

3R - 213

REPORTS

DATE:

2000



Certified Mail: #7000 1670 0012 7260 6739

February 26, 2001

Mr. William C. Olson
New Mexico Oil Conservation Division
1220 St. Francis Dr.
Santa Fe, NM 87504

RECEIVED

FEB 28 2001

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 2000 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 sites that were identified during our pit closure project of 1994 / 1995.

Of the 32 reports (Volumes 1-4), EPFS hereby requests closure of six sites. The six 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". Four of the six sites were submitted in last years report and a decision has not been made on closure. The remaining two sites have been submitted in previous years and denied closure.

The Jaquez Com. C #1 and Jaquez Com. E #1 site is not included in with this years report and will be submitted by the required deadline of April 1, 2001

EPFS has also included for your information six Navajo sites in a separate binder.

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

Sincerely,

A handwritten signature in dark ink, appearing to read 'Scott T. Pope', with a long horizontal flourish extending to the right.

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # 7000 1670 0012 7260 6722**
Mr. Bill Liesse, BLM - w / enclosures (federal sites only), **Certified Mail # 7000 1670 0012 7260 6715**

6

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

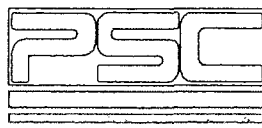
El Paso Field Services
Pit Project Groundwater Report
Annual Report
Volume II

March 2001

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 62800398



EPFS GROUNDWATER PITS

2000 ANNUAL GROUNDWATER REPORT

LATERAL 0-21 LINE DRIP

Meter/Line ID - LD151

SITE DETAILS

Legals - Twn: 30N Rng: 9W Sec: 12 Unit: O
NMOCD Hazard Ranking: 40 Land Type: FEDERAL
Operator: EL PASO FIELD SERVICES

PREVIOUS ACTIVITIES

Site Assessment: Jan-95 Test Excavation: Jan-95 Soil Boring: Oct-95
Monitor Well: Oct-95 Geoprobe: Nov-96 Quarterly Sampling Initiated: Nov-96
Additional Monitor Wells: Jul-00

2000 ACTIVITIES

Annual Groundwater Monitoring - Annual groundwater monitoring was conducted during May 2000 for MW-1.

Additional Monitor Wells - Following approval by the BLM, two off-site monitor wells were installed, as requested by the OCD in correspondence dated July 28, 1999.

SUMMARY TABLES

Groundwater analytical data is presented in Table 1. Copies of the laboratory data sheets and associated quality assurance/quality control data are presented as Attachment 1.

SITE MAP

A site map with groundwater elevations and gradient is presented as Figure 1.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Drilling activities were conducted on July 12, 2000, and the geologic logs and well completion diagrams are presented in Attachment 2.

DISPOSITION OF GENERATED WASTES

There were no wastes generated at this site in 2000.

ISOCONCENTRATION MAPS

Isoconcentration maps were generated for benzene and toluene and are included as Figure 2 and 3.

CONCLUSIONS

Analytical results of groundwater samples collected from MW-1 show levels of benzene and toluene above NMWQCC groundwater standards, with a reduction in total xylenes from 1999. Hydrocarbon constituent concentrations continue to decrease over each annual sample event.

The site topography, proximity to two major washes and other geographical relations to MW-1 were used as factors for estimating the groundwater gradient. The additional wells were placed using this estimation. Based on the groundwater elevations obtained from the additional monitor

EPFS GROUNDWATER PITS 2000 ANNUAL GROUNDWATER REPORT

wells (requested by the OCD) following installation, the groundwater flow exhibits a trend towards the north-northwest. Therefore, MW-2 appears to be upgradient and MW-3 appears to be cross-gradient of the former pit. The survey and groundwater data should be re-evaluated to confirm the actual groundwater gradient for this site.

Laboratory analysis of groundwater from MW-2 indicate only trace levels of benzene and total xylenes; MW-3 exceeds the New Mexico groundwater standards for benzene and is below the groundwater standards for toluene, ethyl benzene, and total xylenes.

RECOMMENDATIONS

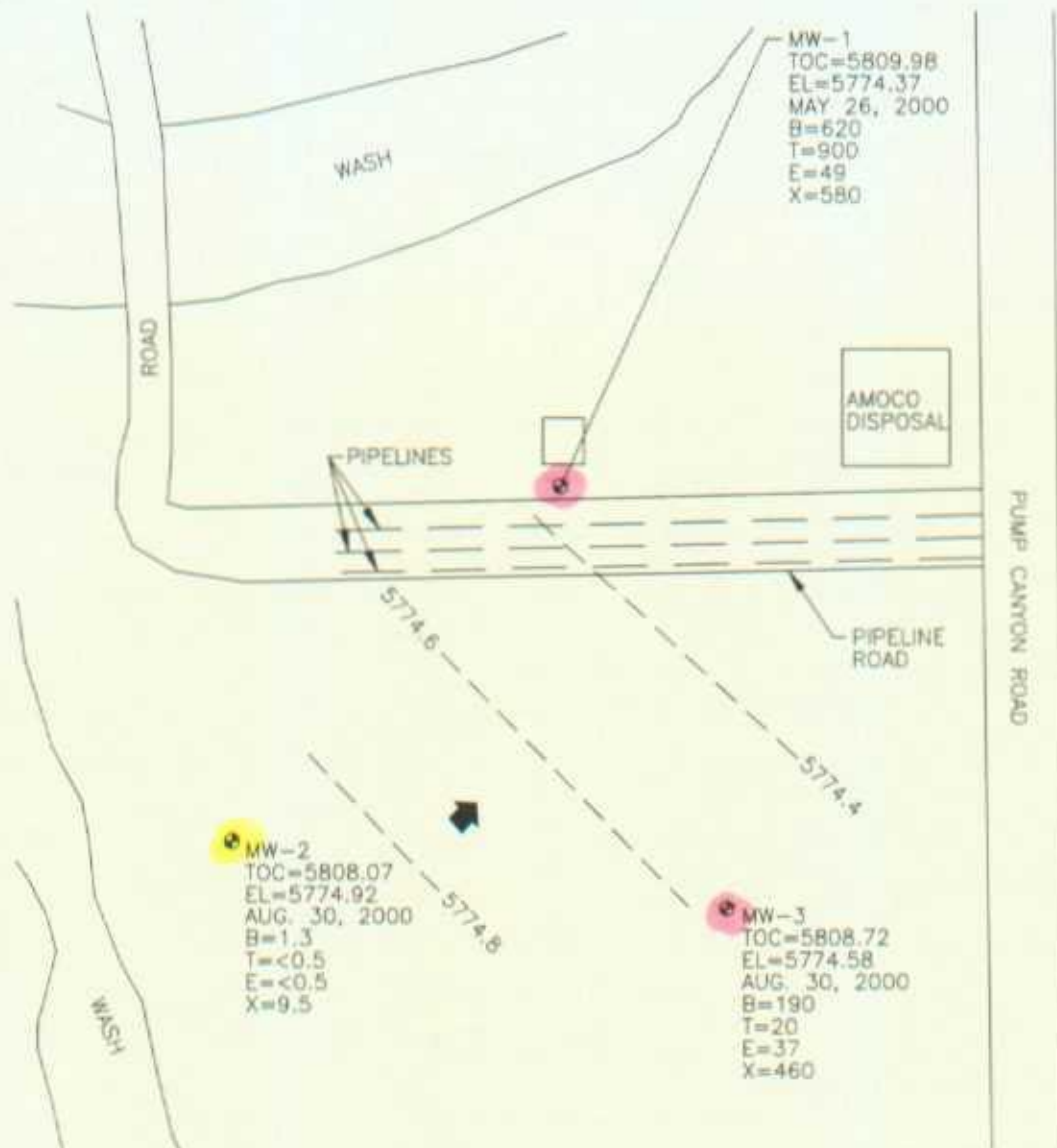
- EPFS suggests further recommendations be proposed following a re-evaluation of the survey and groundwater elevation data and pending further groundwater investigations.
- EPFS will conduct annual sampling at the site until BTEX constituents fall below New Mexico groundwater standards, then collect quarterly samples for closure.
- Following OCD approval for closure, all monitor wells associated with the site will be abandoned using OCD approved abandonment procedures.

Table 1

March 2001

Sample #	Meter / Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX (PPB)
151-0005-MW1	LD151	Lat O-21 Line Drip	05/26/2000	1	Sample 1 - 9th Event	= 620	= 900	= 49	= 580	2149
151-0008-MW2	LD151	Lat O-21 Line Drip	08/30/2000	2	Sample 1 - 1st Annual	= 1.3	< 0.5	< 0.5	= 9.5	10.8
151-0008-MW3	LD151	Lat O-21 Line Drip	08/30/2000	3	Sample 1 - 1st Annual	= 190	= 20	= 37	= 460	707

Sample 1 - Annual Sampling



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
- TOC TOP OF CASING ELEVATION
- EL GROUNDWATER ELEVATION
- 58 - GROUNDWATER POTENTIOMETRIC SURFACE
- ➡ GROUNDWATER GRADIENT

NOTE: Well locations are to scale, relative to each other. The surface features are not to scale.

0 40
FEET



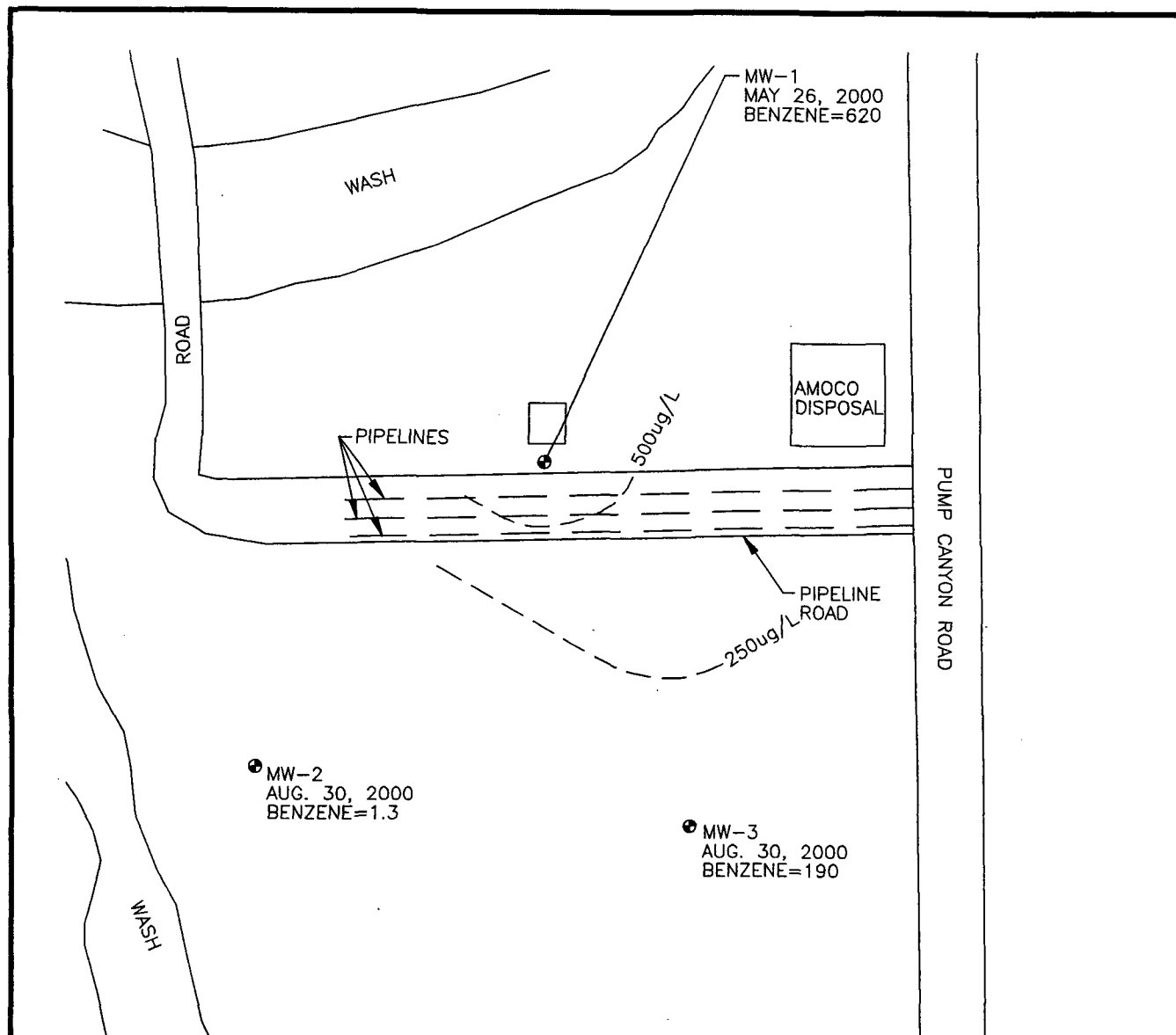
TITLE:
LAT O-21 LINE DRIP
LD 151
JANUARY 22, 2001

DWN: TMM
CHKD: LW
DATE: 2/19/01

DES.: LW
APPD: MN
REV.: 0

PROJECT NO.: 62800219
EPFS GW PITS

FIGURE 1



LEGEND

- MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER
- B BENZENE (ug\L)
- ug\L MICROGRAMS PER LITER
- 58 — GROUNDWATER POTENTIOMETRIC SURFACE

NOTE: Well locations are to scale, relative to each other. The surface features are not to scale.

0 40
FEET



COL 628\002198E-004

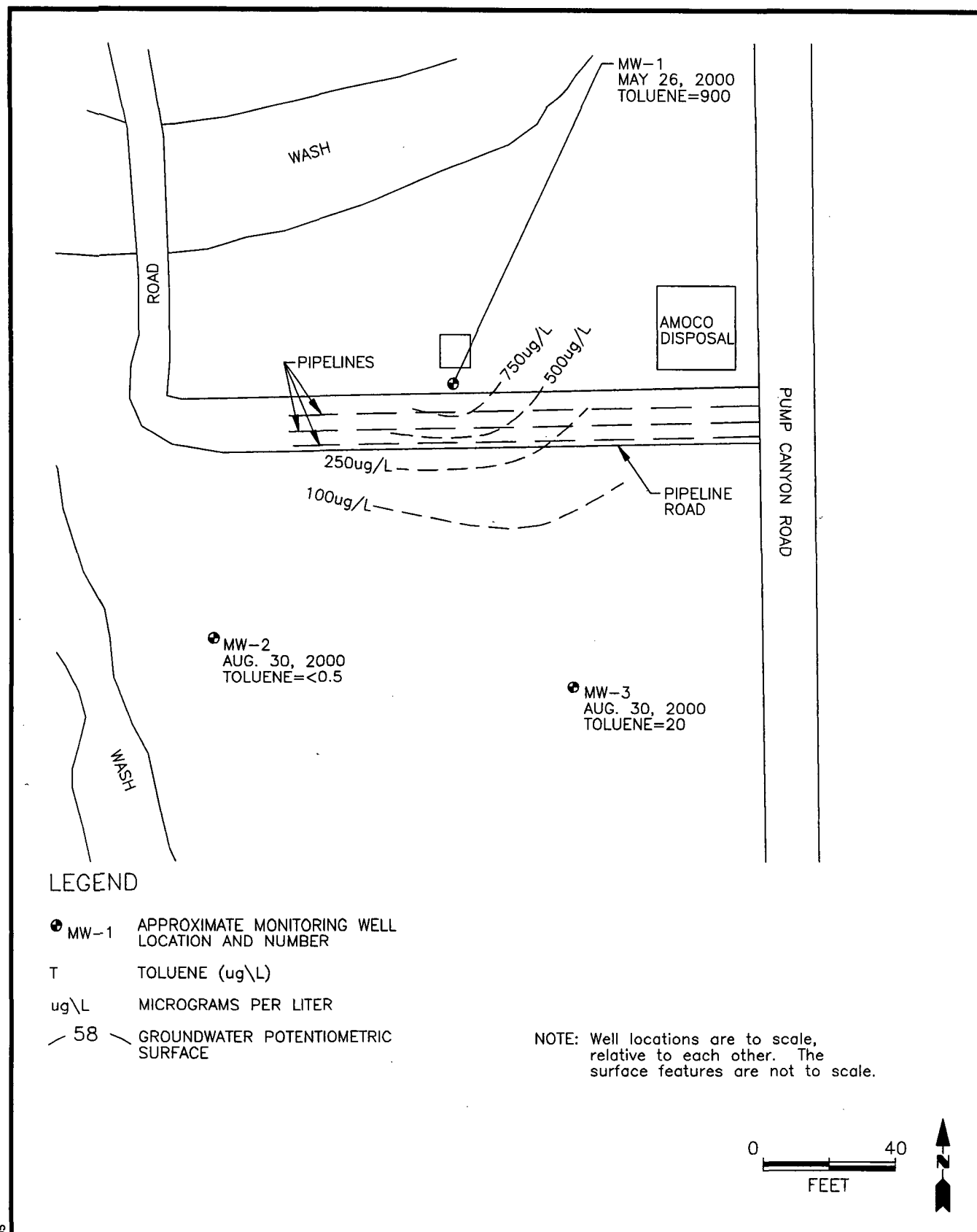


TITLE:
LAT O-21 LINE DRIP - LD 151
AUG. 30, 2000 ISOCONCENTRATION
MAP - BENZENE

DWN: TMM	DES.: LW
CHKD: LW	APPD: MN
DATE: 2/20/01	REV.: 0

PROJECT NO.: 62800219
EPFS GW PITS

FIGURE 2



COL 628\00219BE-005



TITLE:
LAT O-21 LINE DRIP - LD 151
AUG. 30, 2000 ISOCONCENTRATION
MAP - TOLUENE

DWN:	DES.:
TMM	LW
CHKD:	APPD:
LW	MN
DATE:	REV.:
2/20/01	0

PROJECT NO.: 62800219
EPFS GW PITS

FIGURE 3

ATTACHMENT 1

2000 GROUNDWATER ANALYTICAL

Chain of Custody Record

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2557

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
Bob Thompson	5-23-00	11:26			

Samples Iced:

☒ Yes

No

Samples Iced: ☒ Yes ☐ No

reservatives (ONLY for Water Samples)

reservatives (ONLY for Water Samples)

☐ Cyanide Sodium hydroxide (NaOH)

☒ Volatile Organic Analysis Hydrochloric acid (HCl)☐ **Metals** Nitric acid (HNO₃)☐ Metals Sulfuric acid (H_2SO_4)

☐ TPH (418.1) Sulfonic acid (12304)

☐ Other (Specify) _____☐ Other (Specify) _____

Samples Iced: ☒ Yes ☐ No

reservatives (ONLY for Water Samples)

☐ Cyanide Sodium hydroxide (NaOH)☒ Volatile Organic Analysis Hydrochloric acid (HCl)☐ Nitric acid (HNO₃)

☐ metals ☐ Sulfuric acid (H₂SO₄)

☐ TPH (418.1) Sulfuric acid (12504)

☐ Other (Specify) _____☐ Other (Specify) _____

Carrier: 0343

Shipping and Lab Notes:

Carrier: 0342 UN

Shipping and Lab Notes:

Airbill No.

Airbill No. 677 606919821



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

Pinnacle Lab ID number 005117
June 05, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/LEAUDRA STANLEY

On 05/31/00 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.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 005117
PROJECT #	: 62800107	DATE RECEIVED	: 05/31/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/05/00
IN			DATE
D. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
1	1510005-MW01	AQUEOUS	05/26/00
2	TRIP BLANK	AQUEOUS	05/23/00



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 : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 005117

PROJECT NAME: FERTILIZER QUALITY CONTROL						
SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	1510005-MW01	AQUEOUS	05/26/00	NA	06/01/00	5
02	TRIP BLANK	AQUEOUS	05/23/00	NA	06/01/00	1

PARAMETER	DET. LIMIT	UNITS	1510005-MW01	TRIP BLANK
BENZENE	0.5	UG/L	620	< 0.5
TOLUENE	0.5	UG/L	900	< 0.5
ETHYLBENZENE	0.5	UG/L	49	< 0.5
TOTAL XYLENES	0.5	UG/L	580	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

111

97

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.	: 005117
BLANK I. D.	: 060200	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/02/00
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

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 (%) 104
SURROGATE LIMITS: (80 - 120)
CHECK 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.	: 005117
BLANK I. D.	: 060100	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/01/00
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

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 (%) 101
SURROGATE LIMITS: (80 - 120)
CH NOTES:
N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 006008-03
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 005117
DATE EXTRACTED : NA
DATE ANALYZED : 06/02/00
SAMPLE MATRIX : AQUEOUS
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	19.3	97	20.0	100	4	(80 - 120)	20
TOLUENE	<0.5	20.0	20.9	105	21.8	109	4	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.6	108	22.2	111	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	65.3	109	67.6	113	3	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

PHILIP

ENVIRONMENTAL

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

005117

COC Serial No. C 2557

Project Name <u>EPFS QUARTERLY SAMPLING</u>		Type of Analysis and Bottle		Total Number of Bottles	Comments
Project Number <u>62800107 Phase Task 0301</u>		LAT 0-21 LD (LD151)			
Samplers <u>J. WAGNON</u>		BTEX			
Laboratory		LAB 101			
Name <u>PINNACLE LABS</u>		02			
Location <u>ALBUQUERQUE, NM</u>					
Sample Number (and depth)	Date	Time	Matrix		
<u>1510005-mw01</u>	<u>5/26/00</u>	<u>1419</u>	<u>H2O</u>	<u>2</u>	<u>X</u>
<u>Vip Blank</u>	<u>5/23/00</u>	<u>1305</u>	<u>"</u>	<u>1</u>	<u>X</u>

Relinquished by:

Signature [Signature]

Received By:

Signature [Signature]

Date

5-30-00

Time

1120

Date

5/31/00

Time

0925

Samples Iced: ☒ Yes ☐ NO

Preservatives (ONLY for Water Samples)

- ☐ Cyanide Sodium hydroxide (NaOH)
☒ Volatile Organic Analysis Hydrochloric acid (HCl)
☐ Metals Nitric acid (HNO3)
☐ TPH (418.1) Sulfuric acid (H2SO4)
☐ Other (Specify) _____
☐ Other (Specify) _____

Carrier: GREYHOUND LINES

Shipping and Lab Notes:

Rec'd @ 3°C

Serial No. WDPD-

Page _____ of _____

Project Name EPFS Quarterly Sampling
Client Company E.O.F.S.

Project Manager R Thompson

Project No. 62800107
Phase.Task No. 0301

Site Name LAT 0-21-(L.D.151)

Site Address Rural SAN Juan Co

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removal

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 41.80
Initial Depth to Water (feet) 33.62
Height of Water Column in Well (feet) 8.18
Diameter (inches): Well 2" Gravel Pack

Instruments Serial No. (If applicable)

☒ pH Meter☐ DO Monitor

Hydroac

Methods of Development

Pump
☐ Centrifugal
☐ Submersible
☐ Peristaltic
☐ Other

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

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	6.18	1.33 x 3	3.99
Gravel Pack			
Drilling Fluids			
Total			3.99

Water Disposal

Water Disposal
K-12 separator Bloomfield U.

Water Removal Data

[illegible]

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

Comments	Comments
Sampled for BTex 1:11 pm	well needs a" cap

Developer's Signature(s) Chris A. Mery

Date 4-31-00

Reviewer

Date _____

Chain of Custody Record

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2655

PE-176 4/95



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

Pinnacle Lab ID number 009002
September 06, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/LEAUDRA STANLEY

On 09/01/00 Pinnacle Laboratories, 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.

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 009002
PROJECT #	: 62800107	DATE RECEIVED	: 09/01/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 09/06/00
PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	151-0008-MW03	AQUEOUS	08/30/00
02	151-0008-MW02	AQUEOUS	08/30/00



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 : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 009002

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	151-0008-MW03	AQUEOUS	08/30/00	NA	09/05/00	5
02	151-0008-MW02	AQUEOUS	08/30/00	NA	09/05/00	1

PARAMETER	DET. LIMIT	UNITS	151-0008-MW03	151-0008-MW02
BENZENE	0.5	UG/L	190	1.3
TOLUENE	0.5	UG/L	20	< 0.5
ETHYLBENZENE	0.5	UG/L	37	< 0.5
XYLENES	0.5	UG/L	460	9.5

SURROGATE:

BROMOFLUOROBENZENE (%)

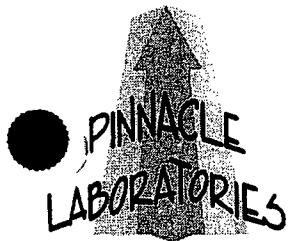
111

106

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 009002
BLANK I. D.	: 090500	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 09/05/00
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

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 (%)

102

SPURIOUS 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 QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 090500
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 009002
DATE EXTRACTED : NA
DATE ANALYZED : 09/05/00
SAMPLE MATRIX : AQUEOUS
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	20.5	103	19.8	99	3	(80 - 120)	20
TOLUENE	<0.5	20.0	21.3	107	20.5	103	4	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.9	110	21.2	106	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	66.0	110	63.5	106	4	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

Philip

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2655

[illegible]

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
Jeanne Lagron	8/31/00	1530	Jeanne Lagron	9/1/00	0930

Samples Iced:

☐ No

Samples Iced: ☐ Yes ☒ No

Preservatives (ONLY for Water Samples)

☐ Cyanide Sodium hydroxide (NaOH)☐ Volatile Organic Analysis Hydrochloric acid (HCl)☐ Metals Nitric acid (HNO_3)

☐ malate ☐ malic acid (HCO₃) ☐ sulfuric acid (H₂SO₄)

☐ IPA (418.1) Sulfuric acid (H₂SO₄)

☒ Buter (Snacitv) H₂O 13

☒ Other (specify) reg. cit.
☐ Other (Specify) _____☐ Other (Specify) _____

Carrier: GRYTHND LINES

Shipping and Lab Notes:

Redd@2.6.0

ATTACHMENT 2

**2000 MONITOR WELL
INSTALLATION RECORDS**

MONITORING WELL INSTALLATION RECORD

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

Borehole # MW-02
Well # LD 151
Page 1 of 1

Project Name EPFS Drilling
Project Number 62800219 Cost Code 35
Project Location T30-R9-S12-O

Elevation _____
Well Location LAT 0-21 Line Drip
GWL Depth 30.64'
Installed By K. Padilla

On-Site Geologist J. Wagnon
Personnel On-Site R. Lefebvre
Contractors On-Site None
Client Personnel On-Site None

Date/Time Started 07/12/00, 0858
Date/Time Completed 7/12/00, 1050

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing		+3	Top of Protective Casing	+3
Bottom of Protective Casing		0	Top of Riser	+3
Top of Permanent Borehole Casing		0	Ground Surface	0
Bottom of Permanent Borehole Casing		-40		
Top of Concrete		+0.04	← QUIKCEL (1 BAG)	
Bottom of Concrete		0	← 21A TYPE I-II CEMENT (3 BAGS)	
Top of Grout		0		
Bottom of Grout		-21		
Top of Well Riser		+3		
Bottom of Well Riser		-40		
Top of Well Screen		-25	Top of Seal	-21
Bottom of Well Screen		-40	← 3/8" HOLE PLUG (1 BAG)	
Top of Peltonite Seal		-21		
Bottom of Peltonite Seal		-23	Top of Gravel Pack	-23
Top of Gravel Pack		-23	Top of Screen	-25
Bottom of Gravel Pack		-40	← 10x20 S.O2 SAND (7 BAGS)	
Top of Natural Cave-In		/		
Bottom of Natural Cave-In		/		
Top of Groundwater		-30.64	Bottom of Screen	-40
Total Depth of Borehole		-40	Bottom of Borehole	-40

Comments: WATER LEVEL AT 30.64'

Geologist Signature J. Wagnon

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corporation

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

Borehole # mw-02
Well # LD151
Page 1 of 1

Project Name EPFS Drilling
Project Number 62800219 Cost Code 35
Project Location T30-R9-S12-O

Elevation _____
Borehole Location LAT 0-21 Line Drip
GWL Depth 30.64
Logged By J. Wagon
Drilled By K. Padilla
Date/Time Started 07/12/00 0858
Date/Time Completed 7/12/00 1050

Well Logged By J. Wagon
Personnel On-Site R. Lefebvre
Contractors On-Site None
Client Personnel On-Site None
Drilling Method 4 1/4 ID HAS 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: NDU BZ BH S			Drilling Conditions & Blow Counts
0										
5										
0903	1	5-10	13"	0-7' BROWN, FINE LOOSE, DRY SAND.					1.0 ppm	10 COUNTS
10										
0907	2	10-15	13"	7-12' AS ABOVE					0.9 ppm	8 COUNTS
15										
20										
0913	3	20-25	12"	17-22' AS ABOVE					0.7 ppm	7 COUNTS
25										
										PID = 0.00
30										
0924	4	30-35	9"	27-32' TOP 4" AS ABOVE; BOTTOM 5" FINE - CSE BROWN, VERY MOIST SAND.					0.4 ppm	8 COUNTS
35										
40										
				TD=40' BGS						

Comments: DRILL WENT QUICKLY + SMOOTHLY. GW AT 33'

Geologist Signature

J. Wagon

MONITORING WELL INSTALLATION RECORD

Philip Services Corporation

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

Borehole # MW-03

Well # LD 151

Page 1 of 1

Project Name EPFS Drilling
Project Number 62800219 Cost Code 35
Project Location T30-R9-S12-O

Elevation _____
Well Location LAT 0-21 Line Drip
GWL Depth 31.38
Installed By K. Padilla

On-Site Geologist J. Wagnon
Personnel On-Site R. Lefebvre
Contractors On-Site None
Client Personnel On-Site None

Date/Time Started 07/12/00, 1110
Date/Time Completed 7/12/00, 1310

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing		+3		Top of Protective Casing <u>+3</u>
Bottom of Protective Casing		0		Top of Riser <u>+3</u>
Top of Permanent Borehole Casing		0		Ground Surface <u>0</u>
Bottom of Permanent Borehole Casing		-40		
Top of Concrete		+0.04		← QUIK GEL (1 BAG)
Bottom of Concrete		0		← ZIA TYPE I-II CEMENT (5 BAGS)
Top of Grout		0		
Bottom of Grout		-21		
Top of Well Riser		0		
Bottom of Well Riser		-40		
Top of Well Screen		-25		
Bottom of Well Screen		-40		
Top of Peltonite Seal		-21		
Bottom of Peltonite Seal		-23		
Top of Gravel Pack		-23		Top of Seal <u>-21</u>
Bottom of Gravel Pack		-40		← 3/8 HOLE PLUG (1 BAG)
Top of Natural Cave-In				Top of Gravel Pack <u>-23</u>
Bottom of Natural Cave-In				Top of Screen <u>-25</u>
Top of Groundwater		-31.38		
Total Depth of Borehole		-40		← 10x20 SiO ₂ SAND (7 BAGS)
				Bottom of Screen <u>-40</u>
				Bottom of Borehole <u>-40</u>

Comments: Water level at 31.38'

Geologist Signature

J. Wagnon

Philip Environmental Services Corporation

Borehole # MW-03
Well # LD-151
Page 1 of 1

Elevation _____
Borehole Location LAT 0-21 Line Drip
GWL Depth 31.38
Logged By J. Wagnon
Drilled By K. Padilla
Date/Time Started 07/12/00 1110
Date/Time Completed 07/12/00 1310

Well Logged By	J. Wagnon
Personnel On-Site	R. Lefebvre
Contractors On-Site	None
Client Personnel On-Site	None

Drilling Method 4 1/4 ID HAS 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: NDU			Drilling Conditions & Blow Counts
							BZ	BH	S	
0										
5										
10										
11-16	1	10'-8"	8"	7-12' FINE TO (-) CSE, BROWN, LOOSE DRY SAND.					0.4 ppm	14 COUNTS
15										
20										
21-26	2	32'-35'	13"	17-22' FINE, BROWN, LOOSE DRY SAND					0.0 ppm	12 COUNTS
25										
30										PID=0.0 ppm
31-36	3	30'-35'	14"	27-32' FINE TO CSE MOIST, BROWN SANDSTONE 1" GREY/BLEU MOIST SAND					0.2 ppm	15 COUNTS
35										
40	CUTTINGS			DK. BROWN, MOIST, ODOR, FINE TO CSE						← PID=178 ppm

Comments:

Comments: AID OF BOTTOM CUTTINGS = 178ppm @ 11:49. 318ppm AFTER
= 318 AT 12:01. DRILL WENT SMOOTHLY + EASILY SITTING IN BAG

Geologist Signature

Jean Wagner