3R - 171

REPORTS

DATE:
1998

EL PASO
FIELD SERVICES

Certified Mail: #Z 211 324 121

March 31, 1999

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**

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services
Final Closure Report For Groundwater Sites With Four Consecutive Quarters Below Standards

December 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520
Book 1

PHILIP SERVICES CORP

EPFS GROUNDWATER PITS
1998 CLOSURE REPORT

FLORANCE #1
Meter/Line ID - 71512

SITE DETAILS

Legals - Twn: 30N **Rng:** 11W **Sec:** 8 **Unit:** J
NMOCD Hazard Ranking: 50 **Land Type:** FEE
Operator: KEYES

PREVIOUS ACTIVITIES

Site Assessment: Dec-94 **Excavation:** Dec-94 (60 cy) **Soil Boring:** Feb-97
Re-Excavation: Mar-97 (280 cy) **Monitor Well:** May-97

The pit was excavated to 12 feet beneath ground surface (bgs) and a composite soil sample was collected from the excavation bottom and four walls. Approximately 60 cubic yards of impacted e soil was removed during excavation. The headspace soil reading from the excavation bottom was 445 ppm. Soil analytical were as follows; benzene – 0.527 mg/kg. total BTEX - 9.43 mg/kg, TPH (418.1) – 1,130 mg/kg.

The pit was re-excavated to 14 feet bgs where groundwater was encountered. Approximately 280 additional cubic yards of contaminated soil were removed from the excavation. The final headspace soil reading from the excavation bottom was 18 ppm. Soil analytical was as follows; benzene – Non-detect, total BTEX – Non-detect, TPH (418.1) – Non-detect. Prior to backfilling the excavation, one-half gallon of 30% Hydrogen Peroxide was introduced to the excavation to aid in natural biodegradation of residual hydrocarbons.

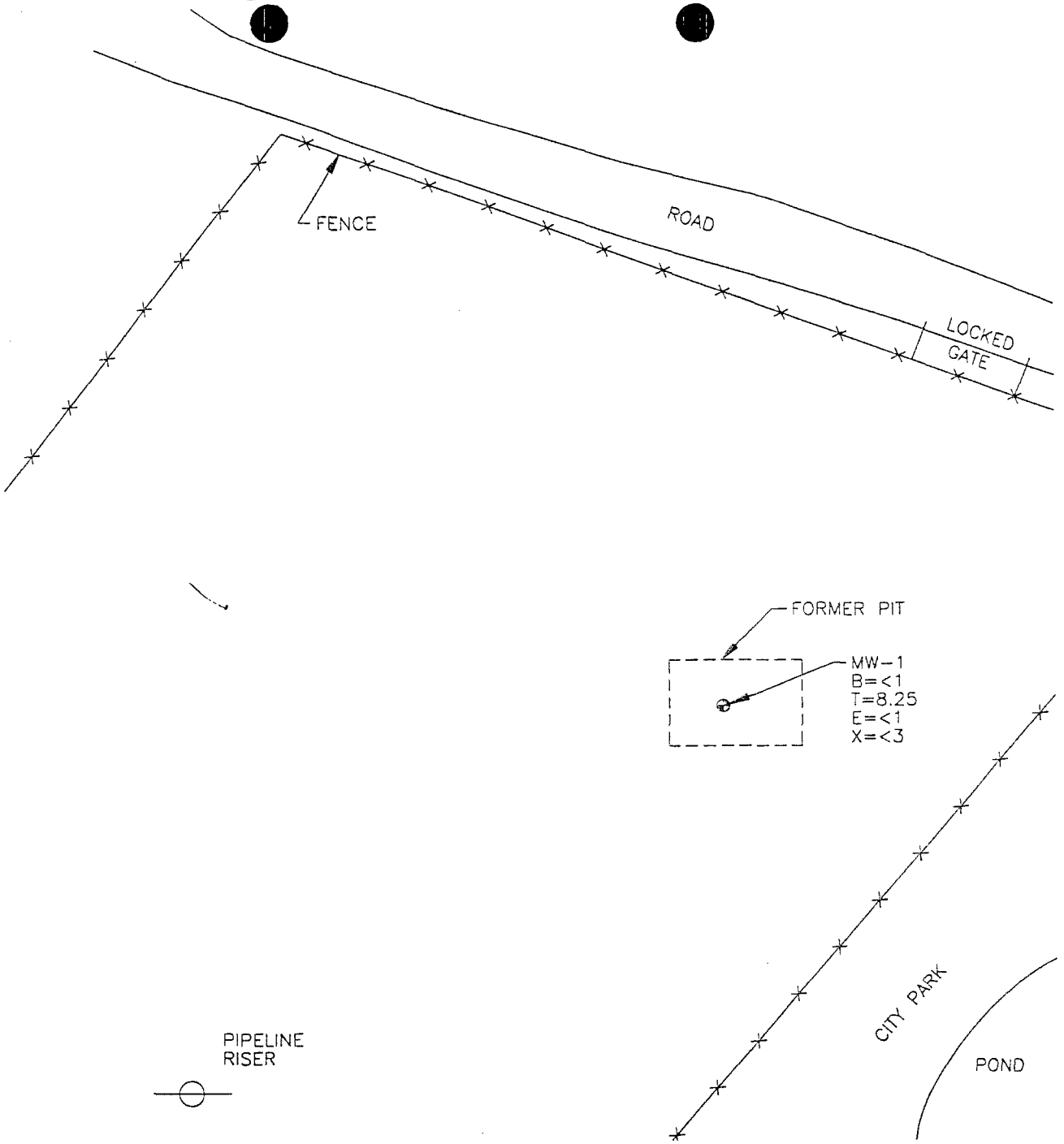
One soil boring was drilled in the center of the former pit and a monitoring well was installed. There were no samples collected from the soil boring. Quarterly groundwater monitoring was initiated on 8/11/97 and continued through 5/8/98. Groundwater analytical data are presented in Table 1. Groundwater analytical data prior to 1998 has been previously submitted in the 1997 Annual Report.

CONCLUSIONS

Groundwater analytical data has been below standards for 4 consecutive quarters since quarterly sampling was initiated, indicating minimal impact to groundwater.

RECOMMENDATIONS

- EPFS request closure at this site.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



LEGEND

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

NOT TO SCALE

PHILIP SERVICES CORP

TITLE:
FLORANCE #1
71512

DWN: TMM	DES.: CC	PROJECT NO.: 17520	
CHKD: CC	APPD:	EPFS GW PITS	
DATE: 1/19/98	REV.: 0	FIGURE 1	

COL. 17520AP-001

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: ~~UNKNOWN~~ 71512 Location: FLORANCE #1

Operator #: _____ Operator Name: ~~UNKNOWN~~ B.H. KEYS P/L District: KUTZ

Coordinates: Letter: J Section 8 Township: 30 Range: 11

Or Latitude _____ Longitude _____

Pit Type: Dehydrator ~~X~~ ? Location Drip: X Line Drip: ___ Other: _____

Site Assessment Date: 12-12-94 Area: 02 Run: 53

SITE ASSESSMENT

NMOCD Zone: (From NMOCD Maps) Inside ☒ (1) Outside ☐ (2)

Land Type: BLM ☐ (1) State ☐ (2) Fee ☒ (3) Indian _____

Depth to Groundwater

Less Than 50 Feet (20 points) ☒ (1)
50 Ft to 99 Ft (10 points) ☐ (2)
Greater Than 100 Ft (0 points) ☐ (3)

Wellhead Protection Area :

Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☒ (1) YES (20 points) ☐ (2) NO (0 points)

Horizontal Distance to Surface Water Body

Less Than 200 Ft (20 points) ☐ (1)
200 Ft to 1000 Ft (10 points) ☒ (2)
Greater Than 1000 Ft (0 points) ☐ (3)

Name of Surface Water Body ANIMAS RIVER

(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)

Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only)
☐ (2) > 100'

TOTAL HAZARD RANKING SCORE: 50 **POINTS**

REMARKS

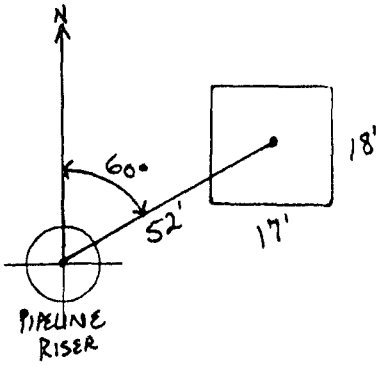
Remarks : REDLINE & TOPO SHOW LOCATION INSIDE V.Z. LOCATION IS P&A'D AND CLEARED OFF. THE ONLY THING LEFT ON LOCATION IS A PIT. TYPE OF PIT IS UNKNOWN AS WELL AS WHO IS RESPONSIBLE FOR IT. WILL CLOSE PIT IF IT IS EPNG'S. DIG & HAUL

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 60° Footage from Wellhead 52'

b) Length : 18' Width : 17' Depth : 3'



REMARKS

Remarks :

PHOTOS - 1018

COULD NOT FIND PLUGGED WELLHEAD. MEASURED DISTANCE FROM PIT TO A PIPELINE RISER ON THE S.E. CORNER OF THE LOCATION. FOUND BEARING TO THE RISER ALSO.

Completed By:

Brent Thompson

Signature

12-12-94

Date

PHASE I EXCAVATION

FIE[illegible]PIT REMEDIATION/CLOS[illegible] FORM

GENERAL

Meter: 71512 Location: Florance #1 KDE 12/16/94

Coordinates: Letter: J Section 8 Township: 30 Range: 11

Or Latitude _____ Longitude _____

Date Started : 12/15/94 Run: 02 53

FIELD OBSERVATIONS

Sample Number(s): KD 387 _____ _____ _____

Sample Depth: 12' Feet

Final PID Reading 445 ppm PID Reading Depth 12' Feet

	Yes	No
Groundwater Encountered	☐	☒

Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation	☒	Approx. Cubic Yards 60
Onsite Bioremediation	☐	
Backfill Pit Without Excavation	☐	

Soil Disposition: KD 12/15/94

Envirotech	~~☒~~	☒ Tierra
Other Facility	☐	Name: _____

Pit Closure Date: 12/15/94 Pit Closed By: BEI

REMARKS

Remarks : Excavated pit to 12', Took pid Sample, Closed pit.

Signature of Specialist: Kenny Dean

(SP3191) 03/16/94

El Paso Natural Gas Company

SPLIT

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KD 387	946534
MTR CODE | SITE NAME:	71512	N/A
SAMPLE DATE | TIME (Hrs):	12-15-94	1145
SAMPLED BY:	N/A	
DATE OF TPH EXT. | ANAL.:	12-21-94	12-21-94
DATE OF BTEX EXT. | ANAL.:	12/19/94	12/22/94
TYPE | DESCRIPTION:	VC	Dark Brown/Gray sand & clay

REMARKS: BTEX results from ATI and EPNG

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS DF	Q	M(g)	V(ml)	ATI Results
BENZENE	0.527	MG/KG	0.1033		4.84	20	1.7
TOLUENE	1.46	MG/KG					14
ETHYL BENZENE	0.973	MG/KG					0.36
TOTAL XYLENES	6.47	MG/KG					2.3
TOTAL BTEX	9.43	MG/KG					18.4
TPH (418.1)	1130	MG/KG			1.97	28	—
HEADSPACE PID	445	PPM					Surrogate % 74
PERCENT SOLIDS	88.1	%					Dilution Factor 10

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

Surrogate Recovery was at 106.8 for this samp All QA/QC was acceptable.

Narrative:

ATI Results attached

DF = Dilution Factor Used

Approved By: [signature] Date: 2-22-95

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Kenny Dean DATE: 12/15/94

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
	12/15/94	1145	soil	KD 387	1	VC	X	X				352	

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Kenny Dean	12/15/94 1530	Brenda Kress	Brenda Kress	12/16/94 0945	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)

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*

Analytical Technologies, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. **412409**

January 5, 1995

El Paso Natural Gas Company
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On **12/22/94**, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Sample 946534 was analyzed within EPA recommended hold time (2A). However, after further examination of the continuing standard, it was determined that xylenes exceeded criteria (117 vs. 115). The sample was then analyzed outside of hold time (2B) to confirm the earlier result and satisfy calibration criteria. Both sets of data are reported.

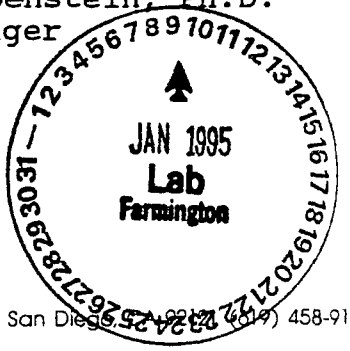
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)

CLIENT : EL PASO NATURAL GAS CO ATI I.D.: 412409

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	946533	NON-AQ	12/15/94	12/27/94	12/29/94	20
02A	946534	NON-AQ	12/15/94	12/27/94	12/29/94	10
02B	946534	NON-AQ	12/15/94	12/27/94	01/04/95	10

PARAMETER	UNITS	01	02A	02B
BENZENE	MG/KG	<0.50	1.7	1.2
TOLUENE	MG/KG	5.3	14	13
ETHYLBENZENE	MG/KG	0.87	0.36	0.30
TOTAL XYLENES	MG/KG	3.9	2.3	2.1
SURROGATE:				
BROMOFLUOROBENZENE (%)		97	74	68

BTEX SOIL SAMPLE WORKSHEET

File	946534B	**Date Printed**	12/26/94
Soil Mass (g)	4.84	**Multiplier (L/g)**	0.00103
Extraction vol. (mL)	20	**DF (Analytical)**	100
Shot Volume (uL)	200	**DF (Report)**	0.10331

			Det. Limit
Benzene (ug/L)	5.10	**Benzene (mg/Kg):**	**0.527**	0.517
Toluene (ug/L)	14.14	**Toluene (mg/Kg):**	**1.461**	0.517
Ethylbenzene (ug/L)	9.42	**Ethylbenzene (mg/Kg):**	**0.973**	0.517
p & m-xylene (ug/L)	52.93	p & m-xylene (mg/Kg):	5.468	1.033
o-xylene (ug/L)	9.66	o-xylene (mg/Kg):	0.998	0.517
		Total xylenes (mg/Kg):	**6.466**	1.550
		Total BTEX (mg/Kg):	**9.427**	

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

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

Project Name EPFS GW PITS
Project Number 17520 Phase 6001.77
Project Location FLORANCE #1 — 71512

Elevation
Borehole Location T30-R11-S8-Ltr J
GWL Depth 14' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 2/24/97 — 1115
Date/Time Completed " — 1200

Well Logged By D CESARK
Personnel On-Site ~~K~~ PADILLA, D CHARLEY
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'					/HS	<TIME>
5										
10										
15	1	13'-15'	18"	MED. GRAIN, DARK-GRAY HC-STAINED SILTY SAND. STRONG HC ODOR. TD=15'	SM				98/ 604	<1120>
20										
25										
30										
35										
40										

Comments: TD=15', GW ENCOUNTERED @ 14' BGS. GW<20' SO NO WELL COMPLETED. SAMPLE COLLECTED IMMED. ABOVE GW, HIGHLY CONTAMINATED, SO NO SAMPLE SUBMITTED TO LAB FOR ANALYSES.

Geologist Signature

PHASE III RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

GENERAL

Meter: 71512 Location: Florance #1

Coordinates: Letter: I Section 8 Township: 30 Range: 11

Or Latitude _____ Longitude _____

Date Started : 3-31-97 Area: 02 Run: 53

FIELD OBSERVATIONS

Sample Number(s): MK525 _____ _____ _____

Sample Depth: 15' Feet

Final PID Reading 18 ppm PID Reading Depth 15' Feet

	Yes	No
Groundwater Encountered	☒ (1)	☐ (2)

Approximate Depth 14 Feet

Final Dimensions: Length 35 Width 29 Depth 15

CLOSURE

Remediation Method :

Excavation	☒ (1)	Approx. Cubic Yards 280
Onsite Bioremediation	☐ (2)	
Backfill Pit Without Excavation	☐ (3)	

Overburden Cubic Yards 282 Yd

Soil Disposition:

Envirotech	☒ (1)	☐ (3)	Tierra
Other Facility	☐ (2)	Name:	_____

Pit Closure Date: _____ Pit Closed By: Phil P

REMARKS

Remarks : Hit contanited soil at 10'. Hit water at 14' we hit clean soil at 15' In bottom ~~of~~ pit North side of pit 4000ppm couldnt dig that way any more because of House Boat S-wall 0 ppm E-wall 0 ppm N-wall 2 ppm Bottom 2 ppm 1/2 gallon Hydrogen Peroxide 30 %

Signature of Specialist: Morgan Killion

El Paso Natural Gas Company

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (*Signature*) Morgan Killion — DATE: 3-31-97

CONTRACT LABORATORY P. O. NUMBER

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
970230	3-31-97	1515	soil	MK585	1	VC	X	X				69	Florance #1 71512

RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)	RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)
Morgan Killion 3-31-97	1745		Laura Dean	4-1-97 12:00	
RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED BY: (*Signature*)	RELINQUISHED BY: (*Signature*)	DATE/TIME	RECEIVED OF LABORATORY BY: (*Signature*)
				4-1-97 1200	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

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

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

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

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

EL PASO FIELD SERVICES

4-15-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	MK585	970230
MTR CODE | SITE NAME:	71512	Florance #1
SAMPLE DATE | TIME (Hrs):	3/31/97	1515
PROJECT:	PHASE III - Excavation	
DATE OF TPH EXT. | ANAL.:	3/31/97	3/31/97
DATE OF BTEX EXT. | ANAL.:	4/7/97	4/7/97
TYPE | DESCRIPTION:	VC	Brown sand & clay

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	<0.5	MG/KG				
ETHYL BENZENE	<0.5	MG/KG				
TOTAL XYLENES	<1.5	MG/KG				
TOTAL BTEX	<3	MG/KG				
TPH (418.1)	<10	MG/KG			2.41	28
HEADSPACE PID	18	PPM				
PERCENT SOLIDS	84.4	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102 for this sample All QA/QC was acceptable.

Narrative:

DF = Dilution Factor Used

Approved By: _____ INGVZPIT.XLS Date: 4/9/97

PHASE IV MONITORING WELL INSTALLATION

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well # MW-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
Project Location Florance #1 7/512

Elevation
Borehole Location T30-R11-S8-Ltr J
GWL Depth
Logged By CM CHANCE
Drilled By K Padilla
Date/Time Started 5/7/97 -1300
Date/Time Completed 5/7/97 -1345

Well Logged By CM CHANCE
Personnel On-Site D CHARLEY
Contractors On-Site
Client Personnel On-Site

Drilling Method 6 1/4 ID HSA
Air Monitoring Method PID

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 15'						GW@12.9'
5				Gry-Br SAND, F-med, mod gravel, saturated						Gravel @17'
10										Refusal @18.5'
15										
20										
25										
30										
35										
40										

Comments: No sample collected. Backfill to 15', GW@12.9'

Geologist Signature Cory Chance

MONITORING WELL INSTALLATION RECORD

Borehole # BH-1
Well # MW-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
Project Number 17520 Phase 6002
Site Location Florance #1 71512

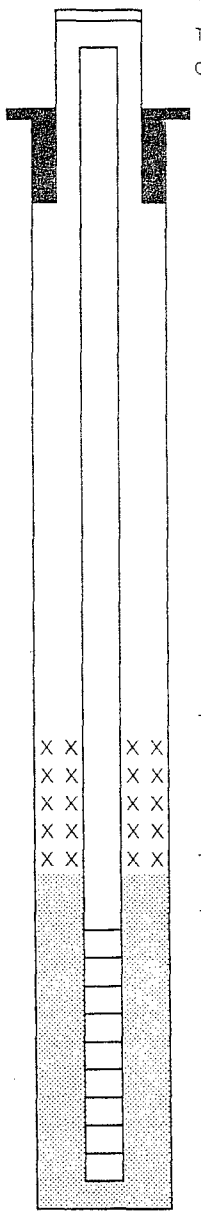
Elevation
Well Location T30R11W S 8 LTR J
GWL Depth 12.9' BGS
Installed By K Padilla

Date/Time Started 5/7/97 - 1345
Date/Time Completed 5/7/97

On-Site Geologist CM CHANCE
Personnel On-Site D CHARLEY
Contractors On-Site
Client Personnel On-Site

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing	8" steel well vault	+3.1
Bottom of Protective Casing		2
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete		NA
Bottom of Concrete		NA
Top of Grout	Type I/II Portland cement	NA
Bottom of Grout	Powder Bentonite	NA
Top of Well Riser	4" SCH 40 PVC	+3
Bottom of Well Riser	FLUSH THREAD	2.5
Top of Well Screen	4" SCH 40 PVC	2.5
Bottom of Well Screen	0.01 SLOT FLUSH THREAD	17.5
Top of Peltonite Seal	ENVIROPLUG	0
Bottom of Peltonite Seal		1.5
Top of Gravel Pack	10-20 SILICA SAND	1.5
Bottom of Gravel Pack		17.5
Top of Natural Cave-In		17.5
Bottom of Natural Cave-In		18.5
Top of Groundwater		12.9
Total Depth of Borehole		18.5'



Top of Protective Casing +3.1'
Top of Riser +3'
Ground Surface 0
Top of Seal 0
Top of Gravel Pack 1.5
Top of Screen 2.5
Bottom of Screen 17.5
Bottom of Borehole 18.5

Comments: Seal hydrated w/ 5 gal potable water. Locking well cap & padlock placed on well

Geologist Signature Cory Chance

MWINSTAL.wk1

PHILIP ENVIRONMENTAL

Well Number 71512 (MW-1)

Serial No. WDPD-

☒ Development ☐ Purging

WELL DEVELOPMENT AND PURGING DATA

Page 1 of 1

Project Name EPFS GW PITS

Project Manager CORY CHANCE

Project No. 17520

Client Company EL PASO FIELD SERV.

Phase.Task No. 6003.77

Site Name FLORANCE #1

Site Address AZTEC, NM

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) 20.23

Initial Depth to Water (feet) 16.43

Height of Water Column in Well (feet) 3.80

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	3.80	2.49	12.45
Gravel Pack			
Drilling Fluids			
Total			12.45

Instruments

	Serial No. (If applicable)
☒ pH Meter	OYSTER
☐ DO Monitor	
☒ Conductivity Meter	OYSTER
☒ Temperature Meter	OYSTER
☐ Other	

Water Disposal

ON GROUND ON SITE

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 (mmhos/cm)	Dissolved Oxygen (mg/l)	Comments
5-19-97	1300		X				2	2			20.8	7.21	1230		BROWN - SILTY
5-19-97	1307		X				2	4			18.1	7.36	1250		BROWN - SILTY
5-19-97	1345		X				2	6			18.9	7.21	1220		BROWN - SILTY
5-19-97	1430		X				2	8			18.5	7.20	1300		LIGHT BROWN

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

Comments WELL BAILED DRY AFTER 4 GAL. LET RECOVER FOR 20 MIN. BAILED AN ADDITIONAL 2 GAL. BAILED DRY AGAIN. LET RECOVER 30 MIN. BAILED 2 MORE GAL. BAILED DRY AGAIN. LET RECOVER AND SAMPLED.

Developer's Signature(s) Robert Thompson Date 5-19-97 Reviewer Date

Form A0101 Rev. 10/6/94

F:\NEWFORM\PE_A0101.DOT 1/31/96

PHILIP ENVIRONMENTAL

Location No. 71512 (MW-1)

Serial No. WSD-

WATER SAMPLING DATA

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 5·19·97

Project Name EPFS GW PITS Project No. 17520

Project Manager CORY CHANCE Phase.Task No. 6003.77

Site Name FLORANCE #1

Sampling Specifications

Requested Sampling Depth Interval (feet) 3'

Requested Wait Following Development/Purging (hours) N/A

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 27 MIN.

Initial Water Depth (feet) 16.43

Nonaqueous Liquids Present (Describe) N/A

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comment Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail	Final Water Depth ft)	
	SEE WELL DEVELOPMENT AND PURGING DATA FORM											

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

Sample Containers

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); = None

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
BTEX	2	V	40		X	H	X		SAMPLED AT 1457

Filter Type NONE Chain-of-Custody Form Number EPFS COC

Comments

Signature Robert Thompson Date 5·19·97 Reviewer Date

EL PASO FIELD SERVICES

6-11-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	RT1	970464
MTR CODE | SITE NAME:	71512	Florance #1
SAMPLE DATE | TIME (Hrs):	5/19/97	1457
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. | ANAL.:	5/23/97	5/23/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	6.99	PPB				
TOTAL BTEX	6.99	PPB				

The Surrogate Recovery was at 95.8 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

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

970464,6/2/97

EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

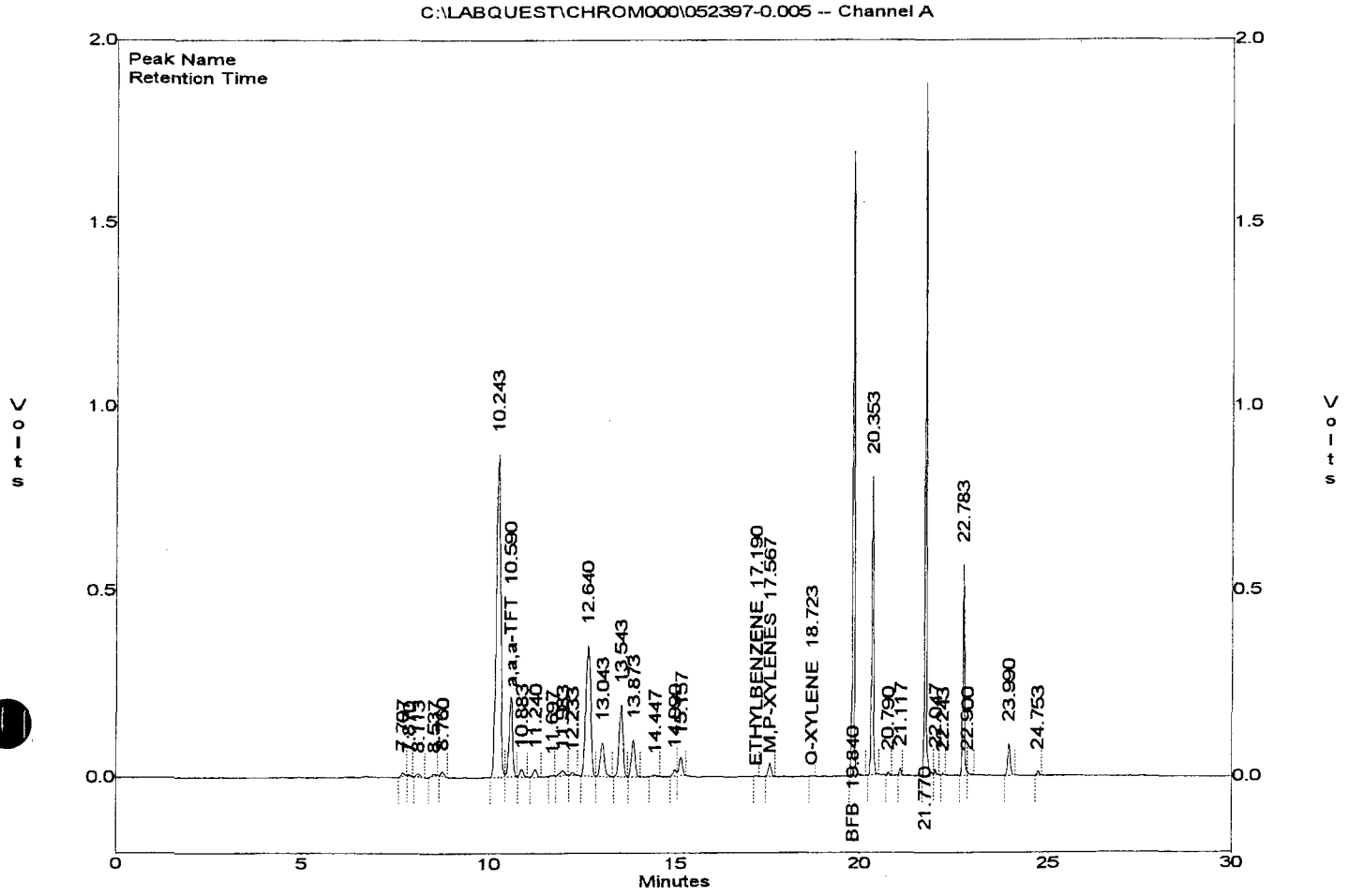
File : C:\LABQUEST\CHROM000\052397-0.005
Method : C:\LABQUEST\METHODS\0-051397.MET
Sample ID : 970464 X1
Acquired : May 23, 1997 12:20:34
Printed : May 23, 1997 12:50:59
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.390	0	0.0000
a,a,a-TFT	10.590	1407035	109.7198
TOLUENE	12.920	0	0.0000
ETHYLBENZENE	17.190	7366	0.3453
M,P-XYLENES	17.567	203250	6.5196
O-XYLENE	18.723	9264	0.4671
BFB	19.840	5368125	95.7769

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		212514	6.9868



EL PASO FIELD SERVICES LABORATORY
EPA METHOD 8020 - BTEX

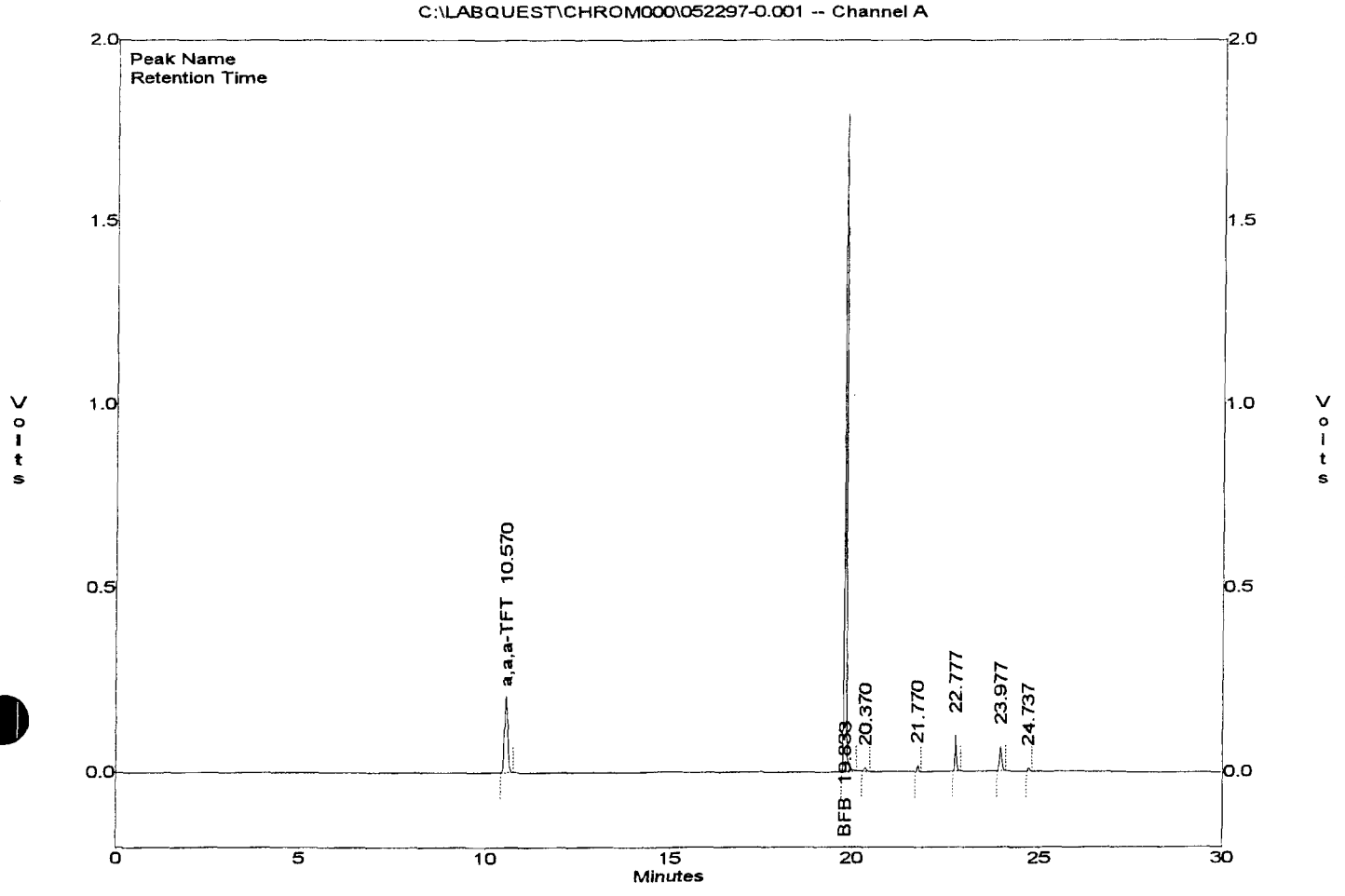
File : C:\LABQUEST\CHROM000\052297-0.001
Method : C:\LABQUEST\METHODS\0-051397.MET
Sample ID : 970465 X1
Acquired : May 22, 1997 13:18:23
Printed : May 22, 1997 13:48:48
User : MARLON

Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	8.390	0	0.0000
a,a,a-TFT	10.570	1277548	99.6225
TOLUENE	12.920	0	0.0000
ETHYLBENZENE	17.270	0	0.0000
M,P-XYLENES	17.647	0	0.0000
O-XYLENE	18.793	0	0.0000
BFB	19.833	5789838	103.3011

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		0	0.0000



BRILLING INITIAL WELL SAMPLE

EL PASO Natural Gas Company

CHAIN OF CUSTODY RECORD

Page 1 of 1

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Robert Champagne DATE: 5-19-97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970464	5-19-97	1457	H_2O	RT1	2			X					FLORANCE #1 – 71512
970465	5-19-97			TRIP BLANK	1								
													Cool

CONTRACT LABORATORY P. O. NUMBER

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Robert Champagne	5-19-97 1630		Cari Williams	5-20-97 10:55	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				5/20/97 1055	Madeline Hoppe

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 F 599-2261

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

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

QUARTERLY MONITORING RESULTS

Monit

Sample #	Meter/ Line #	Site Name	Sample Date	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	S7	Total BTEX PPB
970464 *	71512	Florance #1	5/19/97	Phase II Drilling - Initial	<	1	<	1	<	1	=	6.99	=	7
970842 *	71512	Florance #1	8/11/97	Sample 4 - 1st Qtr	<	1	=	11.7	<	1	<	3	=	12
971188 *	71512	Florance #1	11/5/97	Sample 4 - 2nd Qtr	<	1	=	8.25	<	1	<	3	=	8
980148	71512	Florance #1	2/6/98	Sample 4 - 3rd Qtr	<	1	=	5.39	<	1	<	3	=	5
980385	71512	Florance #1	5/8/98	Sample 4 - 4th Qtr	<	1	<	1	<	1	<	3	<	6

* Analytical reports provided to NMOCD in prior annual report.

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name FLORANCE #1

Meter Code 71512

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) 20.30
Initial Depth to Water (feet) 17.12
Height of Water Column in Well (feet) 3.18
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.1	6.3
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	Cumulative	Increment	Cumulative					
2-6-98	1113										13.6	7.10	1916		
2-6-98	1133						2.0	2.0			12.3	6.97	1946		
2-6-98	1140						1.0	3.0			12.9	6.96	1852	1.0	

Comments THE WELL BAILED DRY @ 3.0 GALLONS.

Developer's Signature Dennis Bird Date 2-6-98 Reviewer John Loehr Date 3/2/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980148
MTR CODE | SITE NAME:	71512	Florance #1
SAMPLE DATE | TIME (Hrs):	2/6/98	1152
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	2/18/98	2/18/98
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	5.39	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	5	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 88.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 3/2/98

980148BTEXMW,2/19/98

STABLE 4 SAMPLE

EL PASO Natural Gas Company

A 2198

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	MC-715U			BTXE			
Samplers: (Signature) Dennis Bird	Date: 3-6-98						

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	3-6-98	1150		X	980142	G-1	4°C	X				ROADRANGER #1 MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	3-6-98 1443				
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	3/6/98 1530		
Carrier Co:		Carrier Phone No.	Date Results Reported / by: (Signature)		
Air Bill No.:					

FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name FLORANCE #1

Meter Code 71512

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) 20.30
Initial Depth to Water (feet) 16.31
Height of Water Column in Well (feet) 3.99
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		2.6	7.9
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					
5-8-98	1220										17.2	6.85	1520		
5-8-98	1228						2.0	2.0			15.5	7.05	1561		
5-8-98	1254						2.0	4.0			15.6	6.99	1386	1.5	

Comments THE WELL BAILED DRY @ 4.0 GALLONS.

Developer's Signature Dennis Bird Date 5-8-98 Reviewer John Leach Date 5/20/98

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980385
MTR CODE | SITE NAME:	71512	Florance #1
SAMPLE DATE | TIME (Hrs):	5/8/98	1303
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	5/15/98	5/15/98
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 5/26/98

980385BTEXMW,5/26/98

JAN 98 4 4TH QTR

El Paso Natural Gas Company

5-26-98 Bkal.
5-26-98 Chrom
5-26-98 Diss

A 2353

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC # 7152							
Samplers: (Signature) Lonnie Bird	Date: 5-8-98							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	5-8-98	1323		X	980385 ✓	6	4°C	X				FLORANCE #1 MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Lonnie Bird	5-8-98 1518				
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:	
		Madon Hopper	5/11/98 0745		

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

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980384 to 980390

QA/QC for 5/15/98 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	46.9	93.7	75 - 125 %	X	
Toluene	Standard	50.0	46.6	93	75 - 125 %	X	
Ethylbenzene	Standard	50.0	49.3	99	75 - 125 %	X	
m & p - Xylene	Standard	100	97.4	97.4	75 - 125 %	X	
o - Xylene	Standard	50.0	47.6	95	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	25.0	25.7	102.8	39 - 150	X	
Toluene	Standard	25.0	26.0	104	46 - 148	X	
Ethylbenzene	Standard	25.0	27.2	109	32 - 160	X	
m & p - Xylene	Standard	50.0	53.5	107	Not Given	X	
o - Xylene	Standard	25.0	26.6	107	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	52.9	105.7	75 - 125 %	X	
Toluene	Standard	50.0	53.4	106.7	75 - 125 %	X	
Ethylenzene	Standard	50.0	54.5	109.0	75 - 125 %	X	
m & p - Xylene	Standard	100	106.9	106.9	75 - 125 %	X	
o - Xylene	Standard	50.0	52.3	105	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	50.2	100.4	75 - 125 %	X	
Toluene	Standard	50.0	48.6	97.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	49.1	98.1	75 - 125 %	X	
m & p - Xylene	Standard	100	96.6	96.6	75 - 125 %	X	
o - Xylene	Standard	50.0	48.0	96.0	75 - 125 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980385	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	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 980385	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	53.5	107.0	75 - 125 %	X	
Toluene	50	<1	50.6	101	75 - 125 %	X	
Ethylbenzene	50	<1	52.5	105	75 - 125 %	X	
m & p - Xylene	100	<2	102.5	102.5	75 - 125 %	X	
o - Xylene	50	<1	49.9	100	75 - 125 %	X	

Narrative: Acceptable

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

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with 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

Narrative: Acceptable.

TRIP BLANK	SOURCE	PPB (3 analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: CV Approved By: John Faulk Date: 5/20/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980131, 980146 to 980148, 980150 to 980153, 980160 to 980162

QA/QC for 2/18/98 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	45.2	90.3	75 - 125 %	X	
Toluene	Standard	50.0	46.0	92	75 - 125 %	X	
Ethylbenzene	Standard	50.0	46.2	92	75 - 125 %	X	
m & p - Xylene	Standard	100	92.4	92.4	75 - 125 %	X	
o - Xylene	Standard	50.0	46.0	92	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	22.4	89.5	39 - 150	X	
Toluene	Standard	25.0	22.5	90	46 - 148	X	
Ethylbenzene	Standard	25.0	22.4	.89	32 - 160	X	
m & p - Xylene	Standard	50.0	44.8	90	Not Given	X	
o - Xylene	Standard	25.0	22.3	89	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	47.7	95.5	75 - 125 %	X	
Toluene	Standard	50.0	47.6	95.2	75 - 125 %	X	
Ethylenzene	Standard	50.0	47.4	94.9	75 - 125 %	X	
m & p - Xylene	Standard	100	94.6	94.6	75 - 125 %	X	
o - Xylene	Standard	50.0	47.4	95	75 - 125 %	X	

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.1	94.2	75 - 125 %	X	
Toluene	Standard	50.0	45.5	90.9	75 - 125 %	X	
Ethylbenzene	Standard	50.0	45.2	90.3	75 - 125 %	X	
m & p - Xylene	Standard	100	89.9	89.9	75 - 125 %	X	
o - Xylene	Standard	50.0	45.2	90.4	75 - 125 %	X	

Narrative: Acceptable.

NUMBER CV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	44.5	89.1	75 - 125 %	X	
Toluene	Standard	50.0	43.4	86.9	75 - 125 %	X	
Ethylbenzene	Standard	50.0	42.8	85.7	75 - 125 %	X	
m & p - Xylene	Standard	100	85.5	85.5	75 - 125 %	X	
o - Xylene	Standard	50.0	42.9	85.7	75 - 125 %	X	

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID 980148	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	5.4	5.3	1.34	+/- 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 980148	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	49.5	99.0	75 - 125 %	X	
Toluene	50	5.4	53.0	95	75 - 125 %	X	
Ethylbenzene	50	<1	47.6	95	75 - 125 %	X	
m & p - Xylene	100	<2	95.0	95.0	75 - 125 %	X	
o - Xylene	50	<1	47.6	95	75 - 125 %	X	

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (3 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (none analyzed with 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

rrative: Acceptable.

TRIP BLANK	SOURCE	PPB (3 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

arrative: Acceptable.

eported By: CV Approved By: John Fowler Date: 3/2/98