

3R - 197

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

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services
Pit Project Groundwater Report
Annual Report
Volume IV (Sites on Navajo Owned Land)

March 2001

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 62800398



197

EPFS GROUNDWATER PITS 2000 ANNUAL GROUNDWATER REPORT

JENNAPAH #1
Meter/Line ID - 71816

SITE DETAILS

Legals - Twn: 28N Rng: 9W Sec: 36 Unit: H
NMOCD Hazard Ranking: 40 Land Type: NAVAJO
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: May-94 Excavation: Jun-94 (70 cy) Re-Excavation: Nov-95 (234 cy)
Soil Boring: Feb-97 Monitor Well: Feb-97 Quarterly Sampling Initiated: Jun-97
ORC Nutrient Injection: Jul-98
Additional Monitor Wells: May-99

2000 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring at MW-1 continued through 2000 and annual groundwater monitoring was completed at MW-2 and MW-3.

Additional Monitoring Wells - The temporary wells drilled in 1999 were completed.

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 in Attachment 1.

SITE MAP

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

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

The temporary monitor wells, MW-2 and MW-3, were completed January 30, 2001. Well completion diagrams are included as Attachment 2.

DISPOSITION OF GENERATED WASTES

There were no generated wastes at this site in 2000.

ISOCONCENTRATION MAPS

Isoconcentration maps was generated for benzene and total xylenes and are included as Figures 2 and 3.

CONCLUSIONS

Analytical results of groundwater samples collected from MW-1 show levels of hydrocarbon constituents below New Mexico groundwater standards for all constituents during the first two quarters of 2000. The levels of all constituents have increased during the last half of 2000. During the last two-quarters that MW-1 was sampled, a clear, phase separated liquid has been observed in the well. An increase in the analytes have been observed, however the samples collected from this well are not representative of a hydrocarbon product

EPFS GROUNDWATER PITS

2000 ANNUAL GROUNDWATER REPORT

Monitor wells MW-2 and MW-3 are below detection limits for all BTEX constituents. A phase-separated liquid has not been observed in either of these wells. The groundwater gradient is to the northwest at this site (Figure 1).

Since this site is on Navajo land, EPFS assumes the Navajo Environmental Protection Agency has jurisdiction of this site and will either approve or deny closure of this site upon submittal.

RECOMMENDATIONS

- Quarterly sampling will continue at MW-1, pending evaluation of the phase separated liquid, until analytical results show hydrocarbon constituents are below the NMWQCC groundwater standards for four consecutive quarters.
- If the presence of a phase separated liquid is confirmed a product recovery system will be installed on MW-1.
- Monitor wells MW-2 and MW-3 will be sampled annually until the site is approved for closure.
- EPFS will continue to work with the operator of this site.
- Following approval for closure, MW-1, MW-2, and MW-3 will be abandoned using OCD approved abandonment procedures.

Table 1

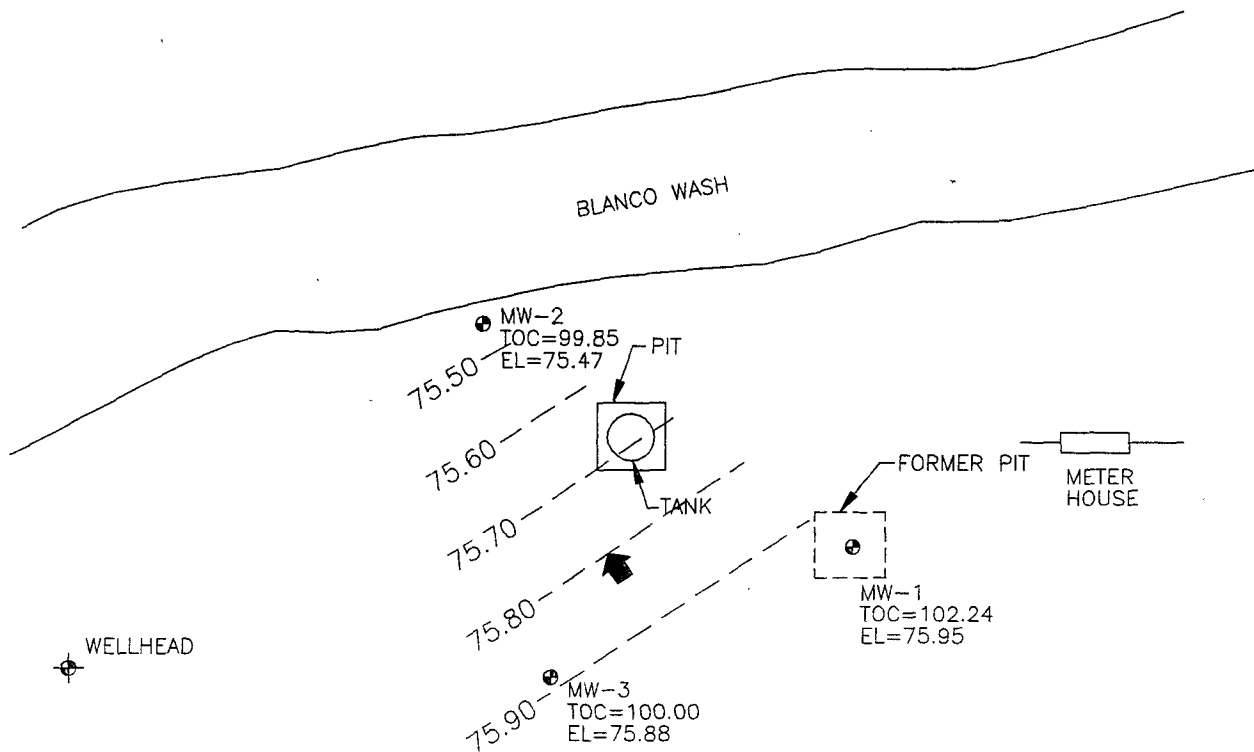
March 2001

Sample #	Meter / Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX (PPB)
JEN-0003-MW01	71816	JENNAPAH #1	3/16/00	1	Sample 4 - 12th Quarter	= 1.3	= 32	= 58	= 470	561.3
JEN-0006-MW01	71816	JENNAPAH #1	6/12/00	1	Sample 4 - 13th Quarter	< 2.5	= 18	= 52	= 430	500
JEN-0009-MW01	71816	JENNAPAH #1	9/25/00	1	Sample 4 - 14th Quarter	= 41	= 350	= 300	= 2,400	3,091
JEN-0012-MW01	71816	JENNAPAH #1	12/12/00	1	Sample 4 - 15th Quarter	= 210	= 1,200	= 1,900	= 14,000	17,310
JEN-0101-MW02	71816	JENNAPAH #1	1/29/01	2	Sample 1 - 2nd Annual	< 0.5	< 0.5	< 0.5	< 0.5	ND
JEN-0101-MW03	71816	JENNAPAH #1	1/29/01	3	Sample 1 - 2nd Annual	< 0.5	< 0.5	< 0.5	< 0.5	ND

ND - No detectable levels

Sample 1 - Annual Sampling

Sample 4 - Quarterly Sampling



LEGEND

- MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER
- TOC TOP OF CASING ELEVATION
- EL GROUNDWATER ELEVATION
- ➔ APPROXIMATE GROUNDWATER GRADIENT
- 77.1--- GROUNDWATER POTENTIOMETRIC SURFACE

NOTE: Well locations are to scale, production equipment location and dimensions are approximate.

0 40
FEET



COL 628\00219BN-004

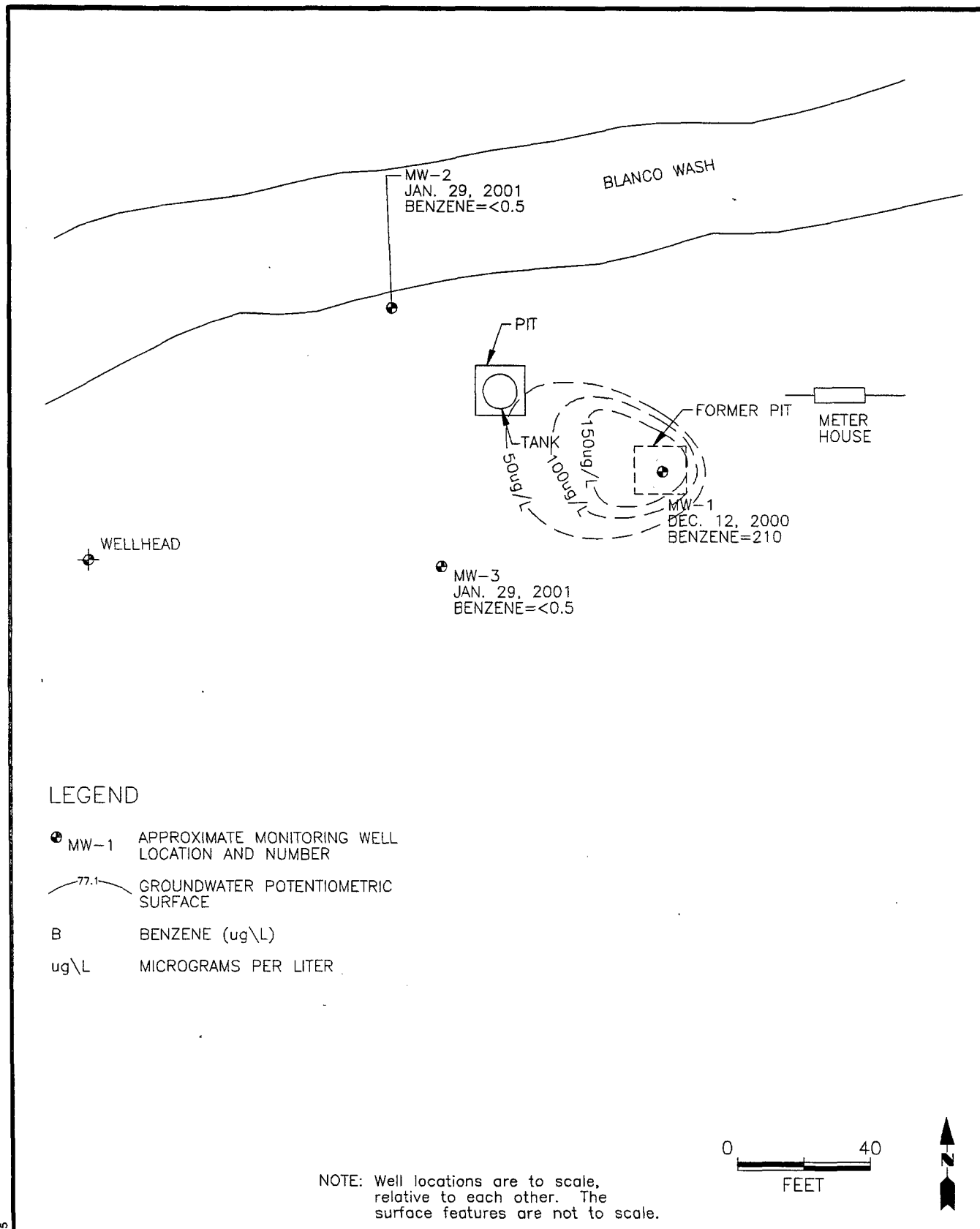


TITLE:
JENNEPAH #1
METER 71816
JANUARY 29, 2001

DWN: TMM	DES: LW
CHKD: LW	APPD: MN
DATE: 2/19/01	REV.: 0

PROJECT NO.: 62800219
EPFS GW PITS

FIGURE 1



LEGEND

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

COL 62800219BN-005



TITLE:

JENNEPAH #1 METER 71816
JAN. 29, 2001 ISOCONCENTRATION
MAP - BENZENE

DWN:

TMM

DES.:

LW

PROJECT NO.:

62800219

CHKD:

LW

APPD:

MN

DATE:

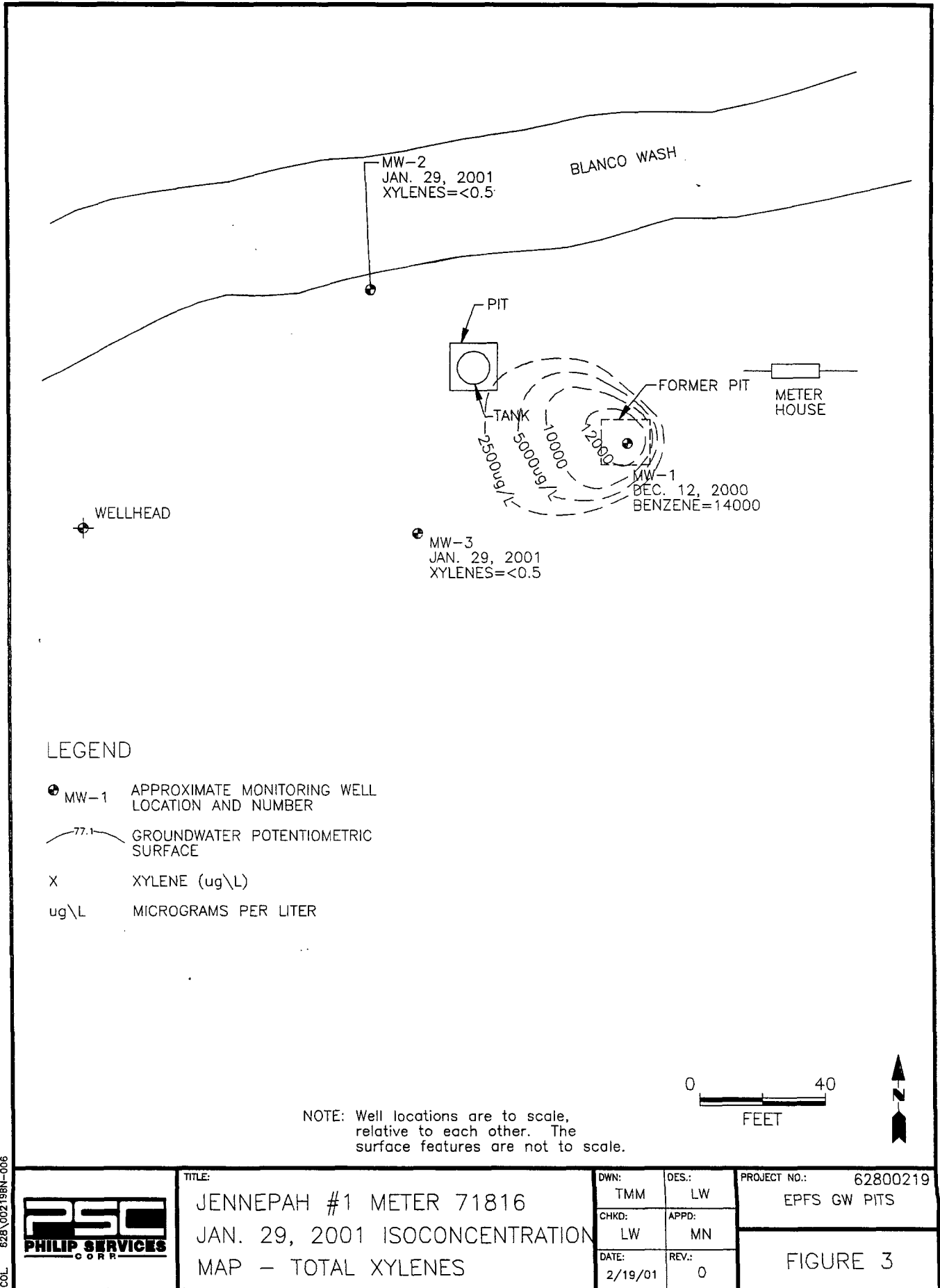
2/19/01

REV.:

0

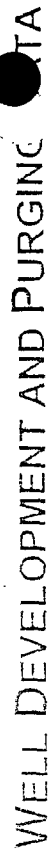
EPFS GW PITS

FIGURE 2



ATTACHMENT 1

2000 GROUNDWATER ANALYTICAL

☐ Develop. ☒ Perfume.Page 1 of 1

Serial No. WDPD.

Project Name EPFS QUARTERLY SAMPLING

Project Manager R. Thompson

Project No. 62800107

Client Company: EL PASO FIELD SERVICES

Site Address RURAL SAN JUAN Co.

Phase.Task No.

Development Criteria

~~3~~ 3 to 5 Casing Volumes of Water Removal

☒ Stabilization of Indicator Parameters

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 34.28 TOR

Initial Depth to Water (feet)	26.08	70.2
-------------------------------	-------	------

Height of Water Column in Well (feet) 8.2

Diameter (inches): Well 4" Gravel Pack

Methods of Development

Bailer

☐ Centrifugal ^{24.5} ☒ Bottom Valve

☐ Submersible ☐ Double Check Valve

☐ Peristaltic ☐ Stainless-steel Kemmerer

☐ Other

Instruments

☒ pH Meter

☐ DO Monitor

☒ Conductivity Meter

☒ Temperature Meter☐ Other

Serial No. (If applicable)

Hydroxyl

☐ DO Monitor

H40AC

HYDAC

☐ Other

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

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

Comments SAMPLED AT 1325. COLLECTED A DUPLICATE SAMPLE. COC # C2513

Developer's Signature(s) Peter Thompson

Date 3/16/00

Reviewer RT Date 3/16/00



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2513

Project Name <u>EPFS QUARTERLY SAMPLING</u>		Type of Analysis and Bottle	
Project Number <u>62800107</u> Phase . Task		Total Number of Bottles	
Samplers <u>R. Thompson</u>		Type of Analysis and Bottle	
Laboratory		Type of Analysis and Bottle	
Name <u>Pinnacle Labs</u>		Type of Analysis and Bottle	
Location <u>Albuquerque, NM</u>		Type of Analysis and Bottle	
Sample Number (and depth)	Date	Time	Matrix
JEN-0003-MW01	3/16/00	1325	H ₂ O
JEN-0003-MW51	3/16/00	1330	H ₂ O
TRIP BLANK	3/10/00	1640	H ₂ O
Comments			
JENNAHAN #1			
7/18/16			
JENNAHAN #1			
7/18/16			

Relinquished by:		Received By:	
Signature	Date	Signature	Date
<u>Robert Thompson</u>	<u>3/16/00</u>		<u>1640</u>

Samples Iced: ☒ Yes ☐ No		Carrier: <u>GREY HOUND</u>	
Preservatives (ONLY for Water Samples)		Shipping and Lab Notes: <u>NEED RESULTS BY 3/24/00!</u>	
☐ Cyanide		Airbill No. <u>GLI 160 665066</u>	
☒ Volatile Organic Analysis			
☐ Metals			
☐ TPH (418.1)			
☐ Other (Specify)			
☐ Other (Specify)			



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

Pinnacle Lab ID number 003057
March 22, 2000

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON

On 03/17/00 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.

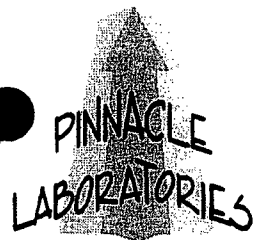
If you have any questions or comments, please do not hesitate to contact us at (505)344-3777.

Kimberly D. McNeill
Project Manager

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	: 003057
PROJECT #	: 62800107	DATE RECEIVED	: 03/17/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 03/22/00
PIN			
ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	JEN-0003-MW01	AQUEOUS	03/16/00
02	JEN-0003-MW51	AQUEOUS	03/16/00
03	TRIP BLANK	AQUEOUS	03/10/00



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

GAS CHROMATOGRAPHY RESULTS

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

PINNACLE I.D.: 003057

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JEN-0003-MW01	AQUEOUS	03/16/00	NA	03/20/00	1
02	JEN-0003-MW51	AQUEOUS	03/16/00	NA	03/20/00	1
03	TRIP BLANK	AQUEOUS	03/10/00	NA	03/20/00	1

PARAMETER	DET. LIMIT	UNITS	JEN-0003-MW01	JEN-0003-MW51	TRIP BLANK
BENZENE	0.5	UG/L	1.3	2.8	< 0.5
TOLUENE	0.5	UG/L	32	48	< 0.5
ETH BENZENE	0.5	UG/L	58	55	< 0.5
TOT XYLENES	0.5	UG/L	470	520	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 112 113 112
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 003057
BLANK I. D.	: 032000	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 03/20/00
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 (%) 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 QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 003057
MSMSD #	: 003055-01	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 03/20/00
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING	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	21.3	107	20.4	102	4	(80 - 120)	20
TOLUENE	<0.5	20.0	20.7	104	19.3	97	7	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.2	106	21.7	109	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	61.4	102	62.6	104	2	(80 - 120)	20

CHL T 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



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401
(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 2513

Project Name		EPFS QUARTERLY SAMPLING	
Project Number		62800107 Phase 1 Task	
Samplers		R. THOMPSON	
Laboratory		Name PINNACLE LABS	
		Location ALBUQUERQUE, NM	
Sample Number (and depth)	Date	Time	Matrix
JEN - 0003-MW01	3/16/00	1325	H ₂ O
JEN - 0003-MW51	3/16/00	1330	H ₂ O
TRIP BLANK	3/10/00	1640	H ₂ O
Total Number of Bottles			
Type of Analysis and Bottle			
Comments			
JENNA PAH #1			
718116			
JENNA PAH #1			
718116			

Relinquished by:

Signature	Date	Time	Signature	Date	Time
Robert Thompson	3/16/00	1640	[Signature]	3/17/00	12:40p

Received By:

Samples Iced:	Yes	No	Carrier:	Airbill No.
Preservatives (ONLY for Water Samples)			GREY HOUND	GLI 160 6650661
☐ Cyanide			Shipping and Lab Notes: NEED RESULTS BY 3/24/00! RCVS on ice 3.8°C	
☐ Sodium hydroxide (NaOH)				
☒ Volatile Organic Analysis				
☐ Metals				
☐ TPH (418.1)				
☐ Other (Specify)				
☐ Other (Specify)				

Well Number: MW-01

☐ Developing

WELL DEVELOPMENT AND PURGING

Page 1 of 1

Serial No. WDPD-

Project Name EPFS QUARTERLY SAMPLING Project Manager R. THOMPSON Project No. 62800107

Client Company: EL PASO FIELD SERVICES

Site Name JENNÉPAH # 1 (# 71816)
Site Address RURAL SAN JUAN CO.

Development Criteria

~~3~~ 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) 34.28 TOR

Initial Depth to Water (feet) 6.08 TOR

Height of Water Column in Well (feet) 8.20

Diameter (inches): Well 4" Gravel pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.20	5.35 x 3	16.05
Gravel Pack			
Drilling Fluids			
Total			16.05

Water Removal Data

[illegible]

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

Comments	Sampled for BREX at
	1312

Send Nav. EPA analytical results.

Developer's Signature(s) Jean Wagner

Date 6/12/00

Reviewer RT Date 6/19/00

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

PINNACLE
LABORATORIES

Pinnacle Lab ID number **006061**
June 19, 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 06/15/00 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

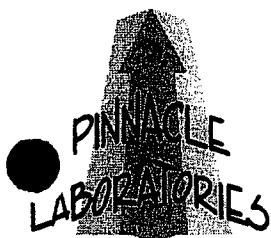
MR: jt

Enclosure



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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 006061
PROJECT #	: 62800107	DATE RECEIVED	: 06/15/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/19/00
PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	JEN-0006-MW01	AQUEOUS	06/12/00



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.: 006061

SAMPLE	DATE	DATE	DATE	DIL.		
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JEN-0006-MW01	AQUEOUS	06/12/00	NA	06/16/00	5

PARAMETER	DET. LIMIT	UNITS	JEN-0006-MW01
BENZENE	0.5	UG/L	< 2.5
TOLUENE	0.5	UG/L	18
ETHYLBENZENE	0.5	UG/L	52
TOTAL XYLENES	0.5	UG/L	430

SURROGATE:

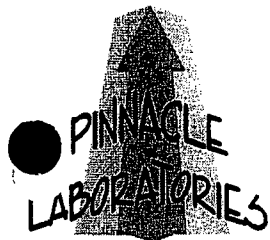
BROMOFLUOROBENZENE (%)

116

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.	: 006061
BLANK I. D.	: 061500	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/15/00
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 (%) 107

SURROGATE LIMITS: (80 - 120)

CHEMICAL 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.	: 006061
BLANK I. D.	: 061600	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 06/16/00
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 (%)	113
------------------------	-----

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 QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 006058-05
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 006061
DATE EXTRACTED : NA
DATE ANALYZED : 06/15/00
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	18.2	91	17.9	90	2	(80 - 120)	20
TOLUENE	<0.5	20.0	19.9	100	20.0	100	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.2	101	20.3	102	0	(80 - 120)	20
TOTAL XYLENES	0.9	60.0	61.6	101	61.7	101	0	(80 - 120)	20

CHEMICAL NOTES:
N/A

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

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

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 2573

0060

[illegible]

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<i>[Signature]</i>	6/14/00	1140	<i>[Signature]</i>	6/15/00	9:22

Samples Iced:

Samples Iced: ☒ Yes ☐ No

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

Airbill No. GLI1606918511

160 C, still cool
13.9
sp

Project Name EPS quarterly sampling

Project Manager R Thompson

Project No. 628 00 107

Client Company EPFS

Phase/Task No. 0301

Site Name JENNA PAH #1

Site Address Rural San Juan Co.

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 34.27
Initial Depth to Water (feet) 26.53
Height of Water Column in Well (feet) 7.74
Diameter (inches): Well Gravel Pack

Item	Water Volume in Well Cubic Feet	Gallons	Gallons to be Removed
Well Casing	<u>7.74</u>	<u>5.05 x 3</u>	<u>15.15</u>
Gravel Pack			
Drilling Fluids			
Total			<u>15.15</u>

Methods of Development

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

Instruments

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

Serial No. (if applicable)

Water Disposal

Kutz Separator Bloomfield NM.

Water Removal Data

Date	Time	Development Method	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volumes Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (microhm/cm)	Dissolved Oxygen (mg/l)	Comments
						Incremental	Cumulative	Incremental	Cumulative					
09-25-00	11:53	X				3	3			17	6.59	1190		Flow production
	11:59	X				3	6			15	6.52	1360		"
	12:04	X				3	9			15.9	6.51	1400		"
	12:11	X				3	12			15.9	6.25	1370		"
	12:17	X				3.25	15.25			15.8	6.15	1410	2.5	No Change
	12:26													

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

Comments Sampled for BTEX 1223 Top of product 26.19

Developer's Signature(s) Dr. A. May

Date 09-25-00

Reviewer

Date

Chain of Custody Record

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

COC Serial No. C 2462

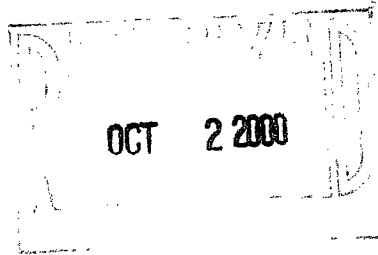
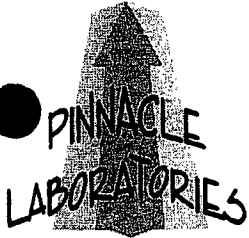
Project Name		Project Number		Phase, Task		Total Number of Bottles		Type of Analysis and Bottle		Comments	
Laboratory		Name		Location		Sample Number (and depth)		Date		Time	
Samplers		Matrix		Date		Time		Matrix		Comments	
EpiF5 quarterly Sampling		2800107		Phase, Task 0301		2		X		Jennaph #1	
C. Macer		H ₂ O		09-25-01		1223		H ₂ O			
Pinnacle		H ₂ O		09-25-01		1406		H ₂ O			
ALBS NM		Trip Blank									

Relinquished by:

Received By:

	Signature	Date	Time	Signature	Date	Time
	Mrs. A. M. M.	09-25-00	15 00			

Carrier: <i>Greyhound</i> Shipping and Lab Notes:	Airbill No. <i>GLT 160919687</i>		
<table border="0"> <tr> <td data-bbox="1333 329 1379 608"> Samples Iced: ☒ Yes ☐ No </td> <td data-bbox="1333 608 1379 1962"> 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) <i>H₂Cl₂</i> ☐ Other (Specify) </td> </tr> </table>		Samples Iced: ☒ Yes ☐ No	Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418:1) Sulfuric acid (H ₂ SO ₄) ☒ Other (Specify) <i>H₂Cl₂</i> ☐ Other (Specify)
Samples Iced: ☒ Yes ☐ No	Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418:1) Sulfuric acid (H ₂ SO ₄) ☒ Other (Specify) <i>H₂Cl₂</i> ☐ Other (Specify)		



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

Pinnacle Lab ID number **009131**
September 29, 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 09/26/00 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	: 009131
PROJECT #	: 62800107	DATE RECEIVED	: 09/26/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 09/29/00
PIN			DATE
ID. #	CLIENT DESCRIPTION	MATRIX	COLLECTED
01	JEN-0009-MW01	AQUEOUS	09/25/00
02	TRIP BLANK	AQUEOUS	09/25/00



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.: 009131

SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JEN-0009-MW01	AQUEOUS	09/25/00	NA	09/27/00	20
02	TRIP BLANK	AQUEOUS	09/25/00	NA	09/27/00	1

PARAMETER	DET. LIMIT	UNITS	JEN-0009-MW01	TRIP BLANK
BENZENE	0.5	UG/L	41	< 0.5
TOLUENE	0.5	UG/L	350	< 0.5
ETHYLBENZENE	0.5	UG/L	300	< 0.5
TOTAL XYLENES	0.5	UG/L	2400	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

112

93

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.	: 009131
BLANK I. D.	: 092700	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 09/27/00
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 (%) 103
SURROGATE LIMITS: (80 - 120)
CHEMICAL 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 # : 009128-02
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

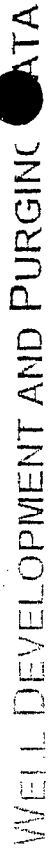
PINNACLE I.D. : 009131
DATE EXTRACTED : NA
DATE ANALYZED : 09/27/00
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	18.5	93	19.4	97	5	(80 - 120)	20
TOLUENE	<0.5	20.0	20.4	102	21.0	105	3	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	21.1	106	21.5	108	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	63.6	106	64.4	107	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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



Page 1 of 1

Project No. 62800107

Phase.Task No 0301

Rural San Juan Co

Serial No. (If applicable)

10/10/11

பலம்

☐ DO Monitor

With 100,000 in yield
Rolling to be

[illegible]

Well	779	508x3	15.24
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1921

[illegible]

575

Water Disposal

Number with the Paper (1-20)	Height of the Paper (cm)	Width of the Paper (cm)	Area of the Paper (cm ²)	Volume of the Paper (cm ³)	Weight of the Paper (g)	Thickness of the Paper (mm)	Comments
3	10.3	6.13	1770	1770	1770	1770	product cloudy
3	12.7	6.18	1880	1880	1880	1880	9
3	12.6	5.96	1880	1880	1880	1880	9
3	12.5	5.75	1890	1890	1890	1890	9
3	12.9	5.88	1920	1920	1920	1920	no change

Circle the date and time that the development criteria are met.
comments Sampled for BTEX 11/48 product level 26.24 product thickness .24

11018 12-12-00

Reviewer RT Date 12/18/00

Chain of Custody Record

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

COC Serial No. C 2815

Relinquished by:		Received By:		
Signature	Date	Time	Signature	Time
<i>[Signature]</i>	12-13-01	11:30		

Airbill No. 6LI 1606919974

Carrier: 9803
Shipping and Lab Notes:

Samples Iced: ☒ Yes ☐ No

Preservatives (ONLY for Water Samples)

☐ Cyanide Sodium hydroxide (NaOH)

☐ Volatile Organic Analysis Hydrochloric acid (HCl)

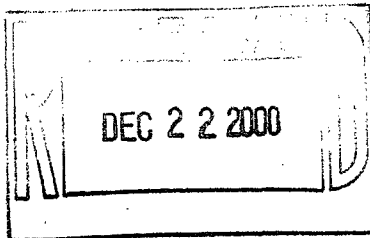
☐ Metals Nitric acid (HNO₃)

☐ TPH (418.1) Sulfuric acid (H₂SO₄)

☒ Other (Specify) H₂SO₄

☐ Other (Specify) _____

PINNACLE
LABORATORIES



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

Pinnacle Lab ID number
December 19, 2000

012059

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

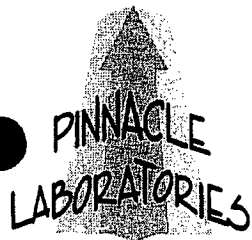
On 12/14/00 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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	: 012059
PROJECT #	: 62800107	DATE RECEIVED	: 12/14/00
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 12/19/00
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
012059 - 01	JEN-0012-MW 01	AQUEOUS	12/12/00



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

GAS CHROMATOGRAPHY RESULTS

EST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 012059

SAMPLE		DATE	DATE	DATE	DIL.	
S. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
1	JEN-0012-MW 01	AQUEOUS	12/12/00	NA	12/15/00	50
PARAMETER		DET. LIMIT	UNITS	JEN-0012-MW 01		
ENZENE		0.5	UG/L	210		
OLUENE		0.5	UG/L	1200		
THYLBENZENE		0.5	UG/L	1900		
OTAL XYLENES		0.5	UG/L	14000		

UR DATE:

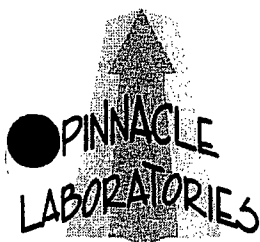
ROM OF FLUOROBENZENE (%)

106

URROGATE LIMITS (80 - 120)

HEMIST NOTES:

/A



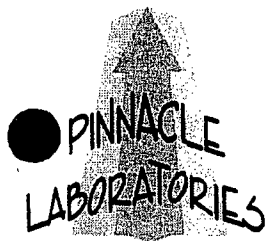
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 012059
BLANK I. D.	: 121500	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 12/15/00
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 (%) 107
SURROGATE LIMITS: (80 - 120)
CHEM. 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

EST : EPA 8021 MODIFIED
SMSD # : 012057-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 012059
DATE EXTRACTED : NA
DATE ANALYZED : 12/15/00
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	20.8	104	21.1	106	1	(80 - 120)	20
1,2-DICHLOROBENZENE	<0.5	20.0	19.6	98	19.5	98	1	(80 - 120)	20
1,4-DICHLOROBENZENE	<0.5	20.0	20.8	104	20.9	105	0	(80 - 120)	20
METHYL XYLENES	<0.5	60.0	60.6	101	61.1	102	1	(80 - 120)	20

CHEMIST NOTES:
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



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401
(505) 326-2262 Phone
(505) 326-2388 FAX

012059

COC Serial No. C 2815

Project Name <i>EPFS Quarterly Sampling</i>		Type of Analysis and Bottle		Total Number of Bottles	Comments
Project Number <i>62800107 Phase Task 0301</i>		BTEX 8021 Lab ID#			
Samplers <i>C. Maez</i>	Name <i>PINNACLE</i>				
Laboratory	Location <i>ALBQ NM</i>				
Sample Number (and depth)	Date	Time	Matrix		
<i>JEN-0012-MW 01</i>	<i>12-12-00</i>	<i>1148</i>	<i>H₂O</i>	<i>2</i>	<i>X</i>
<i>01</i>					
<i>JENNIFER #1 (31816)</i>					

Relinquished by:

Received By:

Signature <i>Brian A May</i>	Date <i>12-13-00</i>	Time <i>1130</i>	Signature <i>JENNIFER JAMES</i>	Date <i>12/14/00</i>	Time <i>0915</i>
---------------------------------	-------------------------	---------------------	------------------------------------	-------------------------	---------------------

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) *HSCl*
☐ Other (Specify)

Carrier: *Greyhound*
Shipping and Lab Notes:

Rec'd @ 4°

Airbill No. *641 1606919974*



Well Number MW 02

WELL DEVELOPMENT AND PURGING DATA

☒ Admission
☐ Medical Record

Page 1 of 1

Serial No. WDPD-

Project Name EPFS Annual Sampling

Project Manager R Thompson

Project No. 62800/07

Client Company El Paso Field Services

Phase.Task No. 0301

File Name TENVÉDAH #1 (71816)
File Address Rural San Juan CO

Development Criteria

3.10.5 Casing Volumes of Water Removal

Stabilization of Indicator Parameters

☐ Other

Methods of Development

Product	Price	Quantity	Total
Pump	100	10	1000
Boiler	200	5	1000

☐ Centrifugal ☒ Bottom Valve

☐ Commagat ☐ Bottom Valve

☐ Submersible ☐ Double Check Valve

☐ Peristaltic ☐ Stainless-steel Kemmerer☐ Other

Water Volume Control

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----

Initial Depth: 4.00 m

Height of Water Column in Vial (feet) 5.34

Diagram (a) is a Venn diagram with two overlapping circles labeled A and B. The region of A that does not overlap with B is shaded. The region of B that does not overlap with A is also shaded. The intersection of A and B is unshaded.

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	3.39	0.87 x 3	2.61
Gravel Pack			
Drilling Fluids			
Total			2.61

Water Removal Data

[illegible]

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

Comments SAMPLED for BTex 1450

Developer's Signature(s) *Robt M*

10-28-01-29-01

Reviewer RT Date 1/31/01

Chain of Custody Record

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

COC Serial No. C 2845

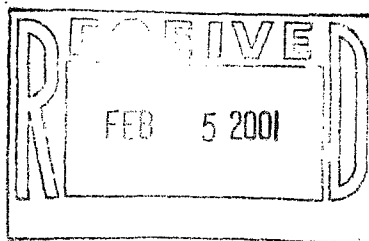
Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<i>Ch. A. M...</i>	01.07.17				

Samples Iced: ☒ Yes ☐ No Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☐ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☒ Other (Specify) <u>HSCA 2</u> ☐ Other (Specify) _____	Carrier: <u>GLT 4</u> Airbill No. <u>GLT 1606919941</u> Shipping and Lab Notes:
---	--

PINNACLE
LABORATORIES



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

Pinnacle Lab ID number **101088**
February 01, 2001

PHILIP ENVIRONMENTAL
4000 MONROE ROAD
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS ANNUAL SAMPLING
Project Number 62800107

Attention: ROBERT THOMPSON/SCOTT POPE

On 01/31/01 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.

A handwritten signature in black ink, appearing to read "H. Mitchell Rubenstein".

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

PINNACLE
LABORATORIES

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

CLIENT	: PHILIP ENVIRONMENTAL	PINNACLE ID	: 101088
PROJECT #	: 62800107	DATE RECEIVED	: 01/31/01
PROJECT NAME	: EPFS ANNUAL SAMPLING	REPORT DATE	: 02/01/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
101088 - 01	REM-0101-MW 02	AQUOEUS	01/29/01
101088 - 02	REM-0101-MW 03	AQUOEUS	01/29/01
101088 - 03	JEN-0101-MW 03	AQUOEUS	01/29/01
101088 - 04	JEN-0101-MW S3	AQUOEUS	01/29/01
101088 - 05	JEN-0101-MW 02	AQUOEUS	01/29/01
101088 - 06	TRIP BLANK	AQUOEUS	01/29/01



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 ANNUAL SAMPLING

PINNACLE I.D.: 101088

SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	REM-0101-MW 02	AQUEOUS	01/29/01	NA	01/31/01	1
02	REM-0101-MW 03	AQUEOUS	01/29/01	NA	01/31/01	1
03	JEN-0101-MW 03	AQUEOUS	01/29/01	NA	01/31/01	1

PARAMETER	DET. LIMIT	UNITS	REM-0101-MW 02	REM-0101-MW 03	JEN-0101-MW 03
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%) 99 100 101

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

2709-D Pan American Freeway
Albuquerque, New Mexico 8710
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS ANNUAL SAMPLING

PINNACLE I.D.: 101088

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	JEN-0101-MW S3	AQUEOUS	01/29/01	NA	01/31/01	1
05	JEN-0101-MW 02	AQUEOUS	01/29/01	NA	01/31/01	1
06	TRIP BLANK	AQUEOUS	01/29/01	NA	01/31/01	1

PARAMETER	DET. LIMIT	UNITS	JEN-0101-MW S3	JEN-0101-MW 02	TRIP BLANK
BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TOLUENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
E L BENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
TC L XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%) 101 99 102
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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Albuquerque, New Mexico 87107
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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 101088
BLANK I. D.	: 013101	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 01/31/01
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS ANNUAL 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 (%) 100

SURROGATE LIMITS: (80 - 120)

CHEMIST NOTES:

N/A



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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 013101
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS ANNUAL SAMPLING

PINNACLE I.D. : 101088
DATE EXTRACTED : NA
DATE ANALYZED : 01/31/01
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	20.3	102	20.7	104	2	(80 - 120)	20
TOLUENE	<0.5	20.0	18.1	91	18.3	92	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.5	98	19.8	99	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	57.1	95	57.9	97	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

PHILIP



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 2845

101088

Project Name <u>EPFS Annual Sampling</u>		Type of Analysis and Bottle	
Project Number <u>62900107 Phase 1 Task 0301</u>		Total Number of Bottles	
Samplers <u>C. Maerz</u>			
Laboratory			
Name <u>PLANNACH</u>			
Location <u>ALBQ NM</u>			
Sample Number (and depth)	Date	Time	Matrix
REM-0101-MW 02	01-29-01	1150	H ₂ O
REM-0101-MW 03	01-29-01	1245	H ₂ O
JEN-0101-MW 03	01-29-01	1405	H ₂ O
JEN-0101-MW 33	01-29-01	1405	H ₂ O
JEN-0101-MW 02	01-29-01	1450	H ₂ O
TRIP BLANK	01-29-01	1600	H ₂ O

Comments	Type of Analysis and Bottle
Remedial E/AL #1 (25/55)	X
"	X
JENNERAH #1 (71816)	X
"	X
"	X
"	X
"	X

-01
-02
-03
-04
-05
-06

Relinquished by:

Signature <u>Pho A. Maerz</u>	Date <u>01-29-01</u>	Time <u>1700</u>	Signature <u>Matthew H.</u>	Date <u>01-31-01</u>	Time <u>10:00</u>
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Received By:

Samples Iced: ☒ Yes ☐ No	Carrier: <u>Greg Howard</u>	Airbill No. <u>GLI1606919941</u>
Preservatives (ONLY for Water Samples)		
☐ Cyanide Sodium hydroxide (NaOH)		
☐ Volatile Organic Analysis Hydrochloric acid (HCl)		
☐ Metals Nitric acid (HNO ₃)		
☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄)		
☒ Other (Specify) <u>HSCA 2</u>		
☐ Other (Specify)		
Shipping and Lab Notes: <u>on ice @ 6°C</u>		

ATTACHMENT 2

**MONITOR WELL COMPLETION
RECORDS**

MONITORING WELL INSTALLATION RECORD

Phillip Environmental Services Corp.

300 Monroe Road

Birmingham, New Mexico 87401

Phone 312 FAX (505) 326-2388

Borehole # 2
Well # mw-2
Page 1 of 1

Project Name EPFS GW Inv.

Project Number 20990 Phase 100%

Project Location Jennepa H #1

On-Site Geologist P. Cheney

Personnel On-Site K. Padilla, D. Padilla

Contractors On-Site -

Client Personnel On-Site -

Elevation -

Well Location -

BWL Depth 22

Installed By K. Padilla

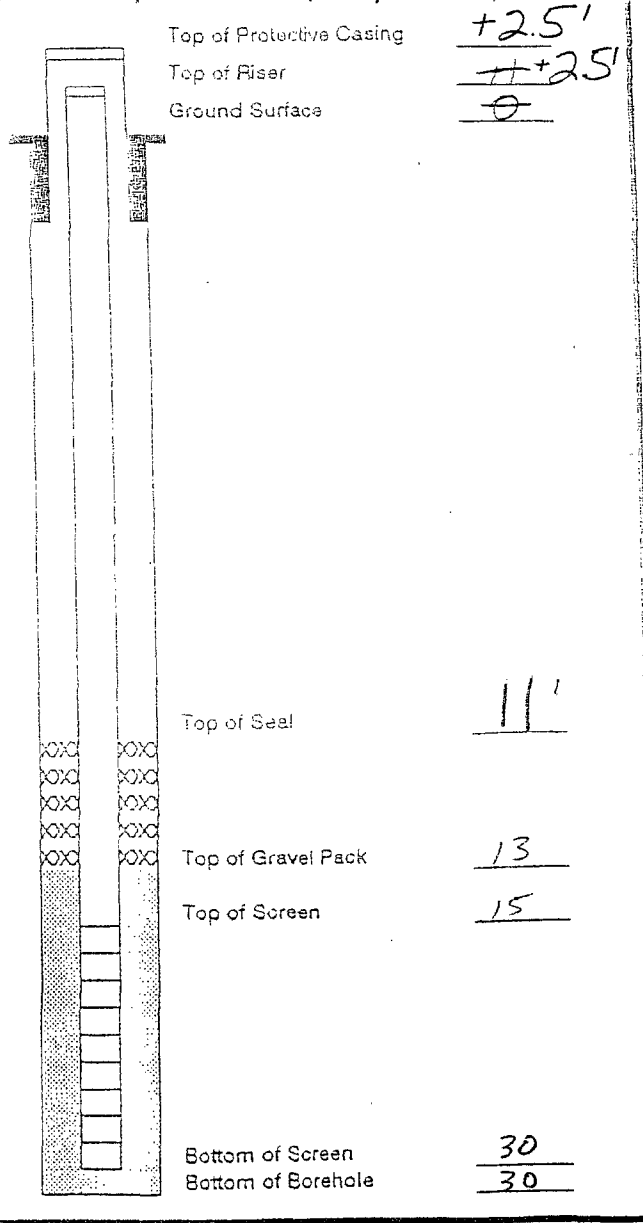
Date/Time Started 5/4/99

Date/Time Completed 5/4/99

Monitor well completed 1/31/01 by D. Padilla

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		+2.5'
Bottom of Protective Casing		-2.5'
Top of Permanent Borehole Casing		+2.5'
Bottom of Permanent Borehole Casing		-30'
Top of Concrete		-
Bottom of Concrete		0
Top of Grout		0
Bottom of Grout		-11'
Top of Well Riser		+1'
Bottom of Well Riser		15'
Top of Well Screen		15'
Bottom of Well Screen		30'
Top of Peltonite Seal		N.A.
Bottom of Peltonite Seal		N.A.
Top of Gravel Pack		13'
Bottom of Gravel Pack		30'
Top of Natural Cave-In		N.A.
Bottom of Natural Cave-In		N.A.
Top of Groundwater		22'
Total Depth of Borehole		30'



Comments: Temporary Completion

Geologist Signature

Paul Cheney

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.

4000 Monroe Road

Farmington New Mexico 87401

(505) 262 FAX (505) 326-2388

Borehole # 3
Well # MW-3
Page 1 of 1

Project Name EPFS GW Inv.

Project Number 20990 Phase 1000

Project Location Jenepah #1

On-Site Geologist P. Cheney

Personnel On-Site K. Padilla, D. Padilla

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location

GWL Depth 23

Installed By K. Padilla

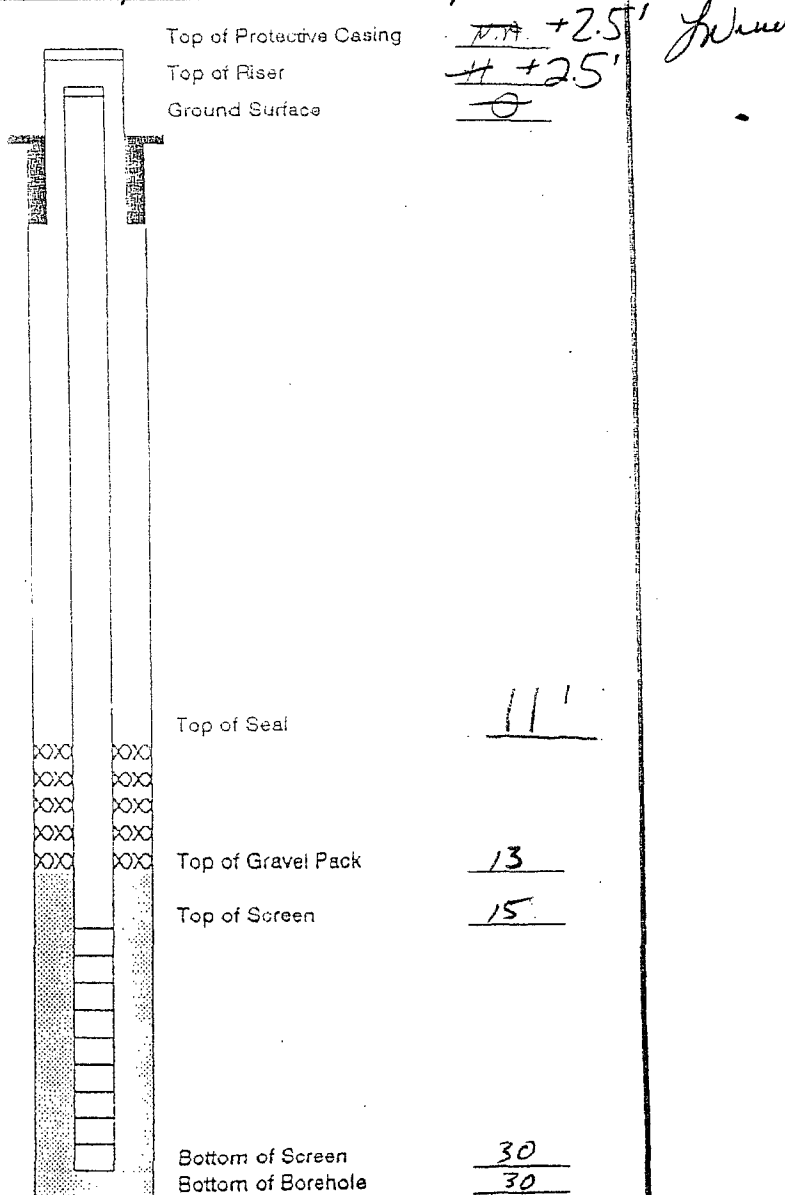
Date/Time Started 5/4/99

Date/Time Completed 5/4/99

Monitor well completed 1/31/01 by D. Padilla

Depths in Reference to Ground Surface

Item	Material	Depth
Top of Protective Casing		+25'
Bottom of Protective Casing		-25'
Top of Permanent Borehole Casing		+25'
Bottom of Permanent Borehole Casing		-30'
Top of Concrete		0'
Bottom of Concrete		0'
Top of Grout		0'
Bottom of Grout		-11'
Top of Well Riser		+1'
Bottom of Well Riser		15'
Top of Well Screen		15'
Bottom of Well Screen		30'
Top of Peltonite Seal		N.A.
Bottom of Peltonite Seal		N.A.
Top of Gravel Pack		13'
Bottom of Gravel Pack		30'
Top of Natural Cave-In		N.A.
Bottom of Natural Cave-In		N.A.
Top of Groundwater		23'
Total Depth of Borehole		30'



Comments: Temporary Completion

Geologist Signature

Paul Cheney