3R - 205

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

K-31 LINE DRIP
Meter/Line ID - LD087

SITE DETAILS

Legals - Twn: 25N **Rng:** 6W **Sec:** 16 **Unit:** N
NMOCD Hazard Ranking: 40 **Land Type:** STATE
Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jul-94 **Excavation:** Aug-94 (90 cy) **Soil Boring:** Sep-95
Monitor Well: Mar-97 **Re-excavation:** Nov-95 (1,786 cy)

1997 ACTIVITIES

Monitor Well Installation - One groundwater monitor well was installed in the center of the former pit.

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 6/6/97. 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.

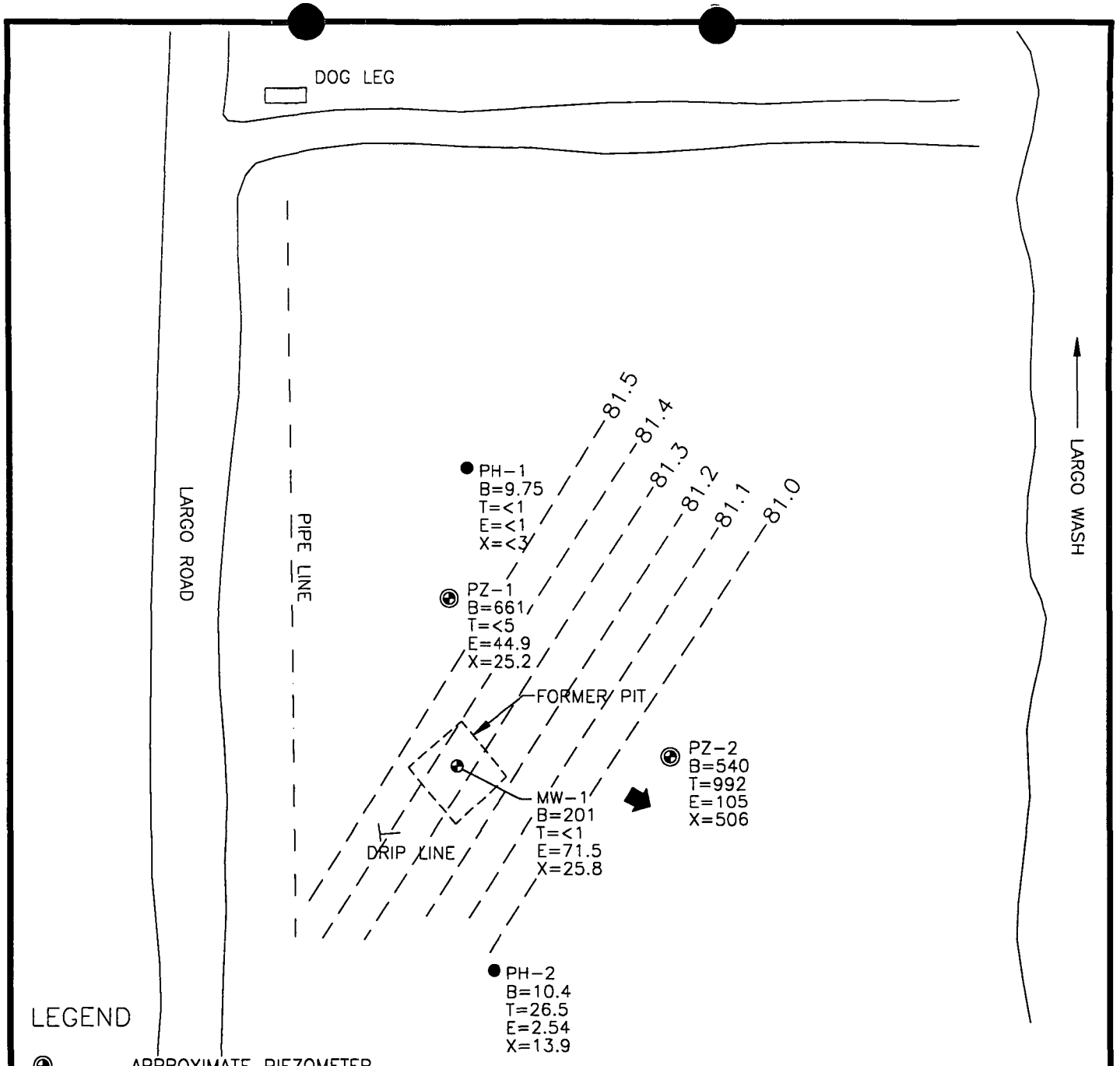
CONCLUSIONS

Based on groundwater levels collected from Well Point data, the groundwater flow trends to the southeast on this site, as presented in Figure 1. The pit is approximately 100-200 yards from Largo Wash and is in a very remote location.

Groundwater samples collected from MW-1 have been in excess of standards for benzene since quarterly sampling was initiated. Four groundwater samples were collected from temporary monitoring wells up and down-gradient of MW-1. It appears that some downgradient migration of contaminants has occurred at this site.

RECOMMENDATIONS

- Collect groundwater sample further downgradient of MW-1. If no further migration has occurred, site may be candidate for risk based closure based on location of pit.
- Discontinue quarterly sampling and initiate sampling on an annual basis.



LEGEND

PZ-1	APPROXIMATE PIEZOMETER LOCATION AND NUMBER
MW-1	APPROXIMATE MONITORING WELL LOCATION AND NUMBER
PH-1	APPROXIMATE PROBEHOLE 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
81.0	GROUNDWATER POTENTIOMETRIC SURFACE
	MICROGRAMS PER LITER

NOT TO SCALE

N

PHILIP SERVICES CORP

TITLE:

K-31 LINE DRIP

LD087

DWN:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
1/22/98	0

PROJECT NO.: 17520

EPFS GW PITS

FIGURE 1

COL. 175200-002

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970316	LD087	K-31 Line Drip	4/16/97	1	Phase II Drilling - Initial	= 84.9	= 25.7	= 43.6	= 206	= 360
970528	LD087	K-31 Line Drip	6/6/97	1	Sample 4 - 1st Qtr	= 115	< 1	= 37.8	= 76.1	= 229
970970	LD087	K-31 Line Drip	9/11/97	1	Sample 4 - 2nd Qtr	= 259	= 10.8	= 124	= 58.4	= 452
971291	LD087	K-31 Line Drip	12/9/97	1	Sample 4 - 3rd Qtr	= 201	< 1	= 71.5	= 25.8	= 298

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 K-31 LINE DRIP - LD087

Elevation
Borehole Location T25 R6 - S16 - Ltr N
GWL Depth 21' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/10/97 — 1400
Date/Time Completed " — 1600

Well Logged By D CESARK
Personnel On-Site D CHARLEY, S ARCHULETA
Contractors On-Site
Client Personnel On-Site TONY

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 21'						
5										
10										
15										
20				GWC 21' BGS						
25										
30				TD = 30'						
35										
40										

Comments: GW ENCOUNTERED @ 21' BGS; OVER-DRILLED TO 30' BGS & SET MW. NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMPLETION DIAGRAM.

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Borehole # 2
Well # 1
Page 1 of 1

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

Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location K-31 LINE DRIP — LD087

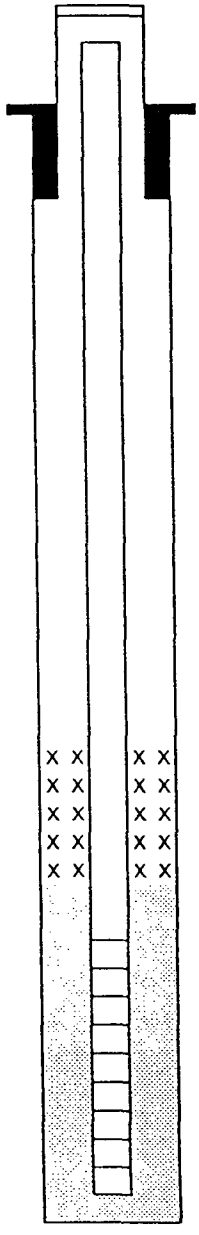
Elevation
Well Location T25N-R6W-S16-L 'N'
GWL Depth 21' BGS
Installed By M DONOHUE

Date/Time Started 3/10/97 — 1600
Date/Time Completed " — 1745

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	"	-13'
Top of Well Screen	.010 SLOT	-13'
Bottom of Well Screen	"	-28'
Top of Peltonite Seal	ENVIROPLUG	-8'
Bottom of Peltonite Seal	"	-10'
Top of Gravel Pack	10-20 S. SND.	-10'
Bottom of Gravel Pack	"	-28'
Top of Natural Cave-In		-28'
Bottom of Natural Cave-In		-30'
Top of Groundwater		-21'
Total Depth of Borehole		-30'



Top of Protective Casing
Top of Riser +3'
Ground Surface -0-
Top of Seal -8'
Top of Gravel Pack -10'
Top of Screen -13'
Bottom of Screen -28'
Bottom of Borehole -30'

Comments:

Geologist Signature

WELLPOINTS

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

WELL POINTS

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez DATE: 7/22/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS: TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970702	7/22/97	1030	Water	CMC321	2	VG		X					K-31 Line Drip LD087 PZ1
970703		1055		CMC322	2	VG		X					" PZ2
970704		1220		CMC323	2	VG		X					" PH1
cmc 7/22/97				CMC324	2	VG		X					" PH2
970705	↓	-	↓	Trip Blank	1	TB		X					Trip Blank

cmc 7/22/97

CONTRACT LABORATORY P. O. NUMBER

RECEIVED
SEP - 9 1997

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	7/22/97 1600		Cari Williams	7/23/97 1430	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				7/23/97 1430	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

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

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC321	970702
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	7/22/97	1030
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	7/24/97	7/24/97
TYPE | DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	661	PPB	5	D		
TOLUENE	< 5	PPB	5	D		
ETHYL BENZENE	44.9	PPB	5	D		
TOTAL XYLENES	25.2	PPB	5	D		
TOTAL BTEX	731	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.0 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 Laroche Date: 7/31/97

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC322	970703
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	7/22/97	1055
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	7/24/97	7/24/97
TYPE | DESCRIPTION:	PZ-2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	540	PPB	10	D		
TOLUENE	992	PPB	10	D		
ETHYL BENZENE	105	PPB	10	D		
TOTAL XYLENES	506	PPB	10	D		
TOTAL BTEX	2140	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.5 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 Fowler Date: 7/31/97

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC323	970704
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	7/22/97	1220
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	7/24/97	7/24/97
TYPE | DESCRIPTION:	PH-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	9.75	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	9.75	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.6 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Keith Date: 7/31/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970705
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	7/22/97	1220
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	7/24/97	7/24/97
TYPE | DESCRIPTION:	Blank	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 103 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: [signature] Date: 7/31/97

970705.XLS,7/30/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 970702 - 970705

QA/QC for 7/24/97 Sample Set

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	50.6	101	75 - 125 %	X	
Toluene	Standard	50.0	50.4	101	75 - 125 %	X	
Ethylbenzene	Standard	50.0	50.6	101	75 - 125 %	X	
m & p - Xylene	Standard	100	99.9	100	75 - 125 %	X	
o - Xylene	Standard	50.0	50.8	102	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	25.7	103	39 - 150	X	
Toluene	Standard	25.0	25.8	103	46 - 148	X	
Ethylbenzene	Standard	25.0	25.8	103	32 - 160	X	
m & p - Xylene	Standard	50.0	50.9	102	Not Given	X	
o - Xylene	Standard	25.0	26.1	104	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	51.3	103	75 - 125 %	X	
Toluene	Standard	50.0	51.0	102	75 - 125 %	X	
Ethylenzene	Standard	50.0	51.1	102	75 - 125 %	X	
m & p - Xylene	Standard	100	100	100	75 - 125 %	X	
o - Xylene	Standard	50.0	51.5	103	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		0.0	75 - 125 %		
Toluene	Standard	50.0		0.0	75 - 125 %		
Ethylbenzene	Standard	50.0		0.0	75 - 125 %		
m & p - Xylene	Standard	100		0.0	75 - 125 %		
o - Xylene	Standard	50.0		0.0	75 - 125 %		

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 970702 - 970705

LABORATORY DUPLICATES:

SAMPLE ID 970704	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	9.75	9.85	1.02	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970704	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	9.75	60.1	101	75 - 125 %	X	
Toluene	50	<1	50.7	101	75 - 125 %	X	
Ethylbenzene	50	<1	51.0	102	75 - 125 %	X	
m & p - Xylene	100	<2	101	101	75 - 125 %	X	
o - Xylene	50	<1	51.3	103	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	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 (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.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (One 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: _____ Approved By: _____ Date: 7/31/97

07249QC.XLS

Well Points

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Cory Chavez DATE: 7/25/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
9707275	7/25/97	1130	Water	CMC 324	2	VG		X					K-31 Line Drip LD087 PH2
9707276	↓	—	Water	Trip Blank	1	TB		X					Trip Blank

CONTRACT LABORATORY P. O. NUMBER

REQUESTED ANALYSIS

RECEIVED SEP - 9 1997

Cory 7/25/97

38°

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Cory Chavez	7/25/97 1500		Lori Williams	7/28/97 1035	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				7/28/97 1035	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

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

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC324	970725
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	7/25/97	1130
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	7/30/97	7/30/97
TYPE | DESCRIPTION:	PH2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	10.4	PPB				
TOLUENE	26.5	PPB				
ETHYL BENZENE	2.54	PPB				
TOTAL XYLENES	13.9	PPB				
TOTAL BTEX	53.3	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 84.1 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Leeder Date: 8/7/97

970725.XLS,8/6/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970726
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	7/25/97	1130
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	7/29/97	7/29/97
TYPE | DESCRIPTION:	Blank	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 96.2 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Saldin Date: 8/7/97

970726.XLS,8/6/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 970717, 970725, 970753, 970759-970763

QA/QC for 7/30/97 Sample Set

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	45.3	90.6	75 - 125 %	X	
Toluene	Standard	50.0	50.3	101	75 - 125 %	X	
Ethylbenzene	Standard	50.0	50.7	101	75 - 125 %	X	
m & p - Xylene	Standard	100	100	100	75 - 125 %	X	
o - Xylene	Standard	50.0	51.0	102	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	25.0	100	39 - 150	X	
Toluene	Standard	25.0	25.8	103	46 - 148	X	
Ethylbenzene	Standard	25.0	26.0	104	32 - 160	X	
m & p - Xylene	Standard	50.0	51.2	102	Not Given	X	
o - Xylene	Standard	25.0	26.3	105	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	45.1	90.2	75 - 125 %	X	
Toluene	Standard	50.0	50.5	101	75 - 125 %	X	
Ethylenzene	Standard	50.0	50.5	101	75 - 125 %	X	
m & p - Xylene	Standard	100	99.5	99.5	75 - 125 %	X	
o - Xylene	Standard	50.0	51.0	102	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	48.4	96.8	75 - 125 %	X	
Toluene	Standard	50.0	49.6	99.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	49.5	99.0	75 - 125 %	X	
m & p - Xylene	Standard	100	96.8	96.8	75 - 125 %	X	
o - Xylene	Standard	50.0	50.0	100	75 - 125 %	X	

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 970717, 970725, 970753, 970759-970763

ORATORY DUPLICATES:

SAMPLE ID 970725	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	10.4	10.5	0.96	+/- 20 %	X	
Toluene	Matrix Duplicate	26.5	26.7	0.75	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	2.54	2.52	0.79	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	9.99	10.0	0.10	+/- 20 %	X	
o - Xylene	Matrix Duplicate	3.90	3.89	0.26	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970725	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	10.4	53.1	85.4	75 - 125 %	X	
Toluene	50	26.5	73.3	93.6	75 - 125 %	X	
Ethylbenzene	50	2.54	52.2	99.3	75 - 125 %	X	
m & p - Xylene	100	9.99	107	97.0	75 - 125 %	X	
o - Xylene	50	3.90	53.7	99.6	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	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 (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.

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

ative: Acceptable.

Reported By: [signature] Approved By: [signature] Date: 8/1/97

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

4/16/97 - INITIAL WATER SAMPLING

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

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

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

CONTRACT LABORATORY P. O. NUMBER

32°

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

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

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

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

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

EL PASO FIELD SERVICES

5-5-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC 40	970316
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	4/16/97	1340
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	4/18/97	4/18/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	84.9	PPB				
TOLUENE	25.7	PPB				
ETHYL BENZENE	43.6	PPB				
TOTAL XYLENES	206	PPB				
TOTAL BTEX	360	PPB				

The Surrogate Recovery was at 87.4 % for this sample All QA/QC was acceptable.

Narrative:

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

970316.XLS,4/21/97

PHILIP ENVIRONMENTAL Well Development and Purging Data

☒ Development ☒ Purging

Well Number MW-1

Page 1 of 1

Serial No. WDPD-

Project Name GW PITS | Project Manager C CHANCE | Project No. 17520

Client Company EPFS | Phase.Task No. 6003.77

Site Name K-31 LINE DRIP - LD087 | 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) 28' BGS
Initial Depth to Water (feet) 15' BGS
Height of Water Column in Well (feet) 13'
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.5	
Gravel Pack			
Drilling Fluids			
Total			42.5

Instruments

Serial No. (If applicable)

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other

Water Disposal

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
4/16/97	1223		X				10	10			14.0	7.29	432		
	1245						~~10~~ 5	~~20~~ 15			14.3	7.33	660		
	1309						~~10~~ 7.5	~~30~~ 22.5			14.9	7.47	720		
	1323						~~12.5~~ 3	~~42.5~~ 25.5			14.6	7.67	743		

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

Comments WELL WAS FOUND W/ COVER INTACT BUT NOT LOCKED. 1ST BAILER WAS CLEAR, REMOVED ALOT OF MUD/SILT/SAND. WELL BAILED DRY @ 3 VOLUMES & WTR. CLEARED-UP - NO EVIDENCE OF HC'S.

Developer's Signature(s) Date 4/16/97 Reviewer Date

Form A0101 Rev. 03/21/94

PHILIP ENVIRONMENTAL Water Sampling Data

Location No. MW-1

Serial No. WSD-

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 4/16/97

Project Name EPFS GW PITS Project No. 17520

Project Manager C CHANCE Phase.Task No. 6003.77

Site Name K-31 LINE DRIP — LD087

Sampling Specifications

Requested Sampling Depth Interval (feet) _____

Requested Wait Following Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____

Initial Water Depth (feet) _____

Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

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

Sample Containers

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

Filter Type _____ Chain-of-Custody Form Number _____

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

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

El Paso Natural Gas Company

A 2475

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
	OJITO PIPELINE							
Samplers: (Signature) Dennis Bird	Date: 6-5-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	6-5-97	1217		X	970528	G-1/G-2	4°C	X	X	X		K-3/ LINE DRIP MW-1 MC L00887
WATER	6-5-97	—		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	6-5-97 1745				
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	6/6/97 1020		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

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	970528
MTR CODE | SITE NAME:	LD087	K-31 Line Drip MW-1
SAMPLE DATE | TIME (Hrs):	6/5/97	1217
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	6/6/97	6/6/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	115	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	37.8	PPB				
TOTAL XYLENES	76.1	PPB				
TOTAL BTEX	229	PPB				

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

Narrative:

Approved By: _____ Date: 6/16/97

EL PASO FIELD SERVICES

6-18-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970528
DATE SAMPLED:	06/05/97
TIME SAMPLED (Hrs):	1217
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	LD087
SAMPLE SITE NAME:	K-31 Line Drip
SAMPLE POINT:	MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.8	Units	06/09/97
Alkalinity as $C0_3$	0.0	PPM	06/09/97
Alkalinity as $HC0_3$	886	PPM	06/09/97
Calcium as Ca	357	PPM	06/09/97
Magnesium as Mg	142	PPM	06/09/97
Total Hardness as $CaC0_3$	1,476	PPM	06/09/97
Chloride as Cl	67	PPM	06/06/97
Sulfate as $S0_4$	6,040	PPM	06/06/97
Fluoride as F	1.9	PPM	06/10/97
Nitrate as $N0_3$-N	<1.1	PPM	06/06/97
Nitrite as $N0_2$-N	<1.1	PPM	06/06/97
Ammonium as NH_4^+	<0.6	PPM	06/09/97
Phosphate as PO_4	<1.1	PPM	06/06/97
Potassium as K	3	PPM	06/09/97
Sodium as Na	2760	PPM	06/11/97
Total Dissolved Solids	9,670	PPM	06/09/97
Conductivity	10,300	umhos/cm	06/06/97
Anion/Cation %	2.5%	%, <5.0 Accepted	06/13/97

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 6/16/97

EL PASO FIELD SERVICES

7-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970528
SAMPLE DATE:	06/05/97
SAMPLE TIME (Hrs):	1217
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	LD087
SAMPLE SITE NAME:	K-31 Line Drip
SAMPLE POINT:	MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.029	0.100
BARIUM	<.019	1.00
CADMIUM	<0.0002	0.010
CHROMIUM	0.005	0.050
LEAD	<.002	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.005	0.050
SILVER	0.0020	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: 7/17/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970528
Date Reported: 07/16/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	97%
Barium	0.062	0.065	96%
Cadmium	0.0025	0.0024	104%
Chromium	0.0049	0.0048	103%
Lead	0.033	0.030	111%
Mercury	0.0043	0.0046	93%
Selenium	0.038	0.041	94%
Silver	0.0051	0.0043	118%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	ND	ND	NA
Cadmium	ND	ND	NA
Chromium	0.0052	0.0048	8.3%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	0.0024	0.0023	4.3%

SPIKE ANALYSIS (mg/L)

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

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.027
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.002
Mercury	ND	0.0002
Selenium	ND	0.011
Silver	ND	0.0005

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

Reported By: mh Approved By: [signature] Date: 7/17/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name K-31 LINE DRIP

Meter Code LD087

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 29.50
Initial Depth to Water (feet) 17.99
Height of Water Column in Well (feet) 11.51
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		7.6	22.8
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: 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
6-5-97	1112										18.0	6.60	12040		
6-5-97	1119						5.0	5.0			16.5	6.77	11570		
6-5-97	1130						5.0	10.0			16.6	7.00	10660		
6-5-97	1206						5.0	15.0			18.0	7.21	10070	1.5	

Comments BAILED DRY P10.0 GALLONS.

Developer's Signature Dennis Bird Date 6-5-97 Reviewer John Hoole Date 6/16/97

SAMPLE 4 2ND QTR

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

A 2075

Project No.:

Project Name: MC # LD087

Samplers: (Signature) Dennis Bird

Date: 9-11-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE				Remarks
WATER	9-11-97	1207		X	970970	G-1	4°C	X				K-31 LINE DRIP MW-1
WATER	9-11-97	—		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	9-11-97 1725				

Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:
		Marlon Hagger	9/12/97 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	970970
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	9/11/97	1207
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	9/16/97	9/16/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	259	PPB	D1			
TOLUENE	10.8	PPB				
ETHYL BENZENE	124	PPB				
TOTAL XYLENES	58.4	PPB				
TOTAL BTEX	452	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 114.9 % 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.

Narrative:

Approved By: John Labdon Date: 9-22-97

970970BTEXMW,9/22/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name K-31 LINE DRIP

Meter Code LD087

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) 29.50
Initial Depth to Water (feet) 18.48
Height of Water Column in Well (feet) 11.02
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.3	21.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KVT2 SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulative	Increment	Cumulative					
9-11-97	1050										18.7	6.66	12880		
9-11-97	1057						5.0	5.0			17.0	6.77	11980		
9-11-97	1113						4.0	9.0			17.0	6.94	10810		
9-11-97	1156						5.0	14.0			18.2	7.06	9170	1.5	

Comments THE WELL BAILED DRY @ 9.0 GALLONS.

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

SAMPLE 4 3RD QTR.

El Paso Natural Gas Company

A 2162

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC # LD087			BTXE				
Samplers: (Signature) Dennis Bird	Date: 12-9-97							

~~MATRIX~~	Date	Time	Comp.	GRAB	Sample Number							
WATER	12-9-97	1420		X	971291	G-1	4°C	X				K-3 LINE DRIP MW-1
WATER	12-9-97	1420		X	971292	G-1	4°C	X				K-3 LINE DRIP MW-1 FIELD DUP

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	12-9-97 1732				
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:	
		Madonna Hopper	12/10/97 0720		

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	971291
MTR CODE | SITE NAME:	LD087	K-31 Line Drip
SAMPLE DATE | TIME (Hrs):	12/9/97	1420
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	201	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	71.5	PPB				
TOTAL XYLENES	25.8	PPB				
TOTAL BTEX	298	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 107.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

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

971291BTEXMW,12/16/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971292
MTR CODE | SITE NAME:	LD087	K-31 Line Drip Field Dup
SAMPLE DATE | TIME (Hrs):	12/9/97	1420
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	206	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	69.8	PPB				
TOTAL XYLENES	26.0	PPB				
TOTAL BTEX	302	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 107.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

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

971292BTEXMW,12/16/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name K-31 LINE DRIP

Meter Code LD087

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) 29.50
Initial Depth to Water (feet) 18.09
Height of Water Column in Well (feet) 11.41
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.5	22.6
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					
12-9-97	1307										11.3	6.38	16770		
12-9-97	1316						5.0	5.0			11.3	6.51	17180		
12-9-97	1325						5.0	10.0			10.1	6.72	14220		
12-9-97	1408						5.0	15.0			8.4	6.90	13840	1.5	

Comments THE WELL BAILED DRY @ 10.0 GALLONS.

Developer's Signature Dennis Bird Date 12-9-97 Reviewer John Fuller Date 1/2/98