		✓	CMC 252	2	↓	X	PZ2 ↓
SPEC14		1045		✓	CMC 253	2	↓	X	PZ3 ↓

CMC 11/18/96

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Cory Chavez	11/18/96 1700	[signature]	[signature]	11-19-96 1430	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
				11/19/96 1430	[signature]
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	

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

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC252	948013
MTR CODE | SITE NAME:	93357	Johnson 1E
SAMPLE DATE | TIME (Hrs):	11/18/96	1015
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	11/26/96	11/26/96
TYPE | DESCRIPTION:	PZ2	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 a 98.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/27/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC253	948014
MTR CODE | SITE NAME:	93357	Johnson 1E
SAMPLE DATE | TIME (Hrs):	11/18/96	1045
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. | ANAL.:	11/26/96	11/26/96
TYPE | DESCRIPTION:	PZ3	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 a: 95.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Stidler Date: 11/27/96

948014.XLS,11/26/96

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

A 2235

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date:
17520	EPFS GW PITS		3/28/97

SEQ	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTEX				Remarks
9702315	3/28	1315		GM DC	DRC 17	VV/2	HCL	X				NICKELS #1 - 73034 (MW-1)
9702345	"	1320		D	DRC 18	VV/2	HCL	X				* DUPLICATE
~~15~~	"	~~1320~~		~~G~~	~~DRC 19~~ ~~4/1/97~~	VV/1	~~—~~	X				~~N/A~~
9702336	"	1510		G	DRC 20	VV/2	HCL	X				JOHNSON #1E - 93357 (MW-1)
9702347	3/28	1315			Trip Blank	1	HCL	X				TB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/28 1605			4/1/97 1413	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
				4-1-97 1413	Marla Armenta
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

5-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC20	970233
MTR CODE | SITE NAME:	93357	Johnson #1E
SAMPLE DATE | TIME (Hrs):	3/28/97	1510
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	4/3/97	4/4/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	15.3	PPB				
TOLUENE	18.0	PPB				
ETHYL BENZENE	11.5	PPB				
TOTAL XYLENES	194	PPB				
TOTAL BTEX	239	PPB				

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

Narrative:

Approved By: John Tabor Date: 4/8/97

970233,4/8/97

PHILIP ENVIRONMENTAL Well Development and Purging Data

☒ Development ☒ Purging

Well Number MW-1

Serial No. WDPD-

Page 1 of 1

Project Name GW PITS

Project Manager C CHANCE

Project No. 17520

Client Company EPFS

Phase.Task No. 6003.77

Site Name JOHNSON #1E — 93357

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) 5.5' BGS

Height of Water Column in Well (feet) 7.5'

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing			13.75
Gravel Pack			
Drilling Fluids			
Total			13.75

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
3/28/97	1425		X	.33			5	5			10.6	7.53	79		
"	1440		X	.33			5	10			10.4	7.37	100		
"	1455		X	.33			5	15			10.4	7.31	113		

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

Comments

Developer's Signature(s) Date 3/28/97 Reviewer Date

PHILIP ENVIRONMENTAL Water Sampling Data

Location No. MW-1

Serial No. WSD-

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 3/28/97

Project Name EBFS GW PITS Project No. 17520

Project Manager C CHANCE Phase.Task No. 6003.77

Site Name JOHNSON #1 E - 93357

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) 13' BGS

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)	
3/28	1425	DC	10.6	7.53		79	5	.33		✓		
"	1440	"	10.4	7.37		100	5	.33		✓		
"	1450	"	10.4	7.31		113	5	.5		✓		

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

Sample Containers

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	
BTEX	DRC20	VV	40		✓	Y			

Filter Type Chain-of-Custody Form Number

Comments

Signature Date 3/28/97 Reviewer Date

El Paso Natural Gas Company

Sample 4 1st QUARTER

CHAIN OF CUSTODY RECORD

Project Number	Project Name	Total No. of Containers	Composite or Grab	Requested Analysis						Contract Laboratory P.O. Number
	JOHNSON #1E (93357)			BTEX	GENERAL CHEMISTRY					
Samplers: (Signature) BOB DARBIN	Date: 6/2/97									Remarks
Lab ID / Date / Time / Matrix / Sample Number										
6/2/97 1635 WATER 970520				X						Sampled after bailing 15 gallons
6/2/97 1637 WATER 970520					X					" " " "

Temp 38 °C

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
BOB DARBIN	6/3/97 1320				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)
				1320 6/3/97	

Requested Turnaround Time:
☐ Routine ☐ Rush _____

Carrier Co.

Bill No.:

Sample Receipt Remarks

Charge Code

Results & Invoices to:

North Region Laboratory
El Paso Natural Gas Company
P. O. Box 4990
Farmington, New Mexico 87499

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

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

FM-08-0565 (9-91)

EL PASO FIELD SERVICES

6-18-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970520
MTR CODE | SITE NAME:	93357	Johnson #1E MW-1
SAMPLE DATE | TIME (Hrs):	6/2/97	1635
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	6/3/97	6/3/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

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

The Surrogate Recovery was at 95.3 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Saldana Date: 6/16/97

970520,6/9/97

EL PASO FIELD SERVICES

6-18-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970520
DATE SAMPLED:	06/02/97
TIME SAMPLED (Hrs):	1635
SAMPLED BY:	Bob Durbin
MATRIX:	Water
METER CODE:	93357
SAMPLE SITE NAME:	Johnson #1E
SAMPLE POINT:	MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.2	Units	06/04/97
Alkalinity as $C0_3$	0.0	PPM	06/04/97
Alkalinity as $HC0_3$	481	PPM	06/04/97
Calcium as Ca	228	PPM	06/04/97
Magnesium as Mg	104	PPM	06/04/97
Total Hardness as $CaC0_3$	998	PPM	06/04/97
Chloride as Cl	32	PPM	06/04/97
Sulfate as $S0_4$	750	PPM	06/04/97
Fluoride as F	1.1	PPM	06/04/97
Nitrate as $N0_3$-N	<0.6	PPM	06/04/97
Nitrite as $N0_2$-N	<0.6	PPM	06/04/97
Ammonium as NH_4^+	<0.3	PPM	06/04/97
Phosphate as PO_4	<0.6	PPM	06/04/97
Potassium as K	0.8	PPM	06/04/97
Sodium as Na	128	PPM	06/04/97
Total Dissolved Solids	1,590	PPM	06/04/97
Conductivity	1,862	umhos/cm	06/04/97
Anion/Cation %	2.1%	%, <5.0 Accepted	06/10/97

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 6/11/97

Pipe Size	Factor (GAL/FT)
2"	0.174
4"	0.661

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW #1

Site Name JOHNSON #1E / PURGING

Meter Code 93357

Development Criteria

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

Methods of Development

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

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 16.00
Initial Depth to Water (feet) 8.51
Height of Water Column in Well (feet) 7.49
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		4.9	15
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- [ ] pH Meter
- [ ] DO Monitor
- [X] Conductivity Meter
- [X] Temperature Meter
- [X] Other CHEMETS

Water Disposal

ON SITE

Water Removal Data

1775 & 6/16/97 per BOB D.

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
6/2/97	1550		X				5	5			13.7		5000		
6/2/97	1632		X				10	15					5000	3	CHEMETS

Comments No HC odor - Water was cloudy throughout bailing

Developer's Signature BOB DURBIN Date 6/2/97 Reviewer [signature] Date 6/16/97

SAMPLE 4 2ND QTR

El Paso Natural Gas Company

A 2089

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE	Requested Analysis: GENERAL CHEMISTRY	Requested Analysis: RCRA METALS	Remarks
	MC # 93357						

Samplers: (Signature) Dennis Bird Date: 9-22-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	9-22-97	1013		X	971042	G-2	4°C	X	X	X		JOHNSON #1E MW-1
WATER	9-22-97	—		X	—	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	9-22-97 1544				
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	9/23/97 0750		

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	971042
MTR CODE | SITE NAME:	93357	Johnson #1E
SAMPLE DATE | TIME (Hrs):	9/22/97	1013
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	9/23/97	9/23/97
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 98.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Laller Date: 9/29/97

971042BTEXMW,9/25/97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	971042
DATE SAMPLED:	09/22/97
TIME SAMPLED (Hrs):	1013
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	93357
SAMPLE SITE NAME:	Johnson #1E
SAMPLE POINT:	MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.28	Units	10/01/97
Alkalinity as $C0_3$	0	PPM	10/01/97
Alkalinity as $HC0_3$	498	PPM	10/01/97
Calcium as Ca	241	PPM	09/30/97
Magnesium as Mg	109	PPM	09/30/97
Total Hardness as $CaC0_3$	1,051	PPM	09/30/97
Chloride as Cl	36.0	PPM	09/22/97
Sulfate as $S0_4$	802	PPM	09/22/97
Fluoride as F	1.19	PPM	10/01/97
Nitrate as $N0_3$-N	<0.1	PPM	09/22/97
Nitrite as $N0_2$-N	<0.1	PPM	09/22/97
Ammonium as NH_4^+	<0.1	PPM	09/30/97
Phosphate as PO_4	<0.1	PPM	09/22/97
Potassium as K	0.96	PPM	09/30/97
Sodium as Na	118	PPM	09/30/97
Total Dissolved Solids	1,530	PPM	09/24/97
Conductivity	1,700	umhos/cm	09/23/97
Anion/Cation %	0.4%	%, <5.0 Accepted	10/21/97

Lab Remarks:

Reported By: CV

Approved By: John Fowler

Date: 10-23-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	971042
SAMPLE DATE:	09/22/97
SAMPLE TIME (Hrs):	1013
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	93357
SAMPLE SITE NAME:	Sample 4 2nd Quarter
SAMPLE POINT:	Johnson #1E MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<0.007	0.100
BARIUM	0.04	1.00
CADMIUM	<0.0002	0.010
CHROMIUM	<0.004	0.050
LEAD	<0.003	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.012	0.050
SILVER	<0.0004	0.050

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7060, Arsenic (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

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, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

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

Reported By: mh Approved By: John Labadie Date: 10-20-97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 971042
Date Reported: 10/15/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.037	0.032	114%
Barium	0.060	0.065	92.8%
Cadmium	0.0012	0.0012	103%
Chromium	0.007	0.007	93.5%
Lead	0.029	0.027	109%
Mercury	0.0046	0.0046	99.1%
Selenium	0.045	0.041	110%
Silver	0.0074	0.0068	110%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.044	0.049	11.4%
Cadmium	ND	ND	NA
Chromium	ND	ND	NA
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	0.083	0.100	82.7%
Barium	0.04	0.98	1.00	93.9%
Cadmium	ND	0.0094	0.010	93.8%
Chromium	ND	0.053	0.050	101%
Lead	ND	0.053	0.050	104%
Mercury	ND	0.0019	0.0020	94.0%
Selenium	ND	0.049	0.050	95.2%
Silver	ND	0.0476	0.005	95.2%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.007
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.003
Mercury	ND	0.00019
Selenium	ND	0.012
Silver	ND	0.0004

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

Reported By: mh Approved By: John Fortner Date: 10-20-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-1

Site Name JOHNSON #1E

Meter Code 93357

Development Criteria

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

Methods of Development

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

[ ] Other

Water Volume Calculation

Initial Depth of Well (feet) 15.80
Initial Depth to Water (feet) 6.63
Height of Water Column in Well (feet) 9.17
Diameter (inches) Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.1	18.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
9-22-97	0917										18.0	6.16	1794		
9-22-97	0926						5.0	5.0			16.9	6.65	1797		
9-22-97	0935						5.0	10.0			16.5	6.74	1814		
9-22-97	0946						5.0	15.0			16.8	6.77	1857		
9-22-97	0955						5.0	20.0			16.3	6.81	1812	0.5	

Comments

Developer's Signature Dennis Bird Date 9-22-97 Reviewer John Fowler Date 9/29/97

SAMPLE 4 3RD QTR

El Paso Natural Gas Company

A 2163

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	MC # 93357	Dennis Bird	12-10-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE				Remarks
WATER	12-10-97	1005		X	971293	G-1	4°C	X				JOHNSON #1E MW-1
WATER	12-10-97	—		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	12-10-97 / 1612				
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 Hooper	12/11/97 / 0745		

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	971293
MTR CODE | SITE NAME:	93357	Johnson #1E
SAMPLE DATE | TIME (Hrs):	12/10/97	1005
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	12/15/97	12/15/97
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 100.3 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

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

971293BTEXMW,12/16/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name JOHNSON #1E

Meter Code 93357

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) 15.80
Initial Depth to Water (feet) 6.86
Height of Water Column in Well (feet) 8.94
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.9	17.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
12-10-97	0925										9.0	6.46	2860		
12-10-97	0930						5.0	5.0			9.6	6.66	2910		
12-10-97	0935						5.0	10.0			9.7	6.74	2910		
12-10-97	0942						5.0	15.0			9.7	6.76	2920		
12-10-97	0948						5.0	20.0			10.1	6.78	2740	1.0	

Comments

Developer's Signature Dennis Bird Date 12-10-97 Reviewer John Fowler Date 1/2/98