3R - 244

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**

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

TURNER A #1 PM(PIT #1)
Meter/Line ID - 71676

SITE DETAILS

Legals - Twn: 31N **Rng:** 11W **Sec:** 34 **Unit:** K
NMOCD Hazard Ranking: 40 **Land Type:** STATE
Operator: BURLINGTON RESOURCES

PREVIOUS ACTIVITIES

Site Assessment: Apr-94 **Excavation:** Apr-94 (40 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 8/11/97. Groundwater analytical data are presented in Table 1.

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

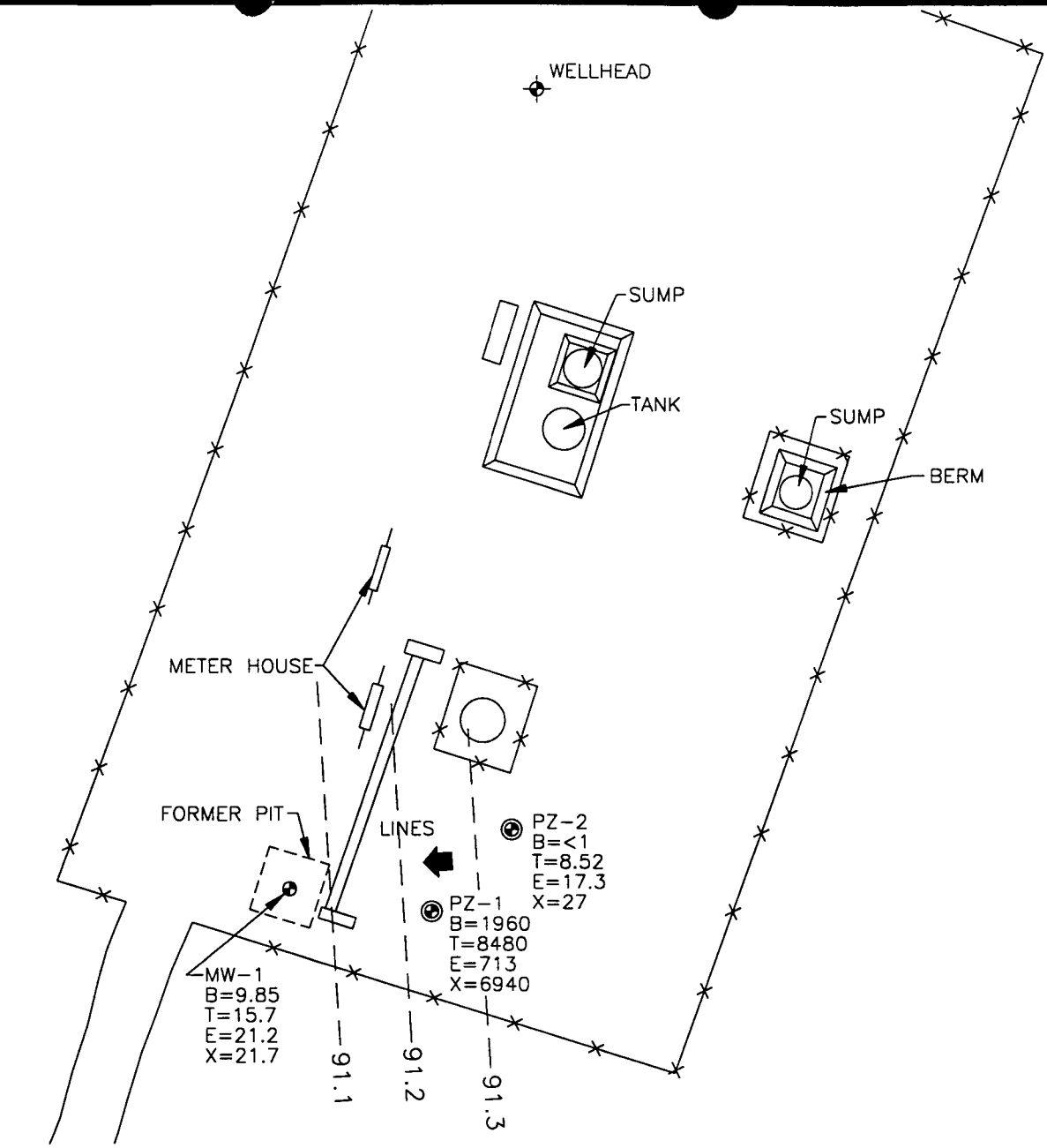
CONCLUSIONS

Based on groundwater levels collected from Well Point data, the groundwater flow trends to the west on this site, as presented in Figure 1. Groundwater samples collected from MW-1 were in excess of standards for benzene on the first quarterly sampling event, and have since dropped below standards. Two groundwater samples were collected from temporary wells on site. One sample collected from PZ-2, located up-gradient of MW-1, was below standards for BTEX.

A second groundwater sample collected from PZ-1, located up-gradient of MW-1, was above standards for benzene, toluene, and total xylenes, indicating an upgradient source.

RECOMMENDATIONS

- EPFS proposes to conduct no further action at this site, until the operator commences with remediation associated with their production pit.
- Quarterly sampling will continue at MW-1 until 4 consecutive clean quarters have been achieved.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



LEGEND

PZ-1	APPROXIMATE PIEZOMETER 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
91.1	GROUNDWATER POTENTIOMETRIC SURFACE
	APPROXIMATE GROUNDWATER GRADIENT

0 50
FEET

N

PHILIP SERVICES CORP

TITLE: TURNER A1 71676

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

COL. 17520P-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970209	71676	Turner A #1	3/12/97	1	Phase II Drilling - Initial	= 542	< 1	= 453	= 4250	= 5246
970841	71676	Turner A #1	8/11/97	1	Sample 4 - 1st Qtr	= 57.1	< 1	= 96.4	= 186	= 340
971187	71676	Turner A #1	11/5/97	1	Sample 4 - 2nd Qtr	9.83	15.7	21.3	21.7	69

RECORD OF SUBSURFACE EXPLORATION

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

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 TURNER A #1 — 71676

Elevation
Borehole Location T31-R11-S34-Ltr K
GWL Depth 6' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/4/97 — 1215
Date/Time Completed " — 1245

Well Logged By D CESARK
Personnel On-Site D CHARLEY, J LONG
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				COBBLES @ 6' BGS GW @ 6' BGS						
10				TD = 12'						
15										
20										
25										
30										
35										
40										

Comments: AUGER REFUSAL IN COBBLES @ 12' BGS. GW ENCOUNTERED @ 6' BGS. NO SAMPLE COLLECTED. MW-1 COMPLETED IN CTR. OF FORMER PIT. 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 TURNER A #1 - 71676

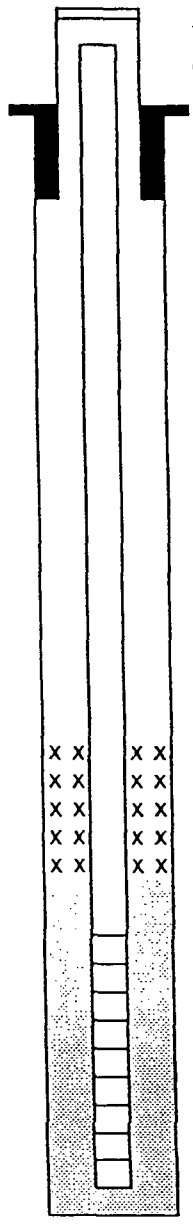
Elevation
Well Location T31N - R11W - S34 - L 'K'
GWL Depth 6' BGS
Installed By M DONOHUE

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

Date/Time Started 3/4/97 — 1245
Date/Time Completed " — 1345

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	"	-2'
Top of Well Screen	.010 SLOT	-2'
Bottom of Well Screen	"	-12'
Top of Peltonite Seal	ENVIROPLUG	-0-
Bottom of Peltonite Seal	"	-1'
Top of Gravel Pack	10-20 SAND	-1'
Bottom of Gravel Pack	"	-12'
Top of Natural Cave-In		-12'
Bottom of Natural Cave-In		-12'
Top of Groundwater		-6'
Total Depth of Borehole		-12'



Top of Protective Casing
Top of Riser +3'
Ground Surface -0-

Top of Seal -0-
Top of Gravel Pack -1'
Top of Screen -2'
Bottom of Screen -12'
Bottom of Borehole -12'

Comments:

Geologist Signature

WELLPOINTS

TEMPORARY PIEZOMETER INSTALLATION

Borehole #
Well # PZ- 1
Pag 1 of 1

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

Project Name EPFS GW PITS
Project Numbe 17520 Phase 6006
Site Location Turner A1 71676

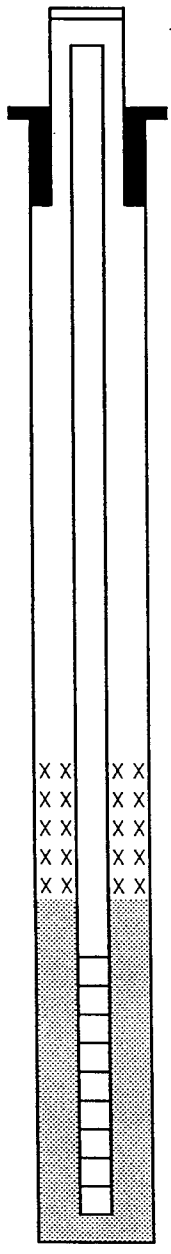
Elevation
Well Location Ltr K -S 34 -T 31 -R 11
GWL Depth 8.72 TOR
Installed By K Padilla

Date/Time Started 10/22/97
Date/Time Complete 10/22/97

On-Site Geologist C CHANCE
Personnel On-Site O Chaney
Contractors On-Site
Client Personnel On-Site

COMMENTS

- PZ1 is 100° & 42' from MW 1
- Install temp. well & collect GW sample (MW-369)
- Gravel @ ~5' BGS



Top of Protective Casing NA
Top of Riser (survey elev.) 99.97
Ground Surface NA

Top of Seal NA
Top of Gravel Pack NA
Top of Screen +3'

Bottom of Screen 8'
Bottom of Borehole 8'

Note: PZ1 appears to be in the center of a former pit (?)
(MW1 riser elev. 99.81 GWTOR - 8.82)

MWINSTAL.wk1

Geologist Signature Cory Chaney

TEMPORARY PIEZOMETER INSTALLATION

Borehole #
Well # PZ-2
Pag 1 of 1

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

Project Name EPFS GW PITS
Project Numbe 17520 Phase 6006
Site Location Turner A1 71676

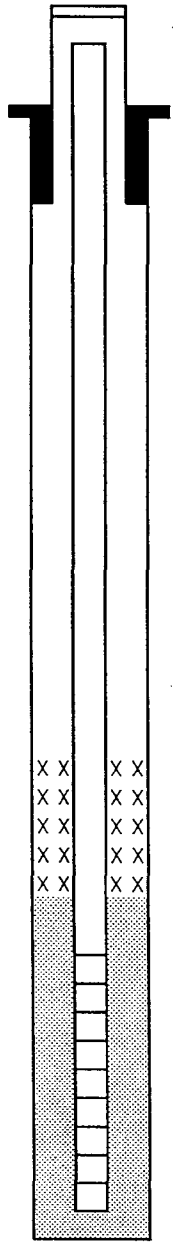
Elevation
Well Location Ltr K -S34-T31-R11
GWL Depth 8.00TOR
Installed By K. Padilla

On-Site Geologist C CHANCE
Personnel On-Site D Charley
Contractors On-Site
Client Personnel On-Site

Date/Time Started 10/22/97
Date/Time Complete 10/23/97

COMMENTS

- PZ2 is 75° & 68' From MW1
- Cobbles @ ~3' BGS
- Install temp well & collect GW sample
CMC 270



Top of Protective Casing
Top of Riser (survey elev.) 99.40
Ground Surface NA

Top of Seal NA

Top of Gravel Pack NA

Top of Screen +2.5'

Bottom of Screen 7.5'
Bottom of Borehole 7.5'

(MW1 riser elev - 99.81 GW TOR - 8.82 GW Elev - 90.99)

MWINSTAL.wk1

Geologist Signature Cory Chance

El Paso Natural Gas Company

Well Points

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME	SAMPLERS: (Signature)	DATE:
# 24324	Pit Closure Project / Well Points	Corey Chance	10/22/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
971139	10/22/97	0905	Water	CMC364	2		—	✓					CMC Canada Mesa 02643 CPD PZ1
971140		—		Trip Blank	1			✓					Trip Blank
~~CMC 10/22/97~~				CMC365	2			✓					Mesa CPD 02643 PZ2
971141		1045		CMC366	2			✓					" BHI
971142		1050		CMC367	2			✓					" PZ3
971143		1140		CMC368	2			✓					" PZ4
971144		1430		CMC369	2			✓					Turner AI 71676 PZ1
971145		1515		CMC370*	2			✓					" PZ2

RECEIVED NOV 6 1997

Note: CMC366 (BH1) is a grab sample from the wash from ~2.5' BGS

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Corey Chance	10/22/97 1700				
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY (Signature)	RELINQUISHED BY (Signature)	DATE/TIME	RECEIVED AT LABORATORY BY: (Signature)
				10/23/97 1153	

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

~~CARRIER CO.~~

* non-preserved

BILL NO.:

SAMPLE RECEIPT REMARKS: Temp. 30°C IN TACT

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

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC369	971144
MTR CODE | SITE NAME:	71676	Turner A #1
SAMPLE DATE | TIME (Hrs):	10/22/97	1430
PROJECT:	Well Points	
DATE OF BTEX EXT. | ANAL.:	10/25/97	10/25/97
TYPE | DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1960	PPB	50	D		
TOLUENE	8480	PPB	50	D		
ETHYL BENZENE	713	PPB	50	D		
TOTAL XYLENES	6940	PPB	50	D		
TOTAL BTEX	18093	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.3 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Toluene was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By: _____ Date: 10-28-97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC370	971145
MTR CODE | SITE NAME:	71676	Turner A #1
SAMPLE DATE | TIME (Hrs):	10/22/97	1515
PROJECT:	Well Points	
DATE OF BTEX EXT. | ANAL.:	10/25/97	10/25/97
TYPE | DESCRIPTION:	PZ-2	Water

Field Remarks: The sample was not preserved due to reaction with the acid.

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	8.52	PPB				
ETHYL BENZENE	1.18	PPB				
TOTAL XYLENES	17.3	PPB				
TOTAL BTEX	27	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Toluene was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By: John Turner Date: 10-28-97

971145BTEXWP,10/28/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 971139 to 971151

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	48.0	96.1	75 - 125 %	X	
Toluene	Standard	50.0	47.8	96	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.7	95	75 - 125 %	X	
m & p - Xylene	Standard	100	95.4	95.4	75 - 125 %	X	
o - Xylene	Standard	50.0	47.3	95	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	25.0	24.3	97.0	39 - 150	X	
Toluene	Standard	25.0	24.1	97	46 - 148	X	
Ethylbenzene	Standard	25.0	24.1	96	32 - 160	X	
m & p - Xylene	Standard	50.0	48.3	97	Not Given	X	
o - Xylene	Standard	25.0	24.3	97	Not Given	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	48.6	97.3	75 - 125 %	X	
Toluene	Standard	50.0	48.6	97.3	75 - 125 %	X	
Ethylenzene	Standard	50.0	47.6	95.1	75 - 125 %	X	
m & p - Xylene	Standard	100	95.0	95.0	75 - 125 %	X	
o - Xylene	Standard	50.0	47.6	95	75 - 125 %	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	48.8	97.5	75 - 125 %	X	
Toluene	Standard	50.0	48.5	97.0	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.2	94.5	75 - 125 %	X	
m & p - Xylene	Standard	100	93.9	93.9	75 - 125 %	X	
o - Xylene	Standard	50.0	47.3	94.6	75 - 125 %	X	

Narrative: Acceptable.

IPLICATES:

SAMPLE ID 971148	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	1.3	200.00	+/- 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: Toluene was detected in the associated blank at the level shown. Data was qualified.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 971148	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	49.0	97.9	75 - 125 %	X	
Toluene	50	<1	49.2	98	75 - 125 %	X	
Ethylbenzene	50	<1	48.3	97	75 - 125 %	X	
m & p - Xylene	100	<2	96.6	96.6	75 - 125 %	X	
o - Xylene	50	<1	48.1	96	75 - 125 %	X	

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (2 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (1 analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	1.62	NOTED
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Data for associated samples was qualified.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (none analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

10/23/97 TRIP BLANK	SOURCE	PPB (2 analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: CV Approved By: John Date: 11-3-97

1997 GROUNDWATER ANALYTICAL

PHILIP ENVIRONMENTAL

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 3059

Project Name EPFS GW PITS
Project Number 17520 Phase . Task 6003 . 77
Samplers J. LONG
Laboratory Name ENV
Location Farmington NM

EPFS LAB ID	Sample Number (and depth)	Date	Time	Matrix	Total Number of Bottles	Type of Analysis and Bottle: BTEX	Comments
970201	JAL TRIPBLANK	3-10-97	1115	WATER	1	X	
970202	JAL 14046.01	3-10-97	1245	WATER	2	X	ONE VOA TOO OLD Headspace Present (Bot Air)
970203	JAL-08506-01	3-10-97	1610	WATER	2	X	ONE VOA TOO OLD Headspace Present
970204	JAL TRIPBLANK	3-11-97	1000	WATER	1	X	
970205	JAL-60157-01	3-11-97	1045	WATER	2	X	
970206	JAL-95210.01	3-11-97	1325	WATER	2	X	
970207	JAL 75220.01	3-11-97	1530	WATER	2	X	
970208	JAL TRIPBLANK	3-12-97	1150	WATER	1	X	Air Bubble
970209	JAL 71676.01	3-12-97	1155	WATER	2	X	
970210	JAL TRIPBLANK	3-13-97	1000	WATER	1	X	
970211	JAL 71816.01	3-13-97	1010	WATER	2	X	

Relinquished by:

Signature	Date	Time
[signature]	3-13-97	1430

Received By:

Signature	Date	Time
John Holder	3/13/97	1435

Samples Iced: ☒ Yes ☐ No

Preservatives (ONLY for Water Samples)

- ☐ Cyanide ..... Sodium hyroxide (NaOH)
- ☒ Volatile Organic Analysis ..... Hydrochloric acid (HCl)
- ☐ Metals ..... Nitric acid (HNO_3)
- ☐ TPH (418.1) ..... Sulfuric acid (H_2SO_4)
- ☐ Other (Specify) _____
- ☐ Other (Specify) _____

Carrier: Hand Delivered JH

Airbill No.

Shipping and Lab Notes:

Rec'd - Cool and In-Tact JH

PF 176 4/95

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL Trip Blank	970208
MTR CODE | SITE NAME:	71676	Turner A #1
SAMPLE DATE | TIME (Hrs):	3/12/97	1150
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	3/14/97	3/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: TRIP BLANK

RESULTS

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

The Surrogate Recovery was at 97.9 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 4/5/97

970208,4/4/97

EL PASO FIELD SERVICES

5-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL 71676-01	970209
MTR CODE | SITE NAME:	71676	Turner A #1
SAMPLE DATE | TIME (Hrs):	3/12/97	1155
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	3/15/97	3/15/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	542	PPB	10	D		
TOLUENE	<1	PPB	10	D		
ETHYL BENZENE	453	PPB	10	D		
TOTAL XYLENES	4250	PPB	10	D,D1		
TOTAL BTEX	5250	PPB				

The Surrogate Recovery was at 100 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used
The "D1" qualifier indicates that the analyte concentration exceeded the calibration curve limit.
The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.
Narrative:

Approved By: _____ Date: 4/5/97

PHILIP ENVIRONMENTAL

Well Development and Purging Data

☒ Development ☐ Purging

Well Number MW01

Serial No. WDPD-

Page ___ of ___

Project Name EPFS G.W. Pits　Project Manager Coy Chenie　Project No. 17520

Client Company El Paso.　Phase.Task No. 6003.77

Site Name Turner A1 (71676)　Site Address

Development Criteria

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

Methods of Development

Pump
☐ Centrifugal
☐ Submersible
☐ Peristaltic

Bailer
☒ Bottom Valve
☐ Double Check Valve
☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 14.88
Initial Depth to Water (feet) 7.62
Height of Water Column in Well (feet) 7.26
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		4.7	x5
Gravel Pack			
Drilling Fluids			
Total			23.6

Instruments

Instrument	Serial No. (if applicable)
☒ pH Meter	04ster
☐ DO Monitor	
☒ Conductivity Meter	
☒ Temperature Meter	
☐ Other	

Water Disposal

Drumed & dumped at K-TE Seperator in Bloomfield

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) X10	Dissolved Oxygen (mg/L)	Comments
3-12-97	0945		6				5	5			10	6.85	99		Dkbrn silty
	0955						5	10			10	6.89	109		Bailed dry
	1040						3	13			10.6	6.75	109		Bailed dry *
3-12-97	1145		7				4	17			10.5	6.95	133		Bailed dry Brn very silty **

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

Bailed dry for 2 second time added 2.5 gallons of distilled water purged for 15 minutes removed 3 gallons and waited for recharge,

Comments * Bailed dry for 2 second time added 2.5 gallons of distilled water & purged for 15 minuts removed 3 gallons and waiting for recharge

** After surging and waiting for 45 minuts bailed dry at 4 gallons, sampled

Developer's Signature(s) [signature]　Date 3-12-97　Reviewer ______ Date ______

Form A0101 Rev. 03/21/94

PHILIP ENVIRONMENTAL

Water Sampling Data

Location No. MW01

Serial No. WSD-

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other

Date 3-12-97

Project Name EPFS SW PITS

Project No. 17520

Project Manager Cory Chance

Phase.Task No. 6003 .77

Site Name Turner A1 (71676)

Sampling Specifications

Requested Sampling Depth Interval (feet) TOP 3'

Requested Wait Following Development/Purging (hours) —

Initial Measurements

Time Elapsed From Final Development/Purging (~~hours~~ min) 10

Initial Water Depth (feet) 7.62

Nonaqueous Liquids Present (Describe)

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings: Temp. (°C)	pH	DO (mg/L)	Cond. (μmhos/cm)	Water Collection Data: Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	Notes (Explain in Comments Below)
See	well	development		and	Purging	data	sheet					

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 Number	Container Type	Container Volume (mL)	Field Filtered Yes	Field Filtered No	Preserved	Cooled During Collection Yes	Cooled During Collection No	Comments
BTEX	2	G	40		X	H	X		JZL 7167601 T:1:55

Filter Type

Chain-of-Custody Form Number C6305-S

Comments

Signature [signature] Date 3-12-97 Reviewer Date

Form A0202 Rev. 02/24/94

El Paso Natural Gas Company

A 2051

Sample 4 - 1st QUARTER

CHAIN OF CUSTODY RECORD

Project No.:
Project Name: AZTEC PIPELINE
Samplers: (Signature) Dennis Bird
Date: 8-11-97

Matrix	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE	General Chemistry	RCRA Metals		Remarks
WATER	8-11-97	1304		X	970841	5-1/2 gal	4°C	X	X	X		TURNER A #1 MW-1 MC 71676
WATER	8-11-97	—		X	—			X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	8-11-97 1632				
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 Hagger	8/12/97 2810	

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

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970841
MTR CODE | SITE NAME:	71676	Turner A #1 MW-1
SAMPLE DATE | TIME (Hrs):	8/11/97	1304
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	8/14/97	8/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	57.1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	96.4	PPB				
TOTAL XYLENES	186	PPB				
TOTAL BTEX	340	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Turbi Date: 8/25/97

970841BTEX,8/22/97

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970841
DATE SAMPLED:	08/11/97
TIME SAMPLED (Hrs):	1304
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	71676
SAMPLE SITE NAME:	Turner A #1
SAMPLE POINT:	MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.51	Units	08/14/97
Alkalinity as $C0_3$	0	PPM	08/14/97
Alkalinity as $HC0_3$	572	PPM	08/14/97
Calcium as Ca	151	PPM	08/13/97
Magnesium as Mg	50.6	PPM	08/13/97
Total Hardness as $CaC0_3$	585	PPM	08/13/97
Chloride as Cl	31.50	PPM	08/13/97
Sulfate as $S0_4$	449	PPM	08/13/97
Fluoride as F	0.99	PPM	08/14/97
Nitrate as $N0_3$-N	<0.6	PPM	08/13/97
Nitrite as $N0_2$-N	<0.6	PPM	08/13/97
Ammonium as NH_4^+	<0.1	PPM	08/13/97
Phosphate as PO_4	<0.6	PPM	08/13/97
Potassium as K	4.3	PPM	08/13/97
Sodium as Na	178	PPM	08/13/97
Total Dissolved Solids	1,230	PPM	08/14/97
Conductivity	1,660	umhos/cm	08/14/97
Anion/Cation %	0.3%	%, <5.0 Accepted	08/22/97

Lab Remarks:

Reported By: CV Approved By: _____ Date: 8/25/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970841
SAMPLE DATE:	08/11/97
SAMPLE TIME (Hrs):	1304
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71676
SAMPLE SITE NAME:	Turner A #1
SAMPLE POINT:	MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC (As)	0.008	0.100
BARIUM (Ba)	0.12	1.00
CADMIUM (Cd)	<0.0002	0.010
CHROMIUM (Cr)	<0.004	0.050
LEAD (Pb)	<0.003	0.050
MERCURY (Hg)	<0.0002	0.002
SELENIUM (Se)	<0.011	0.050
SILVER (Ag)	<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 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

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

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

Reported By: CV Approved By: John Fowler Date: 9-11-97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970841
Date Reported: 09/05/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	94.4%
Barium	0.064	0.065	98.8%
Cadmium	0.0013	0.0012	110%
Chromium	0.008	0.007	103%
Lead	0.044	0.042	105%
Mercury	0.0041	0.0046	89.3%
Selenium	0.040	0.041	98.8%
Silver	0.0062	0.0068	91.2%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	0.008	0.008	0.8%
Barium	0.106	0.114	7.3%
Cadmium	ND	ND	NA
Chromium	0.004	0.005	4.7%
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	0.008	0.118	0.100	107%
Barium	0.106	0.997	1.00	89.1%
Cadmium	ND	0.0105	0.010	99.7%
Chromium	0.004	0.052	0.050	94.9%
Lead	ND	0.054	0.050	102%
Mercury	ND	0.0017	0.0020	89.0%
Selenium	ND	0.054	0.050	105%
Silver	ND	0.0393	0.005	78.4%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.004
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.003
Mercury	ND	0.00019
Selenium	ND	0.011
Silver	ND	0.0004

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

Reported By: mh Approved By: [signature] Date: 9-8-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name TURNER A #1

Meter Code 71676

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) 14.65
Initial Depth to Water (feet) 9.10
Height of Water Column in Well (feet) 5.55
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well Cubic Feet	Water Volume in Well Gallons	Gallons to be Removed
Well Casing		3.7	11.0
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 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
8-11-97	1147										20.0	6.94	1778		
8-11-97	1154						3.0	3.0			18.7	7.14	2290		
8-11-97	1202						2.0	5.0			18.5	7.27	1982		
8-11-97	1238						3.0	8.0			19.6	7.29	1721	2.5	

Comments THE WELL BAILED DRY @ 5.0 GALLONS.

Developer's Signature Dennis Bird Date 8-11-97 Reviewer John Hawdi Date 8/25/97

SAMPLE 4 2ND QTR

El Paso Natural Gas Company

A 2126

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	MC #71676	Dennis Bird	11-5-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE				Remarks
WATER	11-5-97	0954		X	971187	G-1	4°C	X				TURNER A #1 MW-1
WATER	11-5-97	—		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	11-5-97 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 Hoppen	11/6/97 0715		

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	971187
MTR CODE | SITE NAME:	71676	Turner A #1
SAMPLE DATE | TIME (Hrs):	11/5/97	0954
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	11/6/97	11/6/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	9.83	PPB				
TOLUENE	15.7	PPB				
ETHYL BENZENE	21.3	PPB				
TOTAL XYLENES	21.7	PPB				
TOTAL BTEX	69	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 90.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fuller Date: 11/12/97

971187BTEXMW,11/10/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name TURNER A #1

Meter Code 71676

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 14.65
Initial Depth to Water (feet) 8.57
Height of Water Column in Well (feet) 6.08
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.0	12.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other

Water Disposal

KOTZ 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					
11-5-97	0901										15.2	6.81	1584		
11-5-97	0908						3.0	3.0			15.2	7.14	1575		
11-5-97	0918						2.0	5.0			15.1	7.26	1522		
11-5-97	0940						3.0	8.0			15.3	7.40	1595	2.5	

Comments THE WELL BAILED DRY @ 8.0 GALLONS.

Developer's Signature Dennis Bird Date 11-5-97 Reviewer John Ladd Date 11/12/97