3R - 210

REPORTS

DATE:

1998 - 1997

EL PASO FIELD SERVICES

Certified Mail: #Z 211 324 121

March 31, 1999

RECEIVED

APR 0 5 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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

RE: 1998 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for the 49 remaining groundwater impacted locations that were identified during our pit closure project of 1994 / 1995.

Of the 49 reports, EPFS hereby requests closure of 18 of these locations. The 18 sites EPFS is requesting closure on are presented in 4 separate binders entitled "Final Closure Report for Groundwater Sites with Four Consecutive Quarters Below Standards".

The Jaquez Com. C #1 and Jaquez Com. E #1 site is included in a separate report which is entitled "Jaquez Com. C #1 and Jaquez Com. E #1 Annual Report for Soil and Groundwater Remediation".

If you have any questions concerning the enclosed reports or closure requests, please call me at (505) 599-2124.

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # Z 211 324 122**
Mr. Bill Liesse, BLM – w / enclosures; **Certified Mail # Z 211 324 123**
Ms. Charmaine Tso, Navajo EPA – w / enclosures; **Certified Mail # Z 211 324 120**

EPFS GROUNDWATER PITS
1998 ANNUAL GROUNDWATER REPORT

LAT 3B-39 LINE DRIP
Meter/Line ID - LD146

SITE DETAILS

Legals - Twn: 29N **Rng:** 9W **Sec:** 10 **Unit:** M
NMOCD Hazard Ranking: 40 **Land Type:** FEE
Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jan-94 **Excavation:** Jan-95 (60 cy) **Soil Boring:** Sep-95
Monitor Well: Sep-95 **Geoprobe:** Nov-96 **Quarterly Sampling Initiated:** Nov-96

1998 ACTIVITIES

Quarterly Groundwater Monitoring- Quarterly groundwater monitoring continued through 1998. The first and second quarters of 1998 were not sampled due to a strong hydrocarbon odor and sheen on the groundwater samples. Groundwater analytical data are presented in Table 1. A site map is presented as Figure 1.

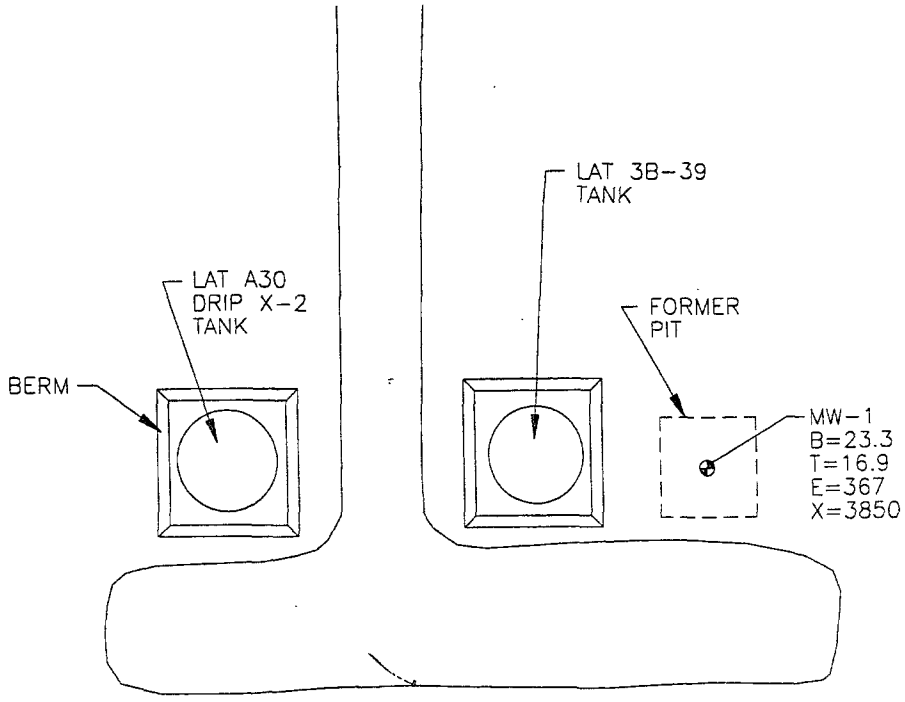
CONCLUSIONS

Benzene has been in excess of New Mexico Groundwater Standards during all but one quarter since quarterly sampling was initiated. Groundwater gradient has not been determined at this site.

Pertinent data from the 1997 groundwater report includes the following: Geoprobe groundwater samples, collected from various points outside the boundaries of the former pit and analyzed for hydrocarbon constituents, were within acceptable limits for New Mexico Groundwater Standards. Based on Geoprobe data, there does not appear to have been any migration of contaminants.

RECOMMENDATIONS

- Site may be a candidate for nutrient injection.
- Quarterly sampling will continue at MW-1 until analytical results show hydrocarbon constituents are below New Mexico Groundwater Standards for four consecutive quarters.
- Following OCD approval for closure, MW-1 will be abandoned using OCD approved abandonment procedures.
- The OCD requests that EPFS install additional groundwater monitoring wells to monitor and determine the extent of groundwater contamination.



WASH

HIGHWAY 64
BLOOMFIELD

LEGEND

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

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:
LAT 3B-39 LINE DRIP
LD146
NOVEMBER 3, 1998

DWN:	DES.:
TMM	CI
CHKD:	APPD:
CI	
DATE:	REV.:
2/9/99	0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

COL. 17520BG-002

EPFS Groundwter Pits
1998 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
980551	LD146	Lat 3B-39 Line Drip	08/06/98	1	Sample 4 - 6th Quarter	= 9.45	= 13.4	= 202	= 1920	= 2145.0
980770	LD146	Lat 3B-39 Line Drip	11/03/98	1	Sample 4 - 7th Quarter	= 23.30	= 16.9	= 367	= 3850	= 4256.8

1998 GROUNDWATER ANALYTICAL

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LATERAL 3B-39 LINE DRIP

Meter Code LD146

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) 46.31
Initial Depth to Water (feet) 35.53
Height of Water Column in Well (feet) 5.78
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.8	11.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		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					
8-6-98	1510										20.6	5.49	778		
8-6-98	1519						3.0	3.0			20.1	5.62	811		
8-6-98	1531						2.0	5.0			21.1	6.41	821		
8-6-98	1547						2.0	7.0			21.3	6.73	843		
8-6-98	1601						2.0	9.0			20.6	6.76	836	1.0	

Comments THE WELL BAILED DRY @ 9.0 GALLONS. THE WATER HAD A STRONG HYDROCARBON SMELL.

Developer's Signature Dennis Bird Date 8-6-98 Reviewer John Labrum Date 8/12/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980551
MTR CODE | SITE NAME:	LD146	Lateral 3B-39 Line Drip
SAMPLE DATE | TIME (Hrs):	8/6/98	1612
PROJECT:	Sample 4 6th Quarter	
DATE OF BTEX EXT. | ANAL.:	8/11/98	8/11/98
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	9.45	PPB	5	D		
TOLUENE	13.4	PPB	5	D		
ETHYL BENZENE	202	PPB	5	D		
TOTAL XYLENES	1920	PPB	5	D		
TOTAL BTEX	2145	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.8 % 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:

Approved By: _____ Date: 8/12/98

SAMPLE 4 6TH QTR,

El Paso Natural Gas Company

A 2381

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	MC#L0146			BTXE			
Samplers: (Signature) Dennis Bird	Date: 8-5-98						

MATRIX	Date	Time	Comp.	GRAB	Sample Number						
WATER	8-6-98	1612		X	980551	G-1	4°C	X				LATERAL 35-37 LINE DRIP MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	8-6-98 1735				
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	8/10/98 0720		

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

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LATERAL 3B-39 LINE DRIP

Meter Code LD146

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 41.31
Initial Depth to Water (feet) 35.18
Height of Water Column in Well (feet) 6.13
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.1	12.2
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

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					
11-3-98	1443										15.4	6.77	839		
11-3-98	1452						3.0	3.0			15.0	6.84	848		
11-3-98	1500						2.0	5.0			15.0	6.91	855		
11-3-98	1511						2.0	7.0			14.8	6.95	888		
11-3-98	1525						3.0	10.0			14.8	7.02	927		
11-3-98	1538						2.0	12.0			14.1	7.06	978	1.5	

Comments THE WATER HAD A STRONG HYDROCARBON SMELL.

Developer's Signature Dennis Bird Date 11-3-98 Reviewer John Foldi Date 11/9/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980770
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip
SAMPLE DATE | TIME (Hrs):	11/3/98	1547
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. | ANAL.:	11/6/98	11/6/98
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	23.3	PPB	5	D		
TOLUENE	16.9	PPB	5	D		
ETHYL BENZENE	367	PPB	5	D		
TOTAL XYLENES	3850	PPB	5	D1		
TOTAL BTEX	4256.8	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 106.4 % 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: [signature] Date: 11/9/98

980770BTEXMW,11/6/98

SAMPLE # 7TH YR

El Paso Natural Gas Company

A 2404

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC #L0146							
Samplers: (Signature) Dennis Bird	Date: 11-3-98							
MATRIX	Date / Time / Comp. / GRAB / Sample Number							
WATER	11-3-98 1547 X 980770	6-1	3°F	X				UNT 38-39 LINE DRIP

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	11-3-98 1720				
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:	
		Martha Hoppen	11/4/98 1530		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	

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

LAT 3B-39 LINE DRIP
Meter/Line ID - LD146

SITE DETAILS

Legals - Twn: 29N **Rng:** 9W **Sec:** 10 **Unit:** M
NMOCD Hazard Ranking: 40 **Land Type:** FEE
Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jan-94 **Excavation:** Jan-95 (60 cy) **Soil Boring:** Sep-95
Monitor Well: Sep-95 **Geoprobe:** Nov-96

1997 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 11/8/96 and has continued into 1997. Groundwater analytical data are presented in Table 1.

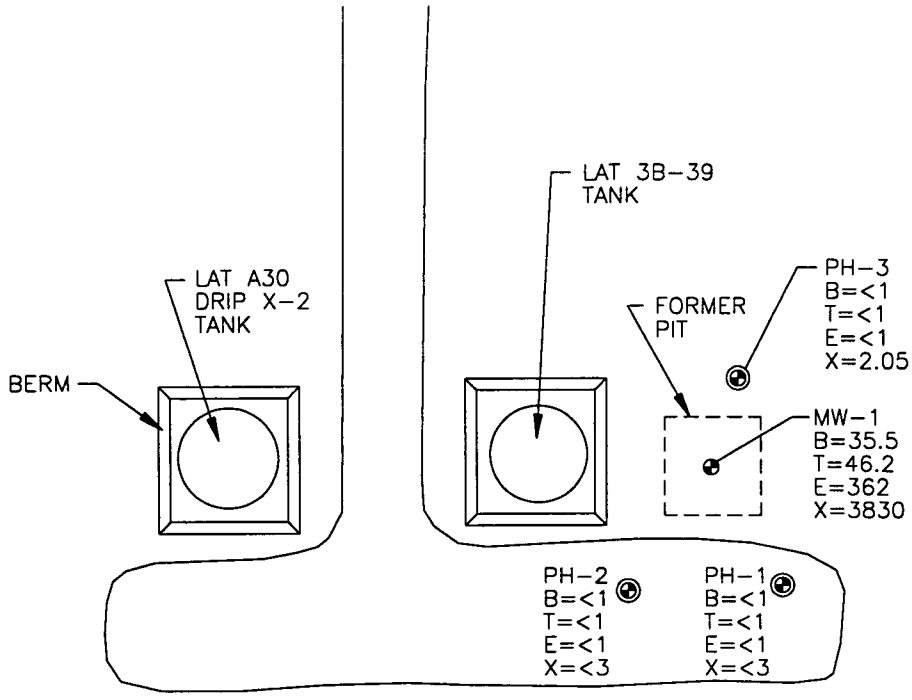
CONCLUSIONS

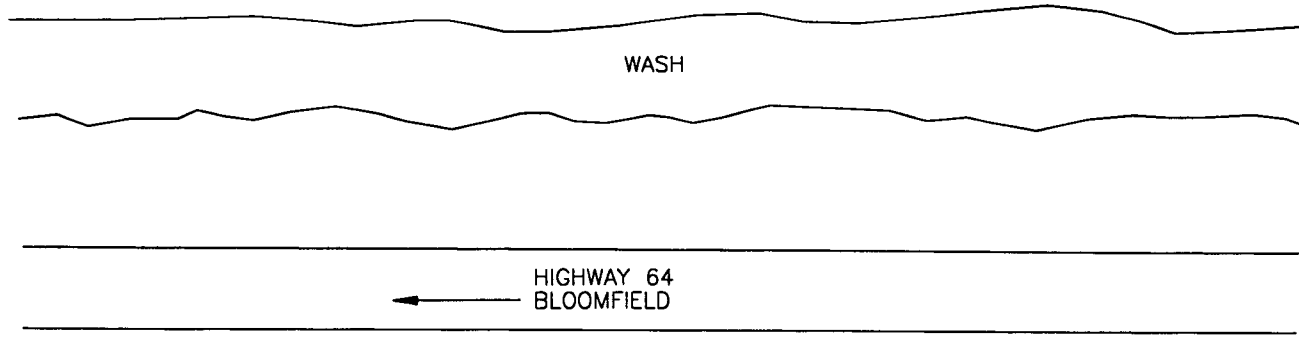
Benzene and total xylenes have been above standards since quarterly sampling was initiated, but have steadily decreased until the 5th quarter. Toluene has increased slightly, but has been well below standards since sampling was initiated. PAH's were above standards on the 11/4/97 sampling event. Geoprobe groundwater samples collected on the assumed downgradient side of MW-1 were below standards for BTEX. One geoprobe groundwater sample collected on the assumed upgradient side of MW-1 was also below standards for BTEX.

Based on Geoprobe data, there does not appear to have been any downgradient migration of contaminants.

RECOMMENDATIONS

- Site may be candidate for nutrient injection in the 4 corners of the pit.
- 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
⊕ MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
B	BENZENE (ug\L)
T	TOLUENE (ug\L)
E	ETHYL BENZENE (ug\L)
X	XYLENE (ug\L)
ug\L	MICROGRAMS PER LITER

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:
LAT 3B-39 LINE DRIP
LD146

DWN:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
1/9/97	0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

COL. 17520BG-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960929	LD146	Lat 3B-39 Line Drip	11/08/96	1	Sample 4 - 1st Qtr	= 42.7	< 1	= 311	= 2490	= 2845
970086	LD146	Lat 3B-39 Line Drip	2/11/97	1	Sample 4 - 2nd Qtr	= 36.8	< 1	= 241	= 2050	= 2329
970413	LD146	Lat 3B-39 Line Drip	5/8/97	1	Sample 4 - 3rd Qtr	= 23.7	= 10.9	= 170	= 1420	= 1630
970809	LD146	Lat 3B-39 Line Drip	8/5/97	1	Sample 4 - 4th Qtr	= 12.8	= 18.2	= 117	= 1150	= 1298
971184	LD146	Lat 3B-39 Line Drip	11/4/97	1	Sample 4 - 5th Qtr	= 35.5	= 46.2	= 362	= 3830	= 4270

10-53 Bloomfield

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

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

Project Name EPNG Pits
Project Number 14509 Phase 6000.77
Project Location LAT 38-39

Elevation
Borehole Location S10, T29, R9, M
GWL Depth
Logged By Jeff W. Kindley
Drilled By Mike Donahue
Date/Time Started 09/11/95 0830
Date/Time Completed 09/11/95 1230

Well Logged By Jeff W. Kindley
Personnel On-Site M. Donahue, J. Johnson, J. Johnson
Contractors On-Site
Client Personnel On-Site

Drilling Method 4 1/4 ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ	BH	S	Drilling Conditions & Blow Counts
0				Backfill to 12'						
5										
10										
15										
20										
25	1	23-25	1.4/2.0	SW, DKBR SAND, coarse grained, moist, medium dense, hydrocarbon odor					172/181	0902 23 blows per Foot
30	2	28-30	1.4/2.0	S.A.A.					176/190	0915 22 blows per Foot • Water on rods at 31 feet.
35	3	33-35		Not able to collect sample					NS	0928 20 blows per Foot
40	4	38-40		Not able to collect sample.					N.S	

Comments: Groundwater encountered at 31 feet. Sample collected From 28 to 30 feet (JWK, 61). Boring terminated at 41 feet and monitoring well installed.

Geologist Signature Jeffrey Kindley

7/22/95\DRILLOG.XLS

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # _____
Well # _____
Page 1 of 1

Project Name EPNG P,Ts
Project Number 14509 Phase 6000-77
Project Location LAT 36-39

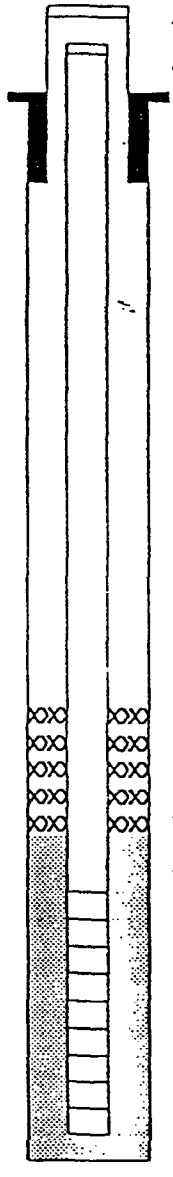
On-Site Geologist Jeff Kindley
Personnel On-Site M. Donahue, J. Johnson, J. Johnson
Contractors On-Site _____
Client Personnel On-Site _____

Elevation _____
Well Location S10, T29, R9, M
GWL Depth _____
Installed By M. Donahue

Date/Time Started 09/11/95 0830
Date/Time Completed 09/11/95 1230

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout	Cement Slurry	5
Bottom of Grout	Cement Slurry	19
Top of Well Riser	4 inch Schedule 40 PVC	+2.5
Bottom of Well Riser	4 inch schedule 40 PVC	24
Top of Well Screen	4 inch .010 inch slotted schedule	24 39
Bottom of Well Screen	40 PVC	39
Top of Peltonite Seal	Enviroplug No 8 Bentonite	19
Bottom of Peltonite Seal	11	21
Top of Gravel Pack	CSSI 1020 Silica Sand	21
Bottom of Gravel Pack	11	39
Top of Natural Cave-In		39
Bottom of Natural Cave-In		41
Top of Groundwater		31
Total Depth of Borehole		41



Top of Protective Casing _____
Top of Riser +2.5
Ground Surface 0

Top of Seal 19

Top of Gravel Pack 21

Top of Screen 24

Bottom of Screen 39
Bottom of Borehole 41

Comments: _____

Geologist Signature Jeffrey Kindley

GEOPROBE

SITE ACTIVITIES

21-Feb-97

Meter/Line #: LD146

Location/Line #: Lat 3B-39 Line Drip

MW#:

Depth to GW:

Depth to Product:

Product Thickness:

Date: 11/18/96

Activity: Geoprobe

Comments: Collect GW samples from 3 probe holes. Could not install piezos due to depth of water and geology.

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC263	948026
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip
SAMPLE DATE | TIME (Hrs):	11/21/96	900
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	11/28/96	11/28/96
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	<3	PPB				
TOTAL BTEX	<6	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 95.7 % for this sample All QA/QC was acceptable.

DF – Dilution Factor Used

Narrative:

Approved By: John Gardner Date: 12/4/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC264	948027
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip
SAMPLE DATE | TIME (Hrs):	11/21/96	945
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	11/28/96	11/29/96
TYPE | DESCRIPTION:	PH2	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 92.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Taddie Date: 12/4/96

948027.XLS,12/3/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC265	948028
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip
SAMPLE DATE | TIME (Hrs):	11/21/96	1155
PROJECT:	Geoprobe	
DATE OF BTEX EXT. | ANAL.:	11/29/96	11/29/96
TYPE | DESCRIPTION:	PH3	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	2.05	PPB				
TOTAL BTEX	2.05	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.4 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Leach Date: 12/4/96

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

A 2675

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE	GENERAL CHEMISTRY	SM NM METALS	Remarks
	BLOOMFIELD PIPELINE						
Samplers: (Signature) Dennis Bird	Date: 11-7-96						

	Date	Time	Comp.	GRAB	Sample Number							
	11-7-96	1433		X	960929	3		X	X	X		LAT. 36-39 LONG 108 14

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	11-7-96 1445				
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:	
		Marilyn Hepner	11/11/96 0800		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960929
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip MW-1
SAMPLE DATE | TIME (Hrs):	11/8/96	1433
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	11/11/96	11/12/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	42.7	PPB	5	D		
TOLUENE	<1	PPB	5	D		
ETHYL BENZENE	311	PPB	5	D		
TOTAL XYLENES	2490	PPB	5	D		
TOTAL BTEX	2840	PPB				

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 97.6 % 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:

Approved By: _____ Date: 11/14/96

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	960929
DATE SAMPLED:	11/08/96
TIME SAMPLED (Hrs):	1433
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	LD146
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Lat 3B-39 Line Drip MW-1

FIELD REMARKS: ____________________

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.2	Units	11/06/96
Alkalinity as CO_3	0.0	PPM	11/06/96
Alkalinity as HCO_3	459	PPM	11/06/96
Calcium as Ca	105	PPM	11/07/96
Magnesium as Mg	11	PPM	11/07/96
Total Hardness as $CaCO_3$	307	PPM	11/07/96
Chloride as Cl	5	PPM	11/06/96
Sulfate as SO_4	97	PPM	11/06/96
Fluoride as F	0.6	PPM	11/07/96
Nitrate as NO_3-N*	0.2	PPM	11/06/96
Nitrite as NO_2-N	<0.1	PPM	11/06/96
Ammonium as NH_4^+	<0.1	PPM	11/07/96
Phosphate as PO_4	<0.1	PPM	11/06/96
Potassium as K	0.4	PPM	11/07/96
Sodium as Na	63	PPM	11/07/96
Total Dissolved Solids	534	PPM	11/06/96
Conductivity	810	umhos/cm	11/06/96
Anion/Cation %	4.5%	%, <5.0 Accepted	11/20/96

Lab Remarks:
*Nitrate was analyzed outside holding limits.

Reported By: *mdw* Approved By: *[signature]* Date: *11/20/96*

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960929
SAMPLE DATE:	11/08/96
SAMPLE TIME (Hrs):	1433
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	LD146
SAMPLE SITE NAME:	Bloomfield Pipeline
SAMPLE POINT:	Lat. 3B-39 Line Drip MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	0.025	0.100
BARIUM	0.58	1.00
CADMIUM	<.0002	0.010
CHROMIUM	<.001	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	<.003	0.050
SILVER	<.0005	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

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

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

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

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

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

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

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

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

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

Reported By: _____ Approved By: _____ Date: 12/18/96

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 960929
Date Sampled: 11/08/96

Date Reported: 12/16/96

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	30.6	32.4	94%
Barium	75.5	64.9	116%
Cadmium	2.75	2.38	116%
Chromium	5.07	4.76	107%
Lead	28.8	29.7	97%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.81	4.32	111%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	0.025	0.027	7.7%
Barium	0.58	0.55	5.3%
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 (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	25.3	132	100	106%
Barium	580	1520	1000	94%
Cadmium	ND	9.72	10.0	97%
Chromium	ND	59.8	50.0	118%
Lead	ND	42.9	50.0	86%
Mercury	ND	1.81	2.00	91%
Selenium	ND	47.9	50.0	96%
Silver	ND	51.6	50.0	103%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

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

Reported By: mh Approved By: John Garcia Date: 12/18/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LAT. 3B-39 LINE DRIP

Meter Code LO146

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) 41.31
Initial Depth to Water (feet) 36.46
Height of Water Column in Well (feet) 4.85
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		3.2	9.6
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☐ pH Meter
☐ DO Monitor
☐ Conductivity Meter
☐ Temperature Meter
☐ Other_____

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-8-96	1350										16.0	7.00	997		
11-8-96	1402						4.0	4.0			14.6	6.70	1013		
11-8-96	1418						1.0	5.0			14.4	6.85	1108	1.5	

Comments BAILED DRY @ 4 GALLONS

Developer's Signature Dennis Bird Date 11-8-96 Reviewer John Turner Date 11/20/96

El Paso Natural Gas Company

A 2224

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	BLOOMFIELD PIGGING			BTXE			
Samplers: (Signature) Dennis Bird	Date: 2-11-97						

Lab No.	Date	Time	Comp.	GRAB	Sample Number							
	2-11-97	1336		X	970084	52	4°C	X				LAT. 3B-37 LINE DRIP MC LOOP
	2-11-97	1336		X	970085	52	4°C	X				LAT. 3B-37 LINE DRIP MC LOOP

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	2-11-97 1607				
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:	
		Marion Hopper	2/12/97 1000		

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

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EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970086
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip MW-1
SAMPLE DATE | TIME (Hrs):	2/11/97	1336
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	2/13/97	2/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	36.8	PPB	10	D		
TOLUENE	<1	PPB	10	D		
ETHYL BENZENE	241	PPB	10	D		
TOTAL XYLENES	2050	PPB	10	D		
TOTAL BTEX	2330	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95.7 % 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:

Approved By: John Taylor Date: 2-19-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LAT. 38-39 LINE DRIP

Meter Code LO146

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) 41.31
Initial Depth to Water (feet) 36.62
Height of Water Column in Well (feet) 4.69
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.1	9.3
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					
2-11-97	1232										17.1	6.42	705		
2-11-97	1242						3.0	3.0			14.9	6.59	771		
2-11-97	1310						2.0	5.0			14.8	6.66	768		
2-11-97	1325						1.0	6.0			14.6	6.78	787	1.0	

Comments_____

Developer's Signature Dennis Bird Date 2-11-97 Reviewer John Fuller Date 2-19-97

El Paso Natural Gas Company

A 1948

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Requested Analysis: Preservation Technique	Requested Analysis: BTXE	Remarks
	BLOOMFIELD PIPELINE				
Samplers: (Signature) Dennis Bird	Date: 5-8-97				

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	5-8-97	1246		X	970413	6-2	4°C	X				LAT. 36-39 LONG 108 MC 10146

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	5-8-97 1715				
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 Hoppin	5/9/97 0710		

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

Air Bill No.:

EL PASO FIELD SERVICES

6-11-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970413
MTR CODE | SITE NAME:	LD146	Lat 3B-39 Line Drip MW-1
SAMPLE DATE | TIME (Hrs):	5/8/97	1246
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	5/14/97	5/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	23.7	PPB	5	D		
TOLUENE	10.9	PPB	5	D		
ETHYL BENZENE	170	PPB	5	D		
TOTAL XYLENES	1420	PPB	5	D		
TOTAL BTEX	1630	PPB				

The Surrogate Recovery was at 95.6 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:

Approved By: John Zorch Date: 6/3/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LAT. 3B-39 LINE DRIP

Meter Code LD146

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) 44.31
Initial Depth to Water (feet) 36.80
Height of Water Column in Well (feet) 4.51
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		3.0	8.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
5-8-97	1154										19.2	6.56	816		
5-8-97	1202						3.0	3.0			18.3	6.82	826		
5-8-97	1237						2.0	5.0			19.3	7.01	892	0.5	

Comments BAILED DRY @ 3.0 GALLONS. THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 5-8-97 Reviewer J.L Date 5/27/97

El Paso Natural Gas Company

A 2041

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Requested Analysis: Preservation Technique	Requested Analysis: BTXE	Requested Analysis	Requested Analysis	Remarks
	BLOOMFIELD PIPELINE						
Samplers: (Signature) Dennis Bird	Date: 8-5-97						

Matrix	Date	Time	Comp.	GRAB	Sample Number							
WATER	8-5-97	1256		X	970809	G-1	4°C	X				LATERAL 38-39 LINE DRIP MC L0146

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	8-5-97 1738				
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:	
		Marion Hoppe	8/16/97 0730		

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	970809
MTR CODE | SITE NAME:	LD146	Lateral 3B-39 Line Drip MW-1
SAMPLE DATE | TIME (Hrs):	8/5/97	1256
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	12.8	PPB	2	D		
TOLUENE	18.2	PPB	2	D		
ETHYL BENZENE	117	PPB	2	D		
TOTAL XYLENES	1150	PPB	5	D		
TOTAL BTEX	1298	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.4 % 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:

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

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LATERAL 3B-39 LINE DRIP

Meter Code LD146

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) 41.31
Initial Depth to Water (feet) 36.52
Height of Water Column in Well (feet) 4.79
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		3.2	9.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
8-5-97	1214										18.8	6.49	881		
8-5-97	1222						3.0	3.0			18.7	6.72	914		
8-5-97	1251						2.0	5.0			19.4	6.87	866	1.0	

Comments BAILED DRY @ 3.0 GALLONS. THE WATER HAD A LIGHT HYDROGEN SMELL.

Developer's Signature Dennis Bird Date 8-5-97 Reviewer John Landi Date 8/22/97

SAMPLE 4 5TH QTR

El Paso Natural Gas Company

A 2125

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC #L0146			BTXE				
Samplers: (Signature) Dennis Bird	Date: 11-4-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	11-4-97	1247		X	971184	G2	4°C	X				LATERAL 3B-39 LINE DRIP MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	11-4-97 1721				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marsha Happe	11/5/97 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	971184
MTR CODE | SITE NAME:	LD146	Lateral 3B-39 Line Drip
SAMPLE DATE | TIME (Hrs):	11/4/97	1247
PROJECT:	Sample 4 5th Quarter	
DATE OF BTEX EXT. | ANAL.:	11/7/97	11/7/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	35.5	PPB	10	D		
TOLUENE	46.2	PPB	10	D		
ETHYL BENZENE	362	PPB	10	D		
TOTAL XYLENES	3830	PPB	10	D		
TOTAL BTEX	4274	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.5 % 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:

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

971184BTEXMW,11/10/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name LATERAL 3B-39 LINE DRIP

Meter Code L0146

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 41.31
Initial Depth to Water (feet) 35.30
Height of Water Column in Well (feet) 6.01
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.0	11.9
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

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					
11-4-97	1202										15.8	6.69	849		
11-4-97	1210						3.0	3.0			15.4	6.61	901		
11-4-97	1218						2.0	5.0			15.1	6.62	891		
11-4-97	1235						4.0	9.0			15.3	6.78	907	1.5	

Comments THE WELL HAD 0.08' OF FREE FLOATING HYDROCARBON.

Developer's Signature Dennis Bird Date 11-4-97 Reviewer_____ Date_____

EPFS #971184

PARAGON ANALYTICS, INC.
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

November 26, 1997

Mr. John Lambdin
El Paso Field Services
PO Box 4990
Farmington, NM 87499

LD 146

RE: Paragon Workorder: 97-11-054
Client Project Name: Lateral 38-39 Line Drip
Client Project Number: Not Submitted

Dear Mr. Lambdin:

One water sample was received from El Paso Field Services on November 6, 1997. The sample was scheduled for PAHs by HPLC analysis. The results for this analysis are contained in the enclosed report pages 1-6.

Thank you for your confidence in Paragon Analytics, Inc. Should you have any questions, please call.

Sincerely,

Paragon Analytics, Inc.
Victoria Bayly
Project Manager

VB/jjc
Enclosure: report

Paragon Analytics, Inc.

PAHs by HPLC Case Narrative

El Paso Field Services

Lateral 3B-39 Line Drip

Order Number - 9711054

1. This report consists of 1 water sample received by Paragon on 11/6/97.

2. This sample was extracted and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water sample was extracted using continuous liquid-liquid extractors, based on Method 3520.

3. The extracts were then analyzed using HPLC with UV and fluorescence detectors with a reverse phase C18 column according to protocols based on Method 8310. All compounds are analyzed using UV at 254 nm. Confirmation is performed for positive results using the fluorescence detector or confirmed by UV at 280 nm for those compounds that do not respond to the fluorescence detector. The quantitation of each analyte is usually taken from the detector that exhibits the fewest interferences. These quantitations minimize the chances of reporting elevated results based on interferences. If compounds do not confirm quantitatively (if the higher amount is greater than twice the lower amount the 2 amounts are considered ***not*** to confirm each other quantitatively), then the value is flagged with a "K" and noted on the report page.

4. The sample was extracted and analyzed within the established holding times.

5. The method blank associated with this project was below the reporting limits for all analytes.

6. All Blank Spike and Blank Spike Duplicate recoveries and RPDs were within the acceptance criteria.

7. Matrix Spikes and Matrix Spike Duplicates could not be performed because of insufficient sample volume. A Blank Spike and Blank Spike Duplicate were performed instead. See Item 6 for details on recoveries.

8. All surrogate recoveries were within acceptance criteria.

9. Due to high levels of target analytes, the sample was analyzed at a higher dilution. The detection limits have been adjusted accordingly.

10. All initial and continuing calibration criteria were within acceptance criteria.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Preston Mathiesen — 11/22/97
HPLC Analyst — Date

PPS — 11-24-97
Reviewer's Initials — Date

Paragon Analytics, Incorporated

Sample Number(s) Cross-Reference Table

Paragon OrderNum: 9711054
Client Name: El Paso Field Services
Client Project Name:
Client Project Number: Lateral 38-39 Line Drip
Client PO Number:

Client Sample	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
971184	9711054-1		Water	11/4/97	12:47

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID

Reagent Blank

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Lateral 38-39 Line Drip

Lab Sample ID: WRB1 11/17/97

Sample Matrix: Water
Cleanup: N/A

Date Collected: N/A
Date Extracted: 11/11/97
Date Analyzed: 11/17/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 1

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	ND	0.50
Acenaphthylene	ND	1.0
1-Methylnaphthalene	ND	1.0
2-Methylnaphthalene	ND	1.0
Acenaphthene	ND	1.0
Fluorene	ND	0.10
Phenanthrene	ND	0.050
Anthracene	ND	0.10
Fluoranthrene	ND	0.10
Pyrene	ND	0.050
Benzo(a)anthracene	ND	0.050
Chrysene	ND	0.050
Benzo(b)fluoranthrene	ND	0.10
Benzo(k)fluoranthrene	ND	0.050
Benzo(a)pyrene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Indeno(1,2,3-c,d)pyrene	ND	0.10

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	70	35 - 119

ND = Not Detected at or above client requested reporting limit.

POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID
971184

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Lateral 38-39 Line Drip

Lab Sample ID: 9711054-1

Sample Matrix: Water
Cleanup: N/A

Date Collected: 11/04/97
Date Extracted: 11/11/97
Date Analyzed: 11/18/97

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 10

Analyte	Conc (ug/L)	Reporting Limit (ug/L)
Naphthalene	88	5.0
Acenaphthylene	ND	10.0
1-Methylnaphthalene	55	10.0
2-Methylnaphthalene	92	10.0
Acenaphthene	ND	10.0
Fluorene	5.3	1.0
Phenanthrene	8.7	0.50
Anthracene	1.3	1.0
Fluoranthrene	3.8 K	1.0
Pyrene	ND	0.50
Benzo(a)anthracene	ND	0.50
Chrysene	0.95 K	0.50
Benzo(b)fluoranthrene	ND	1.0
Benzo(k)fluoranthrene	ND	0.50
Benzo(a)pyrene	ND	1.0
Dibenzo(a,h)anthracene	ND	1.0
Benzo(g,h,i)perylene	ND	1.0
Indeno(1,2,3-c,d)pyrene	ND	1.0

SURROGATE RECOVERY

Analyte	% Recovery	% Rec Limits
2-Chloroanthracene	83	35 - 119

ND = Not Detected at or above client requested reporting limit.
K = Concentration confirmation does not agree within 50%.

POLYNUCLEAR AROMATIC HYDROCARBONS BLANK SPIKE

Method 8310

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Lateral 38-39 Line Drip

Lab Sample ID: WBS1 & 2, 11/17/97

Sample Matrix: Water
Cleanup: N/A

Sample ID

Blank Spike

Date Extracted: 11/11/97
Date Analyzed: 11/17/97

Sample Volume: 1,000 mL
Final Volume: 1 mL

Analyte	Spike Added (ug/L)	BS Concentration (ug/L)	BS Percent Recovery	QC Limits % Rec
Acenaphthylene	10.0	6.84	68	36 - 93
Phenanthrene	0.500	0.378	76	45 - 107
Pyrene	0.500	0.396	79	40 - 104
Benzo(k)fluoranthene	0.500	0.451	90	61 - 126
Dibenzo(a,h)anthracene	1.00	0.785	78	55 - 113

Analyte	Spike Added (ug/L)	BSD Concentration (ug/L)	BSD Percent Recovery	RPD	QC Limits RPD
Acenaphthylene	10.0	6.14	61	11	20
Phenanthrene	0.500	0.359	72	5	20
Pyrene	0.500	0.397	79	0.3	20
Benzo(k)fluoranthene	0.500	0.469	94	4	20
Dibenzo(a,h)anthracene	1.00	0.833	83	6	20

SURROGATE RECOVERY BS/BSD

Analyte	% Recovery BS	% Recovery BSD	% Rec Limits
2-Chloroanthracene	78	79	35 -119

PARAGON ANALYTICS, INC.
225 Commerce Drive Ft. Collins, CO 80524

(800) 443-1511 or (970) 490-1511
(970) 490-1522 - Fax

CHAIN OF CUSTODY

DATE 11-4-97 Page 1 of 1

ACCESSION NUMBER (LAB ID) 97 1184

REPORT TO: JOHN LAMBOIN
COMPANY: EL PASO FIELD SERVICE
ADDRESS: P.O. BOX 4990
FARMINGTON NM 87499

SAMPLER: DENNIS BIRD
505-599-2144 505-599-2261
PHONE NO. FAX NO.

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
971184	11-4-97	1247	WATER	01

ANALYSIS REQUESTED

Oil & Grease 9070/9071/413.2	418.1 - TRPH	8015 Mod. - Gasoline	8015 Mod. - Diesel	8015m/8020 - Gasoline/BETX	8020 - BETX only	8240/8260 - GC/MS VOC's	8270 - GC/MS SVOC's	8080 - Pesticides/PCB's	8080 - PCB's only	8310/610 - HPLC PNA's	8150 - Herbicides	8141/614 - OP Pesticides	TOX - EOX - AOX - TX	Total Metals *(specify in comments)	TCLP: *(specify parameters in comments)	Gross Alpha / Beta	Gross Gamma	Gamma Spec.	Isotopic Plutonium	Isotopic Uranium	Total Uranium (KPA)	Radium 226 / 228	Tritium (H3)	Strontium 89 / 90	8315 - Formaldehyde	% Moisture	Number of Containers
										X																2

PROJECT INFORMATION
PROJECT NUMBER:
PROJECT NAME: LATERAL 3B-39 LINE DRIP
P.O. NUMBER:
TAT: [X] STANDARD [ ] RUSH DUE _____
SAMPLE DISPOSAL: [ ] HAZ WASTE $5.00 ea [ ] RAD CHEM $15.00 ea [ ] RETURN

SAMPLE RECEIPT
TOTAL NO. OF CONTAINERS
CHAIN OF CUSTODY SEALS
SEALS INTACT?
RECD GOOD COND/COLD

COMMENTS: LOW LEVEL BENZO(A) PYRENE < 0.7 ppB

RELINQUISHED BY: 1	RELINQUISHED BY: 2	RELINQUISHED BY: 3
Sign. Dennis Bird Time 1735	Sign. Time	Sign. Time
Print DENNIS BIRD Date 11-4-97	Print Date	Print Date
Company EL PASO FIELD SERVICE	Company Fed Ex	Company
RECEIVED BY: 1	**RECEIVED BY: 2**	**RECEIVED BY: 3**
Sign. Time	Sign. Time 1000	Sign. Time
Print Date	Print Date 11/6/97	Print Date
Company Fedex	Company PAT	Company

* DO NOT WRITE IN SHADED AREAS

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Paragon Analytics, Inc. - Fort Collins, Colorado

CONDITION OF SAMPLE UPON RECEIPT

CLIENT: El Paso Field Svcs SHIPPING CONTAINER #: Cooler

WORKORDER NO. 97-11-054 INITIALS: KJ DATE: 11/6/97

1.	Does this project require special handling according to NEESA, Level 3, or CLP protocols? If yes, complete a. and b. a. Cooler Temperature_____ b. Lot No's._____ c. Airbill Number		Yes	(No)
2.	Are custody seals on the cooler intact? If so, how many_____	~~N/A~~	Yes	No
3.	Are custody seals on sample containers intact?	~~N/A~~	Yes	No
4.	Is there a Chain of Custody (COC) or other representative documents, letters or shipping memos?		~~Yes~~	No
5.	Is the COC complete? Relinquished: Yes ✓ No___ Requested Analysis: Yes ✓ No___	N/A	~~Yes~~	No
6.	Is the COC in agreement with the samples received? No. of Samples: Yes ✓ No___ Sample ID's: Yes ✓ No___ Matrix: Yes___ No___ No. of Containers: Yes___ No___		(Yes)	No
7.	Are the samples requiring chemical preservation preserved correctly?	~~N/A~~	Yes	No
8.	Is there enough sample? If so, are they in the proper containers?		~~Yes~~	No
9.	Are all samples within holding times for the requested analyses?		~~Yes~~	No
10.	Were the sample(s) shipped on ice?	N/A	~~Yes~~	No
11.	Were all sample containers received intact? (not broken or leaking, etc.)		Yes	(No)
12.	Are samples requiring no headspace, headspace free?	(N/A)	Yes	No
13.	Do the samples require quarantine?		Yes	(No)
14.	Do samples require Paragon disposal?		(Yes)	No
15.	Did the client return any unused bottles?		Yes	(No)

Describe "NO" items (except No's 1, 13, &14): (11) - Lid for 1 Bottle Recd Cracked - Sample Still Intact.

Was the client contacted? Yes____ No____

If yes, Date:_____ Name of person contacted:_____

Describe actions taken or client instructions:_____

Group Leader's Signature:_____ Date:_____

Cooler Temperature: 4°c

FRM 201FC7 (30/7/97)

PARAGON ANALYTICS, INC.
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CHAIN OF CUSTODY

DATE 11-4-97 Page 1 of 1

ACCESSION NUMBER (LAB ID) [illegible]

REPORT TO: JOHN LAMBDIN
COMPANY: EL PASO FIELD SERVICE
ADDRESS: P.O. BOX 4990
FARMINGTON NM 87499

SAMPLER: DENNIS BIRD
505-599-2144 (PHONE NO.) 505-599-2261 (FAX NO.)

ANALYSIS REQUESTED

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	Oil & Grease 9070/9071/413.2	418.1 - TRPH	8015 Mod. - Gasoline	8015 Mod. - Diesel	8015m/8020 - Gasoline/BETX	8020 - BETX only	8240/8260 - GC/MS VOC's	8270 - GC/MS SVOC's	8080 - Pesticides/PCB's	8080 - PCB's only	8310/610 - HPLC PNA's	8150 - Herbicides	8141/614 - OP Pesticides	TOX - EOX - AOX - TX	Total Metals *(specify in comments)	TCLP: *(specify parameters in comments)	Gross Alpha / Beta	Gross Gamma	Gamma Spec	Isotopic Plutonium	Isotopic Uranium	Total Uranium (KPA)	Radium 226 / 228	Tritium (H3)	Strontium 89 / 90	8315 - Formaldehyde	% Moisture	Number of Containers
971184	11-4-97	1247	WATER	01											X																	[illegible]

PROJECT INFORMATION
PROJECT NUMBER:
PROJECT NAME: LATERAL 3B-39 LINE DRIP
P.O. NUMBER:
TAT: ☒ STANDARD RUSH DUE ____
SAMPLE DISPOSAL: HAZ WASTE $5.00 ea RAD CHEM $15.00 ea RETURN

SAMPLE RECEIPT
TOTAL NO. OF CONTAINERS
CHAIN OF CUSTODY SEALS Y/N/NA
SEALS INTACT? Y/N/NA
REC'D GOOD COND./COLD

COMMENTS: LOW LEVEL BENZO(A)PYRENE < 0.7 ppB

	1	2	
RELINQUISHED BY: Sign.	Dennis Bird Time 1735	Sign. Time	Sign. Time
Print / Date	DENNIS BIRD Date 11-4-97	Print Date	Print Date
Company	EL PASO FIELD SERVICE	FedEx	Company
RECEIVED BY: Sign.	Sign. Time	[signature] Time 1000	Sign. Time
Print / Date	Print Date	[illegible] Date 11/6/97	Print Date
Company	FedEx	PAI	Company

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