

3R - 204

REPORTS

DATE:

1999



Certified Mail: #Z 213 707 666 (Box 1 of 2)
#Z 213 707 664 (Box 2 of 2)

March 24, 2000

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

RECEIVED

MAR 23 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 1999 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for the 32 remaining groundwater impacted locations that were identified during our pit closure project of 1994 / 1995.

Of the 32 reports, EPFS hereby requests closure of 4 of these locations. The 4 sites EPFS is requesting closure on are presented in one separate binder entitled "San Juan Basin Pit Closures, El Paso Field Services, Pit Closure Reports".

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".

EPFS has also included for your information five Navajo sites in a separate binder and a separate report for the Bisti Flare Pit #1.

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

Sincerely,

A handwritten signature in cursive script that reads "Scott T. Pope".

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # Z 213 707 667**
Mr. Bill Liesse, BLM - w / enclosures; **Certified Mail # Z 213 707 668**
Mr. John Jaquez, - w / Jaquez enclosures; **Certified Mail # Z 213 707 669**
Ms. Charmaine Tso, Navajo EPA - w / enclosures; **Certified Mail # Z 213 707 670**

bc: J. A. Lambdin w / enclosures

Philip Services Corp. – Cecil Irby, w / o enclosures

B. B. McDaniel / 24321 – NMOCD Regulatory w / o

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project Groundwater Report
Annual Report

March 2000

RECEIVED

MAR 29 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 62800158



EPFS GROUNDWATER PITS

1999 ANNUAL GROUNDWATER REPORT

K-27 LINE DRIP

Meter/Line ID - LD072

SITE DETAILS

Legals - Twn: 25N Rng: 6W Sec: 4 Unit: E
NMOCD Hazard Ranking: 40 Land Type: FEDERAL
Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jul-94 Excavation: Aug-94 (90 cy) Soil Boring: Sep-95
Monitor Well: Sep-95

1999 ACTIVITIES

Quarterly Groundwater Monitoring – Quarterly groundwater monitoring was initiated in monitor well MW-1 on 08/24/99.

Monitor Well Installation – The groundwater gradient was estimated based on the topography and additional wells were drilled as requested in OCD correspondence dated July 28, 1999.

Phase Separated Hydrocarbon (PSH) Measurements - PSH thickness was measured at 0.12 feet on February 24, 1999.

SUMMARY TABLES

Groundwater level data are presented in Table 1. PSH recovery data are presented in Table 2. Copies of the laboratory data sheets and associated quality assurance/quality control data are presented as Attachment 1.

SITE MAP

A site map is presented as Figure 1 with the approximate location of the two additional wells. MW-2 failed during completion.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

MW-2 failed during completion due to bentonite swelling in annulus and pulling the PVC out of the borehole. The well was ruined prior to groundwater depth measurements and no groundwater gradient map was developed. The December 22, 1999, geologic logs and well completion diagrams are presented as Attachment 2.

DISPOSITION OF GENERATED WASTES

There were no wastes generated at this site in 1999.

ISOCONCENTRATION MAPS

None generated for this site.

CONCLUSIONS

EPFS GROUNDWATER PITS

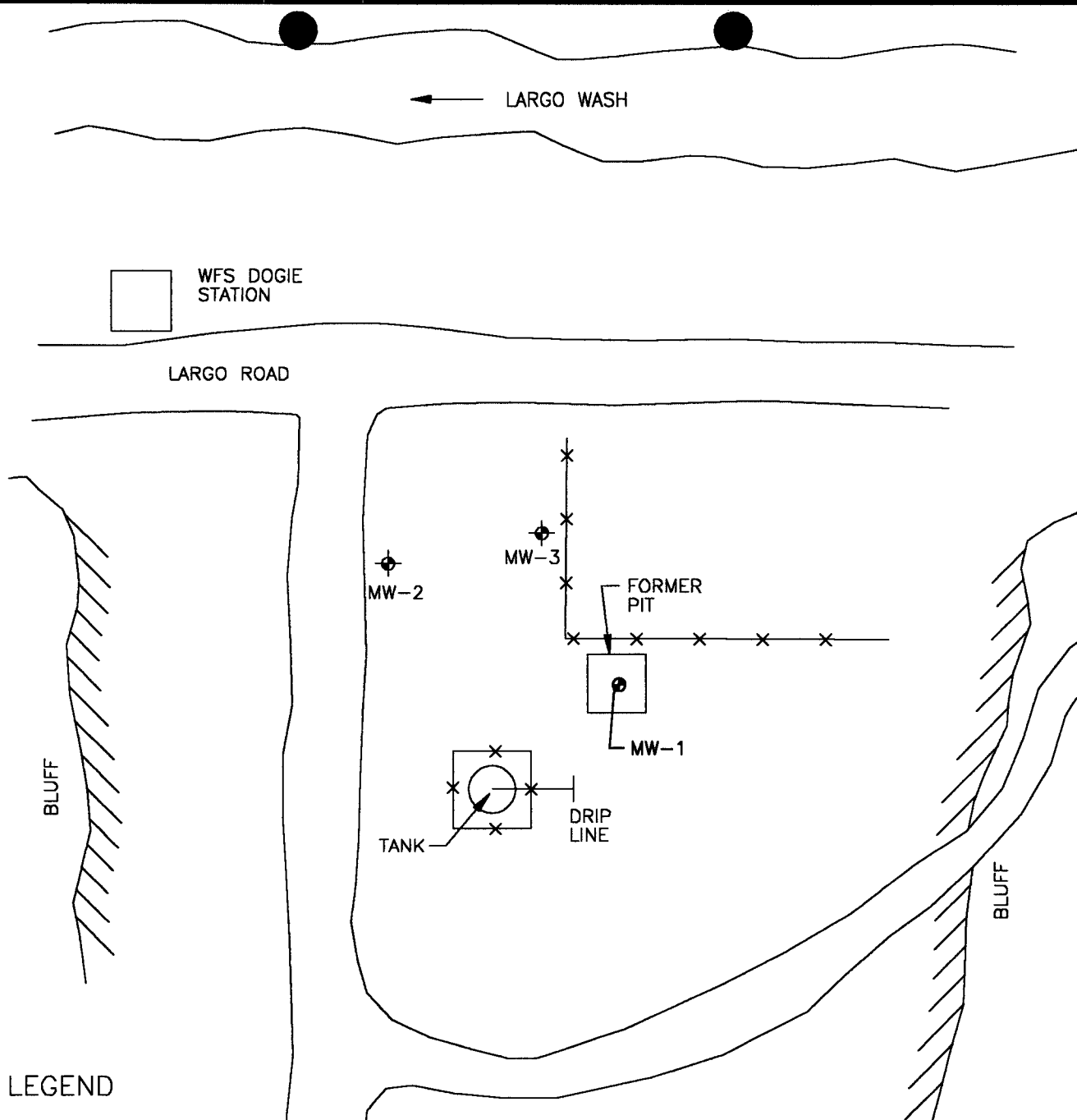
1999 ANNUAL GROUNDWATER REPORT

Quarterly sampling was initiated in August of 1999. Approximately 0.12 feet of phase separated hydrocarbons were measured in MW-1 on 2/24/99. No product has been removed to date.

Pertinent data from past groundwater reports include the following: Based on topographic observations, the groundwater flow trends to the northwest on this site.

RECOMMENDATIONS

- Replace failed monitor well MW-2.
- Collect groundwater samples from monitor wells MW-2 and MW-3 and confirm groundwater gradient.
- Remove product at MW-1 as needed.
- Following removal of product, sample annually until BTEX levels are below New Mexico Groundwater Standards, then sample quarterly for closure.



LEGEND

- MW-1 MONITORING WELL NUMBER AND APPROXIMATE LOCATION
- ⊙ MW-2 APPROXIMATE LOCATION OF NEWLY INSTALLED MONITORING WELLS

NOT TO SCALE



COL 17520BB-003



TITLE:
K-27 LINE DRIP
METER LD072
DECEMBER 22, 1999

DWN: CJG	DES.: CC
CHKD: CC	APPD:
DATE: 03/15/00	REV.: 0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
**990371	LD072	Lat K-27 Line Drip	08/19/99	1	Sample 4 - 1st Quarter	= 179	= 379	= 79.1	= 777	= 1414
990446	LD072	Lat K-27 Line Drip	11/16/99	1	Sample 4 - 2nd Quarter	= 39	= 95	= 56	= 390	= 580

** The first quarter samples had qualifiers that came from the laboratory QA/QC procedures and are suspect.

TABLE 2

Meter/Line #	Location/Line Name	Date	MW	Depth to Product	Depth to Water	Product Thickness	Volume Removed Gallons	Cumulative Gallons
LD072	K-27 LINE DRIP	02/24/99	1	36.27	36.39	0.12	0.00	0.00

ATTACHMENT 1
1999 GROUNDWATER ANALYTICAL



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990371
MTR CODE SITE NAME:	LD072	Lateral K-27 Line Drip
SAMPLE DATE TIME (Hrs):	08/19/1999	1216
PROJECT:	Sample 4 1st Quarter (Re-start)	
DATE OF BTEX EXT. ANAL:	NA	08/24/1999
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: Re-start quarters as well no longer has product.

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	179	PPB	10	D		
TOLUENE	379	PPB	10	D		
ETHYL BENZENE	79.1	PPB	10	D		
TOTAL XYLENES	777	PPB	10	D		
TOTAL BTEX	1414	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 91.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By:

John Sauter

Date:

9/1/99



SAMPLE 4 67407P

CHAIN OF CUSTODY RECORD

Page of

Project Number		Project Name		Contract Laboratory P.O. Number	
Samplers: (Signature)		Date: 8-19-99			
Lab ID	Date	Time	Matrix	Sample Number	Remarks
	8/19/99	1215	WATER	990371	LATERAL K-27 LINE DRIP
	8/19/99	—	WATER	—	TRIP RETURN
[Large diagonal line across the table]					
Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
Requested Turnaround Time:		Date/Time		Date/Time	
☐ Routine ☐ Rush		8/19/99 1623		8/19/99 0700	
Carrier Co.		Sample Receipt Remarks		Results & Invoices to:	
Bill No.:		cool & ANALYST 32°F		North Region Laboratory El Paso Natural Gas Company P. O. Box 4990 Farmington, New Mexico 87499	
		Charge Code		505-599-2144 FAX: 505-599-2261	



Well Development and Purging Data

Well Number MW-1
Meter Code LD072

☐ Development
☒ Purging

Site Name LATERAL K-27 LINE DRIP

Development Criteria

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

Methods of Development

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

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 51.33
Initial Depth to Water (feet) 35.48
Height of Water Column in Well (feet) 14.85
Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>9.8</u>	<u>29.4</u>
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other DR. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		pH	Conductivity $\mu\text{mho/cm}$	Dissolved Oxygen mg/L	Comments
						Increment	Cumulative	Increment	Cumulative				
8-19-99	1125									6.77	4400		
8-19-99	1115					5.0	5.0			6.98	4480		
8-19-99	1124					5.0	10.0			7.08	4460		
8-19-99	1135					5.0	15.0			7.13	4470		
8-19-99	1145					5.0	20.0			7.12	4480		
8-19-99	1155					5.0	25.0			7.10	4370		
8-19-99	1203					5.0	30.0			7.10	4430	0.5	

Comments THE WATER HAD A STRONG HYDROCARBON SMELL.

Developer's Signature Kennia Bied Date 8-19-99 Reviewer John Furbush Date 8/24/99



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990364 to 990368 and 990371

QA/QC for 08/23/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-67475 50 PPB					RANGE	
Benzene	Standard	50.0	53.2	106.3	75 - 125 %	X
Toluene	Standard	50.0	51.0	101.9	75 - 125 %	X
Ethylbenzene	Standard	50.0	50.9	101.9	75 - 125 %	X
m & p - Xylene	Standard	100	103.2	103.2	75 - 125 %	X
o - Xylene	Standard	50.0	50.9	101.8	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
LCS LA-53560 25 PPB					RANGE	
Benzene	Standard	25.0	26.1	104	39 - 150	X
Toluene	Standard	25.0	24.6	98	46 - 148	X
Ethylbenzene	Standard	25.0	25.2	101	32 - 160	X
m & p - Xylene	Standard	50.0	49.9	100	Not Given	X
o - Xylene	Standard	25.0	24.8	99	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
990365					RANGE	
Benzene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2.0	<2.0	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 990365					RANGE	
Benzene	50	<1.0	37.5	75	75 - 125 %	X
Toluene	50	<1.0	36.9	74	75 - 125 %	X
Ethylbenzene	50	<1.0	36.6	73	75 - 125 %	X
m & p - Xylene	100	<2.0	73.9	74	75 - 125 %	X
o - Xylene	50	<1.0	37.7	75	75 - 125 %	X

Narrative: See MSD.

MATRIX SPIKE DUPLICATE:

SAMPLE ID MSD	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis					RANGE	
Benzene	50	<1.0	40.7	81	75 - 125 %	X
Toluene	50	<1.0	40.7	81	75 - 125 %	X
Ethylbenzene	50	<1.0	40.9	82	75 - 125 %	X
m & p - Xylene	100	<1.0	82.5	83	75 - 125 %	X
o - Xylene	50	<2.0	40.7	81	75 - 125 %	X

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (1 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 (one 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 (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.

TRIP BLANK(s) 8/17, 8/18, 8/19	SOURCE	PPB (three 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: J.L.

Approved By: John Santolucito

Date: 8/24/99

**MC# 71676, Turner A#1, MW-2
: Sample 4 - 4th Quarter**

**MC#LD072, Lat. K-27 L. Drip,
MW-1 : Sample 4 - 2nd Quarter
(re-start)**

Well Number MW-3
Meter Code 7/676

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

☒	Temperature Meter	
☒	Other	D.O. CHEMETS KIT

Water Disposal
KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.6	10.7
Gravel Pack			
Drilling Fluids			
Total			

[illegible]

Developer's Signature *Dennis Bied*

Date 11-10-99 Reviewer John Larkin Date 11/30/99

Well Development and Purging Data

Site Name CATERAL K-27 GIVE DRIP

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 ☐ |

Water Volume Calculation

Initial Depth of Well (feet) 51.33
Initial Depth to Water (feet) 36.17
Height of Water Column in Well (feet) 15.16

Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		10.0	30.1
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments THE WELL HAD 0.07' OF FREE FLOATING HYDROCARBON.

Developer's Signature Kenneth Bied Date 11-10-99 Reviewer John Fiedler Date 11/30/99

PINNACLE
LABORATORIES



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

Pinnacle Lab ID number 911052
November 19, 1999

EL PASO FIELD SERVICES
770 WEST NAVAJO
FARMINGTON, NM 87401

Project Name PIT MONITOR WELLS
Project Number (none)

multiple wells

see next page ->

Attention: JOHN LAMBDIN

On 11/16/99 Pinnacle Laboratories, Inc. Inc., (ADHS License No. AZ0592 pending), received a request to analyze **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.

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

Reviewed & Accepted
11/30/99
J. Jordan



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

CLIENT	: EL PASO FIELD SERVICES	PINNACLE ID	: 911052
PROJECT #	: (none)	DATE RECEIVED	: 11/16/99
PROJECT NAME	: PIT MONITOR WELLS	REPORT DATE	: 11/19/99

PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	990444 - MC 71676 Turner A#1 mw-2	AQUEOUS	11/10/99
02	990445 - MC 71676 Field Duplicate	AQUEOUS	11/10/99
03	990446 - MC LDO72 Lateral K-27 line drip	AQUEOUS	11/10/99
04	TRIP BLANK	AQUEOUS	11/10/99

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : PIT MONITOR WELLS

PINNACLE I.D.: 911052

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	990444	AQUEOUS	11/10/99	NA	11/17/99	1
02	990445	AQUEOUS	11/10/99	NA	11/17/99	1
03	990446	AQUEOUS	11/10/99	NA	11/16/99	20

PARAMETER	DET. LIMIT	UNITS	990444	990445	990446
BENZENE	0.5	UG/L	3.3	3.3	39
TOLUENE	0.5	UG/L	7.8	7.7	95
ETHYLBENZENE	0.5	UG/L	13	13	56
TOTAL XYLENES	0.5	UG/L	61	60	390

SURROGATE:
BROMOFLUOROBENZENE (%)
SURROGATE LIMITS (80 - 120)

89	87	90
Mc# 71676	71676	LD072
Turner #1 Pit #2 MW-2	Field Appliance	Lateral K-27 Line Drip
Sample 4 4th Qtr		Sample 4 2nd Qtr (re-start)

CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : PIT MONITOR WELLS

PINNACLE I.D.: 911052

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	TRIP BLANK	AQUEOUS	11/10/99	NA	11/16/99	1
PARAMETER		DET. LIMIT	UNITS	TRIP BLANK		
BENZENE		0.5	UG/L	< 0.5		
TOLUENE		0.5	UG/L	< 0.5		
ETHYLBENZENE		0.5	UG/L	< 0.5		
TOTAL XYLENES		0.5	UG/L	< 0.5		

SUBROGATE:

BR OFLUOROBENZENE (%)

101

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911052
BLANK I. D.	: 111699	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/16/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PIT MONITOR WELLS		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 100
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911052
BLANK I. D.	: 111799	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/17/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PIT MONITOR WELLS		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 103
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911052
MSMSD #	: 111699	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/17/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PIT MONITOR WELLS	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	17.5	88	17.4	87	1	(80 - 120)	20
TOLUENE	<0.5	20.0	18.9	95	18.5	93	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.6	98	19.5	98	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	59.6	99	59.1	99	1	(80 - 120)	20

CHEMIST NOTES:
N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

PLEASE FILL THIS FORM IN COMPLETELY.

SHADED AREAS ARE FOR LAB USE ONLY.



Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 11-10-99 PAGE: 1 OF 1

PL Accession #

911062

PROJECT MANAGER: JOHN LAMBORN

COMPANY:

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

EL PASO FIELD SERVICES
710 WEST NAVAJO
FARMINGTON NM
(505) 599-2144
(505) 599-2261
STAFF AS ABOVE

SAMPLE ID

DATE

TIME

MATRIX

LAB ID

Petroleum Hydrocarbons (418.1) TRPH
(MOD.8015) Diesel/Direct Inject

(M8015) Gas/Purge & Trap

8021 (BTEX)/8015 (Gasoline) MTBE

8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE

8021 (TCL)

8021 (EDX)

8021 (HALO)

8021 (CUST)

504.1 EDB ☐ / DBCP ☐

8260 (TCL) Volatile Organics

8260 (Full) Volatile Organics

8260 (CUST) Volatile Organics

8260 (Landfill) Volatile Organics

Pesticides /PCB (608/8081/8082)

Herbicides (615/8151)

Base/Neutral/Acid Compounds GC/MS (625/8270)

Polynuclear Aromatics (610/8310/8270-SIMS)

General Chemistry:

Priority Pollutant Metals (13)

Target Analyte List Metals (23)

RCRA Metals (8)

RCRA Metals by TCLP (Method 1311)

Metals:

NUMBER OF CONTAINERS

PROJECT INFORMATION

PROJ. NO.:

PROJ. NAME: PIT MEATER WELLS

P.O. NO.:

SHIPPED VIA: FedEx

SAMPLE RECEIPT

NO. CONTAINERS:

CUSTODY SEALS:

RECEIVED INTACT

BLUE ID:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK(NORMAL) ☒CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHERMETHANOL PRESERVATION ☐COMMENTS: FIXED FEE ☐

RELINQUISHED BY:

Signature:

Time: 1:53

Printed Name: Dennis Bird

Date: 11-10-99

Company: EL PASO FIELD SERVICES

RECEIVED BY:

Signature:

Time:

Printed Name:

Date:

Company:

RELINQUISHED BY:

Signature:

Time:

Printed Name:

Date:

Company:

RECEIVED BY: (LAB)

Signature:

Time:

Printed Name:

Date:

Company: Pinnacle Laboratories Inc.

ATTACHMENT 2
MONITOR WELL INSTALLATION

SURFACE EXPLORATION

Corp.

J1
J1 326-2388

Borehole #

Well #

NW-2

Page

of

Project Name
Project Number
Project Location

EPFS GW Drilling

Phase

K-27 Line Drilling

Well Logged By
Personnel On-Site
Contractors On-Site
Client Personnel On-SiteDon Fernald
Fernald, K. Padilla, D. Padilla
NONE
NONEDrilling Method
Air Monitoring MethodCME 75 Auger
N/ALocation
Depth
Logged By
Drilled By
Date/Time Started
Date/Time Completed

Don Fernald

K. Padilla

10:15 A.M. / 12-22-99

11:55 A.M. / 12-22-99

Depth (Feet)	Sample Interval	Sample Type & Recovery (Inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	PID Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	SH	S	
0			DK Brown - reddish compact clay w/some fine grained sand. Organics present (roots)						
5		X				2.5			
10		X	Grades to a lighter reddish-brown, silt poor sample recovery			0.1			
15		X	Light reddish brown silt.			1.9			
20		X	Light reddish brown silt.			0.8			
25		X	Dark brown-red silty soil, increase in moisture.			0.6			
30		X	Dark brown-red silty soil that grade to black @ ~30'. Hydrocarbons (odors).			196			
35		X	GW @ ~34' - Wet - Dark gray grading to brown @ ~34.5' silty soil			4.5			
40			Well completion failed due to bentonite swelling on PVC annulus & pulling PVC annulus out of bore hole with augers			4.5			

Comments:

2" Well completed to 45'. Screened from 45-30'. GW @ ~34'. Hydrocarbons @ and below ground water level. 10 screen. 10-20 sand from 45-28'. 3/8" bentonite hole plug from 28-26' (Temporary well)

Geologist Signature

Don Fernald

MONITORING WELL INSTALLATION RECORD

Tulip Environmental Services Corp.
 000 Monroe Road
 New Mexico 87401
 (505) 326-2262 FAX (506) 326-2388

Borehole # _____
 Well # 2
 Page 1 of 1

Project Name _____

Project Number _____ Phase _____

Project Location _____

On-Site Geologist _____

Personnel On-Site _____

Contractors On-Site _____

Client Personnel On-Site _____

Elevation _____

Well Location _____

SWL Depth _____

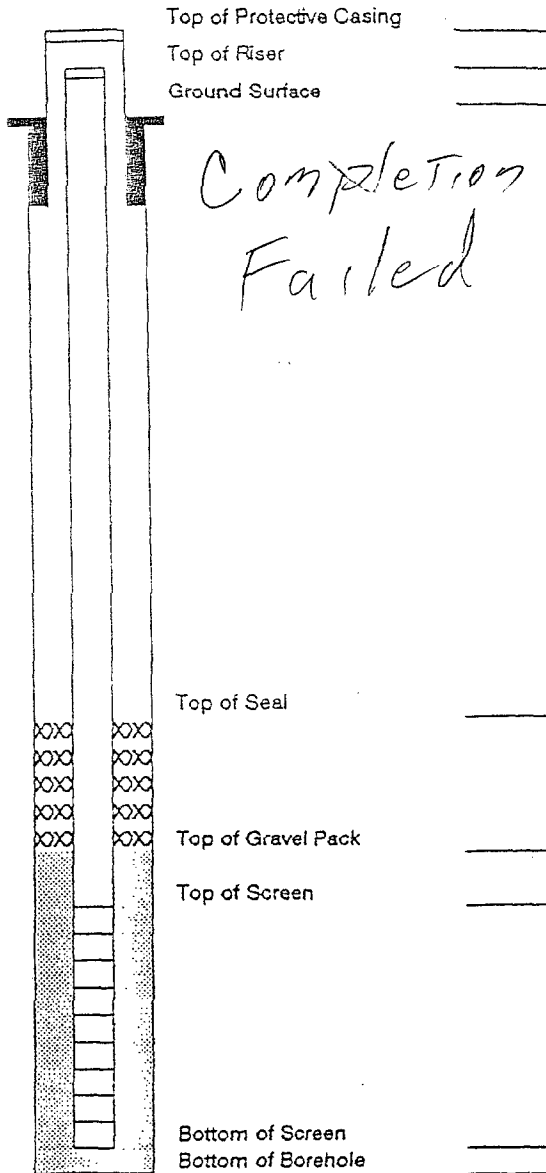
Installed By _____

Date/Time Started _____

Date/Time Completed _____

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



Comments: _____

Geologist Signature _____

SUBSURFACE EXPLORATION

Geological Services Corp.

1000

New Mexico 87401

-2282 FAX (505) 326-2388

Borehole #

Well #

Page

MV-3

1 of 1

Project Name

Project Number

Project Location

EPFS GW Drilling

Phase

K-27 Line Drip

Well Logged By

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

Don Fernald

Fernald, D. Padilla, K. Padilla

NONE

Drilling Method

Air Monitoring Method

CME 75 Auger

NONE - P.D

Elevation

Borehole Location

GWL Depth

Logged By

Drilled By

Date/Time Started

Date/Time Completed

Don Fernald

Kelly Padilla

12:45 P.M. / 12-22-99

2:45 P.M. / 12-22-99

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	P.D Air Monitoring Units: NDU BZ SH S	Drilling Conditions & Blow Counts
0			Reddish-brown silty soil. some very fine grain sand present (roots present) (some moisture)			0.6	
5	X	18"	Light reddish-brown silty soil w/some fine grained sand. (Dry)			0.7	
10	X	14"	Lighter red-brown silty soil. some very fine sand (Dry)			1.6	
15	X	16"	Red-brown silty soil, some very fine sand. (some moisture)			0.0	
20	X	8"	Red-brown silty soil (moist) grading to an increase in fine sand @ ~24.5'			1.3	
25	X	14"	Red-brown very fine silty sand. very moist.			0.7	
30	X	16"	Red-brown very fine silty sand. GW @ ~31'-32'. Less sand below 34'.			0.8	
35	X	18"					
40							

Comments:

2" Well completed @ 40'. 10' Screen from 25'-40'. 10-20 Sand from 40-23'.
 3/8" Bentonite hole plug from 23-21'. Hydrocarbons were not noted @
 this borehole.
 (Temporary Well)

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.

4000 Monroe Road

From ██████████ New Mexico 87401

(506) 326-2252 FAX (506) 326-2368

Borehole #

Well # 3

Page 1 of 1

Project Name EPMS GW Drilling

Project Number	Phase
----------------	-------

Project Location K-27 LD

On-Site Geologist Don Fernald

Personnel On-Site _____

Contractors On-Site _____

Client Personnel On-Site _____

Elevation _____

Well Location

GWL Depth 32'

Installed By K Paddala

Date/Time Started 12-22-99

Date/Time Completed 12-22-99

Temp Completion

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

Top of Protective Casing _____

Top of Riser _____

Ground Surface _____

Top of Seal ~~#6~~ 21

Top of Gravel Pack ~~#8~~ 23

Top of Screen 20

Bottom of Screen 35

Bottom of Borehole 30

Comments: _____

Geologist Signature

Cecil G. For Don Fernald