

3R - 197

REPORTS

DATE:

2001

Certified Mail: #7001 1940 0003 1553 8513

February 28, 2002

RECEIVED

MAR 04 2002

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

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 2001 Pit Project Annual Groundwater Report

Dear Mr. Olson:

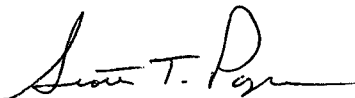
In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 30 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

EPFS has organized the 30 reports (Volumes IA, IB, II and III), reports by land type. Volume IA and IB contain annual reports for sites found on Federal land. Volume II contains Non Federal sites and Volume III contains sites on Navajo land. Of the 30 reports submitted EPFS is requesting closure of three sites located on Navajo lands. Of the three Navajo sites submitted for closure OCD has closed the Charley Pah #4 and the John Charles #8. The Rementa et al #1 has not been closed by either agency. EPFS understands closure of groundwater sites on Navajo land falls under jurisdiction of the Navajo Environmental Protection Agency and original documents have been submitted to them for review. Other Navajo sites are included in the report for your information.

The Jaquez Com. C #1 and Jaquez Com. E #1 site is not included in with this report and will be submitted by the required deadline of April 1, 2002.

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

Sincerely,



Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # 7001 1940 0003 1553 8506**
Mr. Bill Liesse, BLM - w / enclosures (federal sites only), **Certified Mail # 7001 1940 0003 1553 8520**

SAN JUAN BASIN PIT CLOSURES

San Juan Basin, New Mexico

**El Paso Field Services
Pit Project Groundwater Sites
Annual Report
Volume III-Navajo Sites**

March 2002

Prepared for

**El Paso Field Services
Farmington, New Mexico**



MWH

MONTGOMERY WATSON HARZA

EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

NAVAJO SITES VOLUME III

TABLE OF CONTENTS

Site Map

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
95608	Gallegos Canyon Unit #124E	28N	12W	35	N
71816	Jennepah #1	28N	09W	36	H
75155	Ramenta et al #1	27N	09W	13	J
93126	John Charles #8	27N	09W	13	B
71531	Charley Pah #4	27N	09W	12	K



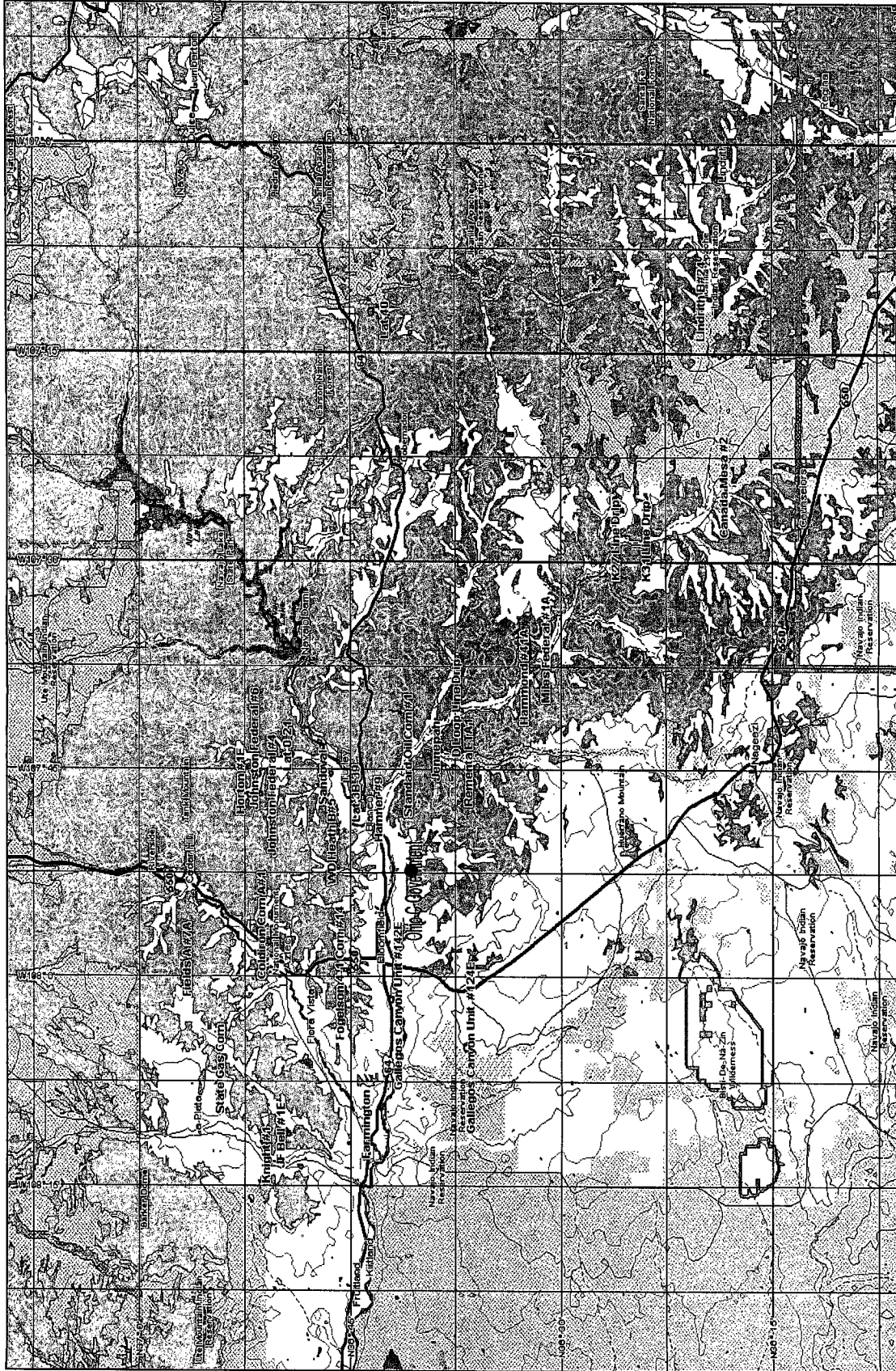
MWH

MONTGOMERY WATSON HARZA

ACRONYMS

B	Benzene
E	Ethylbenzene
EPFS	El Paso Field Services
ft	foot/feet
GWEL	groundwater elevation
ID	identifier
MW	Monitoring Well
PSH	Phase Separated Hydrocarbons
NMWQCC	New Mexico Water Quality Control Commission
T	Toluene
TOC	Top Of Casing
NE	not established
NS	not sampled
ORC	oxygen release compound
OCD	Oil Conservation Division
ppb	parts per billion
µg/L	micrograms per liter
X	Total Xylenes

Groundwater Site Map



3-D TopoQuads Copyright © 1999 DeLorme Vermont, ME 04906 3 mi Scale: 1 : 600,000 Detail: 2.4 Datum: WGS84

EPFS GROUNDWATER PITS 2001 ANNUAL GROUNDWATER REPORT

Jennepah #1

Meter Code: 71816

SITE DETAILS

Legals Twn: 28N Rng: 09W Sec: 36 UNIT: H
NMOCD Haz Ranking: 40 Land Type: Navajo Operator: Amoco Production Company

PREVIOUS ACTIVITIES

Site Assessment: May-94 Excavation: Jun-94 (70cy) Soil Boring: Feb-97 Monitor Well: Feb-97
Geoprobe: NA Additional MWs: May-99 Downgradient MW's: May-99 Replace MW: NA
PSH Removal Initiated: Mar-01 ORC Nutrient Injection: Jun-98 Re-Excavation: Nov-95 (234cy)
Quarterly Initiated: Jun-97 Annual Initiated: NA Quarterly Resumed: NA

2001 ACTIVITY

Groundwater monitoring - Annual groundwater monitoring was complete on MW-2 and 3 for 2001. MW-1 was previously on quarterly monitoring but was switched to product recovery. A skimmer was added to the well in August of 2001.

Phase Separated Hydrocarbons (PSH) Measurements - PSH thickness was monitored throughout 2001. PSH in MW-1 was 0.55 cumulative gallons for 2001.

Specific gravity - A sample was analyzed for Specific Gravity on March 6 and September 5, 2001 and the results were 0.750 g/cc and 0.761 g/cc.

SUMMARY TABLES AND GRAPHS

Groundwater analytical data are presented in Table 1 BTEX and the PSH recovery data is presented in the Product Removal Table. Copies of the Laboratory data sheets and associated quality assurance/quality control data are presented as Attachment 1. Included is a BTEX Data graph for MW-1 and a Free Product Recovery graph for MW-1.

SITE MAP

Site Maps with BTEX concentrations and groundwater elevations are attached.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No new monitor wells were installed at this site for 2001.

DISPOSITION OF GENERATED WASTES

All PSH has been disposed of at the EPFS Kutz Separator in Bloomfield, New Mexico.

EPFS GROUNDWATER PITS 2001 ANNUAL GROUNDWATER REPORT

Jennepah #1

Meter Code: 71816

ISOCONCENTRATION MAPS

No isoconcentration maps were provided for this site.

CONCLUSIONS

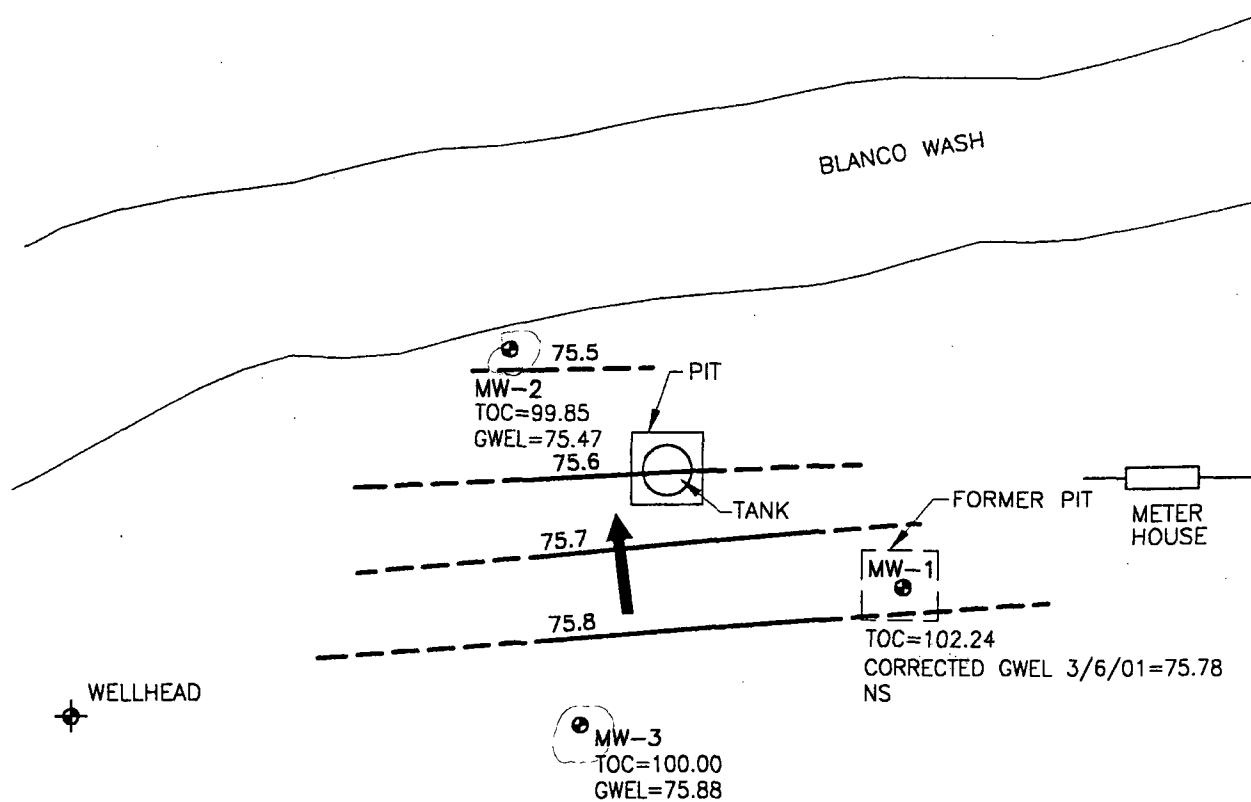
MW-1 had been showing decreasing concentration trends since September 2000. In March of 2001, free phase product was detected in MW-1. A total of 0.55 gallons of free product was recovered in 2001, with a cumulative total of 0.55 gallons. The December 17, 2001 sampling event resulted in a benzene concentration less than the analytical detection limit of 0.5 ppb benzene, in MW-1. The unusual fluctuations in hydrocarbons appear to be related to the rise and fall of the water table. Groundwater flow direction varied from north (January) to west (September)

Both monitoring wells MW-2 and MW-3 were sampled and remain below analytical detection limits.

The impact of sporadic free phase hydrocarbons is presently localized in the immediate vicinity of MW-1.

RECOMMENDATIONS

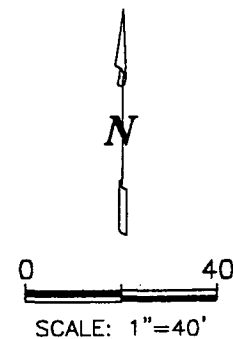
- > Monitor and conduct product removal at MW-1 as needed.
- > Following removal of product, sample MW-1 quarterly until BTEX levels are below New Mexico groundwater standards.
- > Obtain quarterly groundwater elevation measurements and sample monitor wells MW-2 and MW-3 at closure.



LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- B Benzene ($\mu\text{g/L}$)
- T Toluene ($\mu\text{g/L}$)
- E Ethylbenzene ($\mu\text{g/L}$)
- X Total Xylenes ($\mu\text{g/L}$)
- NS Not Sampled
- GWEL Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC Top of Casing
- 75.6 Potentiometric Surface (Approximate & Assumed Where Dashed)
- Direction of Groundwater Flow (Estimated)

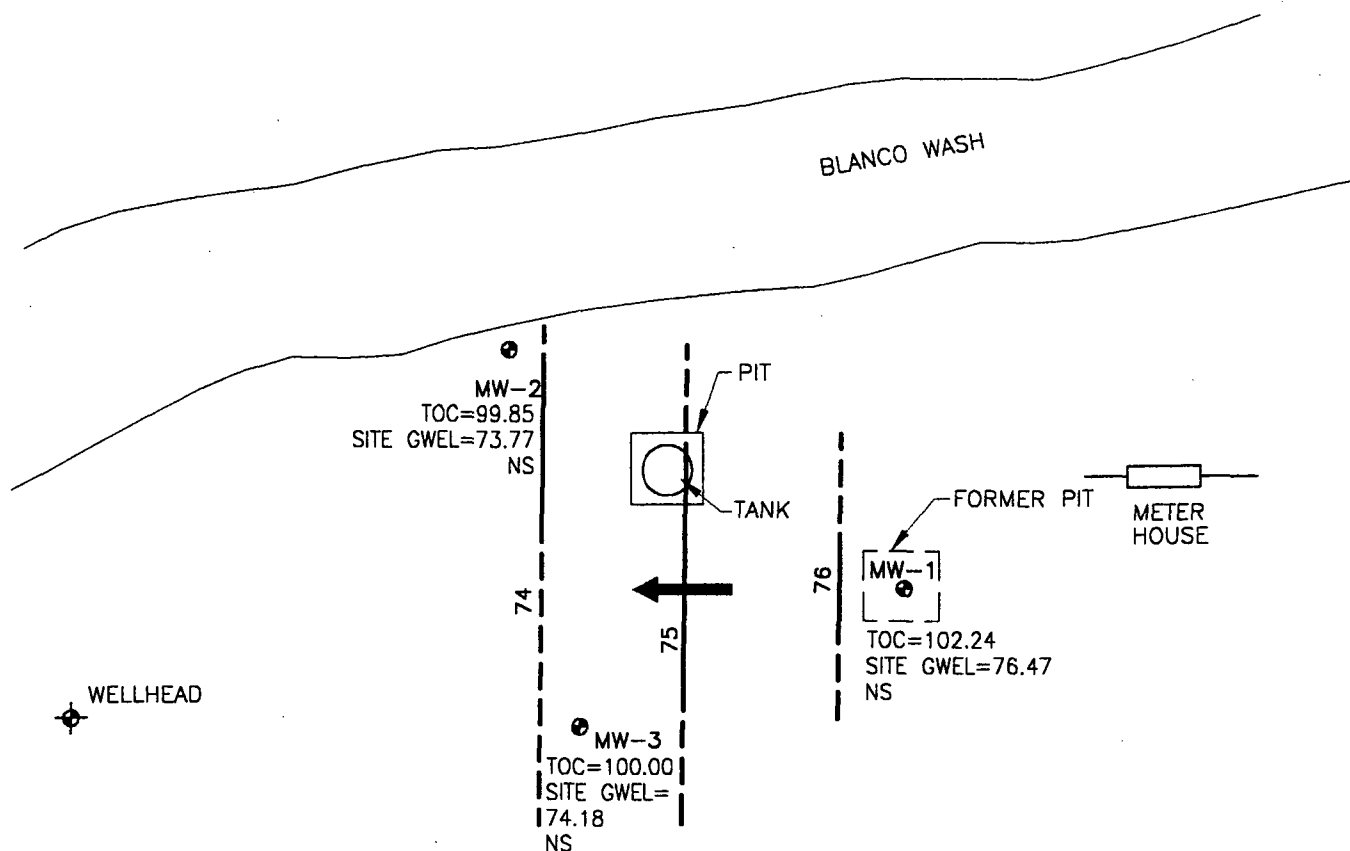
	MW-2	MW-3
B	<0.5	<0.5
T	<0.5	<0.5
E	<0.5	<0.5
X	<0.5	<0.5



JENNAPAH #1, METER 71816
JANUARY, 2001

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1



LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- NS Not Sampled
- GWEL Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC Top of Casing
- 75 Potentiometric Surface (Approximate & Assumed Where Dashed)
- Direction of Groundwater Flow (Estimated)

JENNA PAH #1, METER 71816
SEPTEMBER, 2001

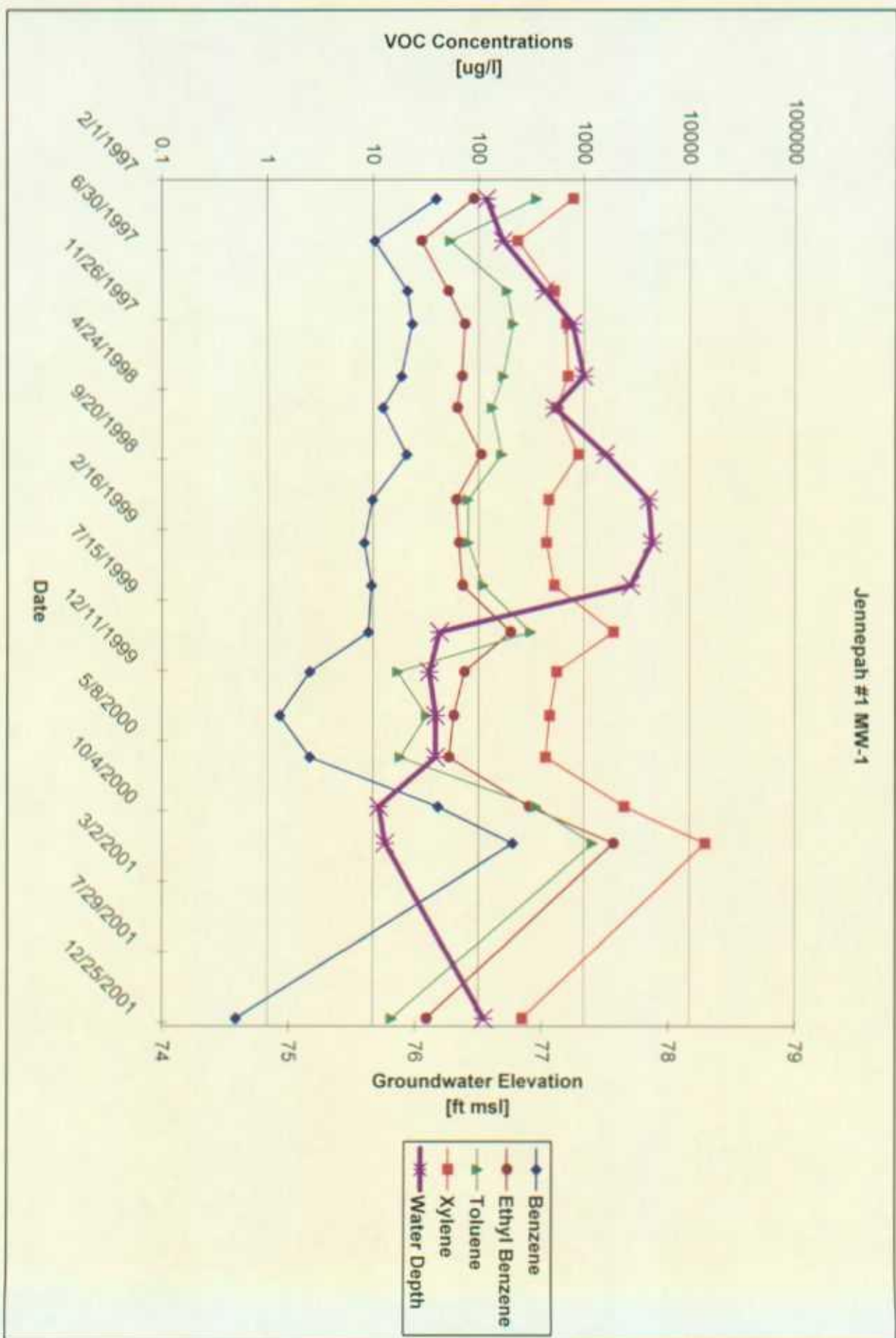
GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2

Table 1 BTEX
Jennepah #1

Sample #	Meter Line #	Site Name	Sample Date	MW#	Benzene (µg/l)	Ethyl Benzene (µg/l)	Toluene (µg/l)	Total Xylenes (µg/l)	Depth to Water (Feet)	Groundwater Elevation (feet)
JEN0112	71816	Jennepah #1	12/17/2000	1	< 0.5	32	15	260	25.70	76.54
JEN0101	71816	Jennepah #1	1/29/2001	2	< 0.5	< 0.5	< 0.5	< 0.5	24.38	75.47
JEN0101	71816	Jennepah #1	1/29/2001	3	< 0.5	< 0.5	< 0.5	< 0.5	24.12	75.88

Jennepath #1 MW-1

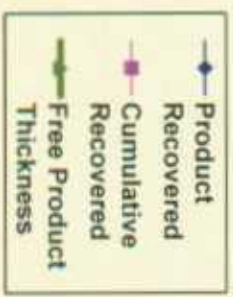
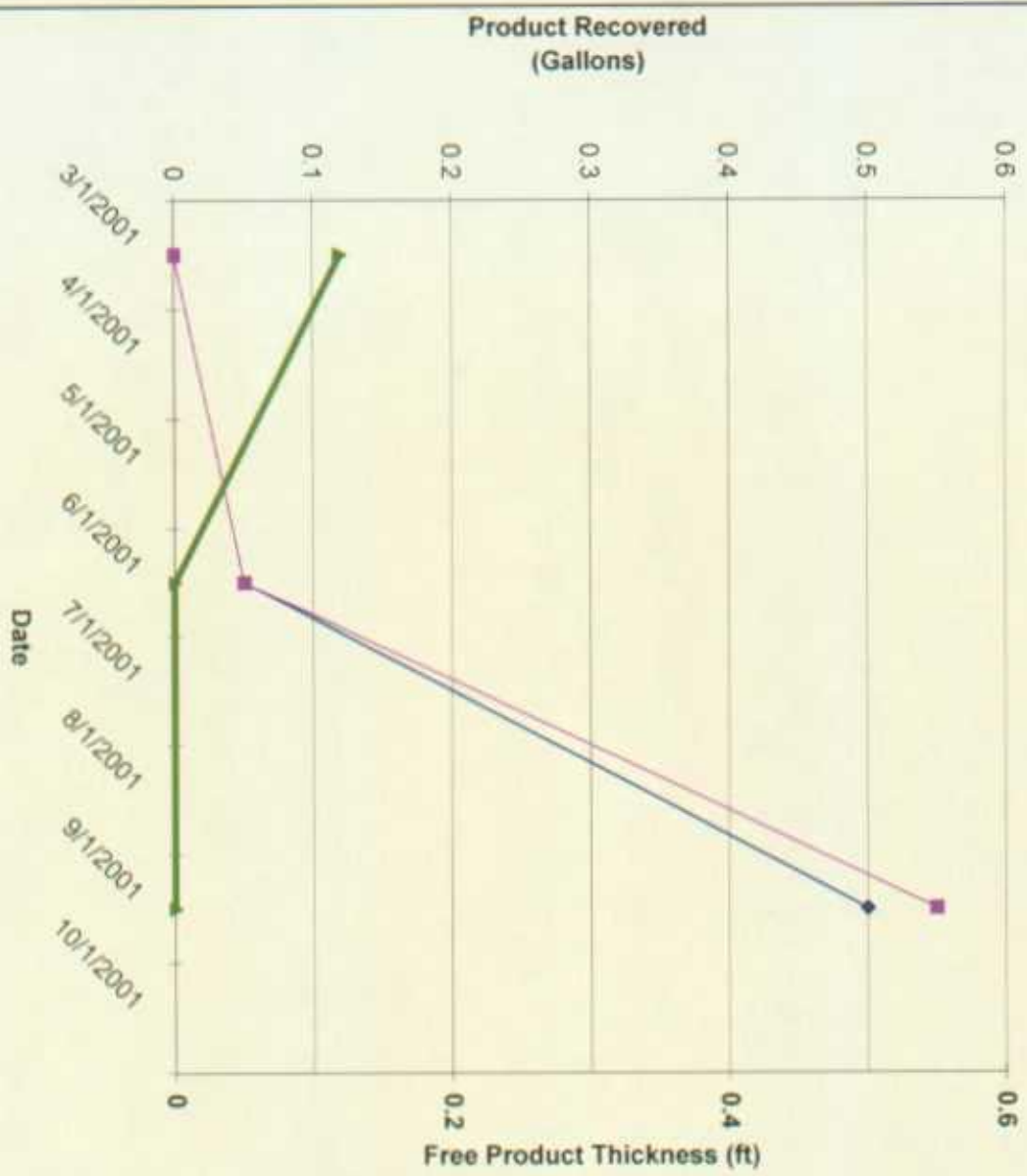


Product Removal Table Jennepah #1

Meter Line	Site Name	MW#	Date	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Volume Removed (Gallons)	Cumulative Total (Gallons)
71816	Jennepah #1	1	3/6/2001	26.25	26.37	0.12	0	0
71816	Jennepah #1	1	6/19/2001		26.37	0	0.05	0.05
71816	Jennepah #1	1	9/5/2001	25.77	25.77	0	0.5	0.55

No Product removed from MW-2 and MW-3 in 2001

Free Product Recovery Jennepah #1 MW-1



ATTACHMENT 1

2001 GROUNDWATER ANALYTICAL

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **112084**
January 07, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFW GW PROJ JENNEPAH
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 12/21/01 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.



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	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 112084
PROJECT #	: 1517000121	DATE RECEIVED	: 12/21/01
PROJECT NAME	: EPFW GW PROJ JENNEPAH	REPORT DATE	: 01/07/02
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
112084 - 01	JEN-0112-MW1	AQUEOUS	12/17/01

PINNACLE
LABORATORIES

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 : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFW GW PROJ JENNEPAH

PINNACLE I.D.: 112084

SAMPLE	DATE	DATE	DATE	DIL.		
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	JEN-0112-MW1	AQUEOUS	12/17/01	NA	12/27/01	1

PARAMETER	DET. LIMIT	UNITS	JEN-0112-MW1
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	15
ETHYLBENZENE	0.5	UG/L	32
TOTAL XYLENES	0.5	UG/L	260

SURROGATE:

BROMOFLUOROBENZENE (%)

--

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

* Surrogate out high due to matrix interference



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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.	: 112084
BLANK I. D.	: 122701	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/27/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFW GW PROJ JENNEPAH		

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 (%) 108
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 # : 122701
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFW GW PROJ JENNEPAH

PINNACLE I.D. : 112084
DATE EXTRACTED : N/A
DATE ANALYZED : 12/27/01
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	21.8	109	21.7	108	1	(80 - 120)	20
TOLUENE	<0.5	20.0	20.9	105	20.9	105	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.5	103	20.5	102	0	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	64.2	107	63.6	106	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

WELL DEVELOPMENT AND PURGING DATA FORM

Page 7 of 1

Project No. 15/2000/21

Site Address Rural San Juan CO

Water Volume Calculation

Serial No. (If applicable)

Initial Depth of Well (feet) 34.27
Initial Depth to Water (feet) 25.70

XSTW

Height of Water Column in Well (feet) 8.57
Diameter (inches): Well 4" Gravel Pack

Water Volume in Well	Gallons to be
----------------------	---------------

5763

Item	Cubic Feet	Gallons	Removed
Well Casing	857	594	117

15763

Gravel Pack	0.0	0.0	16.1
-------------	-----	-----	------

Drilling Fluids		
Total		18

K-12 Separate Room Field A/H

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.57	5.59x5	16.77
Gravel Pack			
Drilling Fluids			
Total			16.77

[illegible]

Developer's Signature(s) Deo A. M. y

Reviewer D Mull Date 12/24/08

PROJECT MANAGER: Lisa Winn

ANALYSIS REQUEST

COMPANY:

ADDRESS:

PHONE:

FAX:

BILL TO:

COMPANY:

ADDRESS:

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

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT INFORMATION

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

REINQUISHED BY:

1

REINQUISHED BY:

2

PROJ. NO. 5170000121

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK(NORMAL) ☒

PROJ. NAME: EPS-GW.DOS.

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

PO. NO.:

METHANOL PRESERVATION ☐

SHIPPED VIA: Greyhound

COMMENTS: FIXED FEE ☐

SAMPLE RECEIPT:

NO. CONTAINERS:

CUSTODY SEALS:

Y/N/NA

RECEIVED INTACT:

BLUE/CECE

JENNIFER A.H.

MCP # (91816)

Signature:

Time:

Printed Name:

Date:

Company:

Date:

See (versy side (date/initials))

RECEIVED BY:

Time:

Signature:

Time:

Printed Name:

Date:

Company:

Date:

NOTICE OF INSPECTION

Operator (Pink)

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

*Ramona
Jennepah*

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.

H. Mitchell Rubenstein

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

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
XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)	99	100	101
SURROGATE LIMITS (80 - 120)			

CHEMIST NOTES:

J/A



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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
14	JEN-0101-MW S3	AQUEOUS	01/29/01	NA	01/31/01	1
15	JEN-0101-MW 02	AQUEOUS	01/29/01	NA	01/31/01	1
16	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
ETHYLBENZENE	0.5	UG/L	< 0.5	< 0.5	< 0.5
XYLENES	0.5	UG/L	< 0.5	< 0.5	< 0.5

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

CHEMIST NOTES:
I/A



2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
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CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS ANNUAL SAMPLING

PINNACLE ID : 101088
DATE RECEIVED : 01/31/01
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
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



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 # : 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

ENVIRONMENTAL

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 <i>EPFS Annual Sampling</i>		Project Number <i>62800107 Phase Task 0301</i>		Samplers <i>C. Macer</i>		Laboratory		Name <i>PIANNACHE</i>		Location <i>ALBQ NM</i>		Sample Number (and depth)		Date	Time	Matrix	Total Number of Bottles	Type of Analysis and Bottle	Comments	
REM-0101-MW 02		01-29-01		1150		H ₂ O		2		X								Dementia ET AL #1 (75155)		
REM-0101-MW 03		01-29-01		1245		H ₂ O		2		X								" "		
JEN-0101-MW 03		01-29-01		1405		H ₂ O		2		X								JENEPDAH #1 (71816)		
JEN-0101-MW 03		01-29-01		1405		H ₂ O		2		X								" "		
JEN-0101-MW 02		01-29-01		1450		H ₂ O		2		X								" "		
TRIP BLANK		01-29-01		1600		H ₂ O		1		X								" "		

Relinquished by:

Signature	Date	Time	Signature	Date	Time
<i>Pho A. Macer</i>	01-29-01	1700	<i>Matthew H.</i>	01-31-01	10:00

Received By:

Samples Iced: ☒ Yes ☐ No	Carrier: <i>Greyhound</i>	Airbill No. <i>GLI1606919941</i>
Preservatives (ONLY for Water Samples) ☐ Cyanide ☐ Volatile Organic Analysis ☐ Metals ☐ TPH (418.1) ☒ Other (Specify) <i>H₂SO₄</i> ☐ Other (Specify)	Shipping and Lab Notes: <i>on ice @ 6°C</i>	

PHILIP

Well Number MW 03

☒ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Page 1 of 1

Project Name EPFS Annual Sampling

Project Manager R Thompson

Project No. 62800107

Client Company EL Paso Field Services

Phase/Task No. 0301

Site Name JENNIFER #1 (21816)

Site Address Rural San Juan CO

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 _____

Item	Water Volume Permitted (gallons)	Water Volume in Well (gallons)	Gallons to be Removed
Well Casing	6.25	1.02 x 3	3.06
Gravel Pack			
Drilling Fluids			
Total			3.06

Water Volume Calculation
Initial Depth of Well (feet) 30.37
Initial Depth to Water (feet) 21.12
Height of Water Column in Well (feet) 6.25
Diameter (inches): Well 2" Gravel Pack _____

Instruments

- ☒ pH Meter Hydax
☐ DO Monitor _____
☒ Conductivity Meter Hydax
☒ Temperature Meter Hydax
☐ Other _____

Water Disposal Water Separator Brownfield NW.

Water Removal Data

Date	Time	Development Method	Pump	Boiler	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Permitted (gallons)	Gravel Pack	Water Volume in Well (gallons)	Gallons to be Removed	Temperature (°F)	pH	Conductivity (micro/cm)	Dissolved Oxygen (mg/l)	Comments
01-27-01	1345			X				.75		.75		1.5	5.76	1350		Cloudy Brown
	1345			X				.75	1.50			10.1	5.54	1450		odor "
	1346			X				.75	2.25			10.2	5.52	1410		"
	1352			X				.75	3			10.5	5.39	1460		100 coming cloudy
	1356			X				.75	3.75			9.8	5.33	1420		No Change

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

Comments Sampled for BTEX 1405

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

Date 01-27-01

Reviewer RT Date 1/31/01

PHILIP

REVENUE/RENTAL

Well Number MW 02

☐ Development
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

Serial No. WDPD-

Page 1 of 1

Project Name EPFS Annual Samplings

Project Manager R Thompson

Project No. 62800107

Client Company El Paso Field Services

Phase/Task No. 0301

Site Name JANNEPAH #1 (71816)

Site Address Rural San Juan CO

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 29.76
Initial Depth to Water (feet) 24.39
Height of Water Column in Well (feet) 5.39
Diameter (inches): Well 2" Gravel Pack

Instruments

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

Serial No. (if applicable)
Hydax
Hydax

Methods of Development

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

Item	Water Volume in Well	Scallons to be Removed
Well Casing	5.39	0.97 x 3
Gravel Pack		2.61
Drilling Fluids		
Water		2.61

Water Disposal

Anti Separator Bloomfield NM.

Water Removal Data

Date	Time	Development Method	Removal Rate (gal/min)	Initial Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)	Concentration	Temperature (°F)	pH	Conductivity (micro/cm)	Dissolved Oxygen (mg/l)	Comments
						Incremental	Cumulative							
01-29-01	1434	X				.75	.75			6.1	5.59	1330		Cloudy brown no odor
	1436	X				.75	1.5			9.4	5.41	1620		"
	1439	X				.75	2.25			9.6	5.32	1540		"
	1443	X				.75	3			9.4	5.27	1590		"
	1446	X				.75	3.75			9.5	5.17	1650		no change

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

Comments Sampled for BTEX 1450

Developer's Signature(s)

[Signature]

Date 01-29-01

Reviewer

RT

Date

1/31/01



Date: 9/11/01
Client: Golden Environmental Management
Lab ID: 0301W03833 - 3843
Project: G169

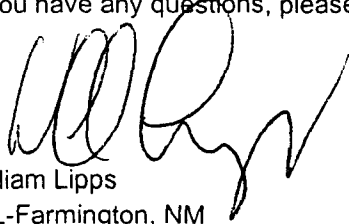
Dear Client:

The samples were received for analysis at Inter-Mountain Laboratories (IML), Farmington, New Mexico. Enclosed are the results of these analyses.

Comment:

Analytical results were obtained by approved methods. Sample analyses were obtained within the method specific holding times. Practical Quantitation Limits (PQL's) are based on method requirements, and any dilutions necessary to maintain proper method response without matrix interference.

If you have any questions, please call me at (505) 326-4737.


William Lipps
IML-Farmington, NM

Analytical Report

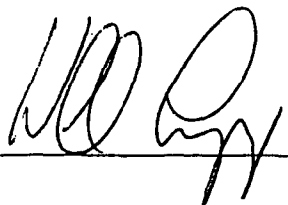
Client: Golden Environmental Management
Project: G169
IML Set: 0301W03833

Page 1 of 1

Date Received: 09/06/01**Date Reported:** 09/11/01

Lab Id	Sample Id	Date Sampled	Specific Gravity g/cc
0301W03833	LIN-0109-MW1	09/04/01	0.811
0301W03834	CAN-0109-MW1	09/04/01	0.736
0301W03835	GAL-0109-MW1	09/04/01	0.833
0301W03836	JFB-0109-MW3	09/04/01	0.773
0301W03837	072-0109-MW2	09/04/01	0.751
0301W03838	MIL-0109-MW1	09/04/01	0.754

Reviewed By:



Analytical Report

Client: Golden Environmental Management
Project: G169
IML Set: 0301W03839

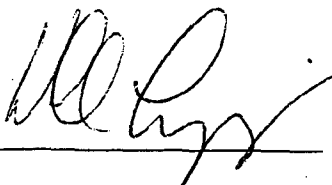
Page 1 of 1

Date Received: 09/06/01

Date Reported: 09/11/01

Lab Id	Sample Id	Date Sampled	Specific Gravity g/cc
0301W03839	JOH-0109-MW1	09/05/01	0.750
0301W03839D	JOH-0109-MW1	09/05/01	0.751
0301W03840	JON-0109-MW1	09/05/01	0.757
0301W03841	KNI-0109-MW1	09/05/01	0.790
0301W03842	STA-0109-MW3	09/05/01	0.741
0301W03843	JEN-0109-MW1	09/05/01	0.761

Reviewed By:



2:11 2-1-850

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

PLI Accession #:

DATE: 9-6-01 PAGE: 1 OF 2

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Lisa Wynn		ANALYSIS REQUEST									
COMPANY: GOLDEN ENVIRONMENTAL MGMT.		504.1 EDB ☐ DBCP ☐									
ADDRESS: 906 S. JAMES BLVD. SUITE D		8260 (TCL) Volatile Organics									
PHONE: Farmington NM. 87401		8260 (Full) Volatile Organics									
FAX: (505) 546-9114		8260 (CUST) Volatile Organics									
BILL TO: SCOTT POPE		8260 (Landfill) Volatile Organics									
COMPANY: El Paso Field Services		Pesticides / PCB (608/8081/8082)									
ADDRESS: 604 Rally Ave		Herbicides (615/8151)									
Farmington NM. 87401		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)									
		Metal									
		NUMBER OF CONTAINERS									

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS				RELINQUISHED BY:	
PROJ. NO.: 6169	GFS Remediation Project	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☒	Signature: [Signature]		Signature:	
PROJ. NAME: Project		CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER	Printed Name: [Signature]		Printed Name:		
P.O. NO.:		METHANOL PRESERVATION ☐	Date: 9-6-01		Date:		
SHIPPED VIA:		COMMENTS: FIXED FEE ☐				Company:	
SAMPLE RECEIPT		JOHNSTON FIELD # 6 (89232)				See reverse side (Force Majeure)	
NO. CONTAINERS		JOHNSTON FIELD # 4 (70194)				RECEIVED BY: (LAB)	
CUSTODY SEALS	Y/N/NA	KNIGHT # 1 (72556)				Signature:	
RECEIVED INTACT		STATE GEO. COR. # 1 (71669)				Printed Name:	
BLUE ICECASE		JENNIFER # 1 (71916)				Date:	
						Printed Name:	
						Date:	
						Company:	
						Pinnacle Laboratories Inc.	

5:11 ET 1-25-01

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

PLI Accession #:

DATE: 1-6-01 PAGE: 1 OF 1

SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: LIST WINN
COMPANY: GOLDEN Environmental Mgmt.
ADDRESS: 904 San Juan Blvd. Suite D
Farmington NM 87410
PHONE: 505-566-9116
FAX: (505) 566-9120
BILL TO: SCOTT POPE
COMPANY: EL PASO Field Services
ADDRESS: 604 Kelly Ave
Farmington NM 87410

SAMPLE ID	DATE	TIME	MATRIX	LAB ID.
WIN-0109-MW1	1-4-01	1100	Lg HC	
CAN-0109-MW1	1-4-01	1300	Lg HC	
GAL-0109-MW1	1-4-01	1400	Lg HC	
JFB-0009-MW3	1-4-01	1500	Lg HC	
Q22-0109-MW2	1-4-01	1600	Lg HC	
MIL-0109-MW1	1-4-01	1700	Lg HC	

ANALYSIS REQUEST										NUMBER OF CONTAINERS									
Petroleum Hydrocarbons (418.1) TRPH																			
(MOD.8015) Diesel/Direct Inject																			
(M8015) Gas/Purge & Trap																			
8021 (BTX)/8015 (Gasoline) MTBE																			
8021 (BTX) □ 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																			

PROJECT INFORMATION

PROJ NO: 6169

PROJ NAME: EL PASO Field Services

P.O. NO:

SHIPPED VIA:

SAMPLE RECEIPT

NO. CONTAINERS

CUSTODY SEALS

RECEIVED INTACT

BLUE ICE/ICE

Y/N/NA

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 124hr ☐ 48hr ☐ 72hr ☐ 1 WEEK

CERTIFICATION REQUIRED: ☐ INM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE
LANDFILL B#24 (94967)
CANADA MESA #2 (97610)
GRILLER #131E (95-603)
JF Bell #1E (94705)
K-27 LO (00070)
MILLS FEO #1A (94810)

RELINQUISHED BY: 1. Signature: Chris Adams Date: 01/11
2. Signature: _____ Date: _____

RELINQUISHED BY: 1. Signature: Chris Adams Date: 1-6-01
2. Signature: _____ Date: _____

RECEIVED BY: (LAB) 1. Signature: Don Adams Date: 1/11
2. Signature: _____ Date: _____

RECEIVED BY: 1. Signature: Don Adams Date: 1/11
2. Signature: _____ Date: _____

Company: Pinnacle Laboratories Inc.

PLEASE FILL THIS FORM IN COMPLETELY.



March 19, 2001

Lisa Winn
Philip Environmental
4000 Monroe Road
Farmington, NM 87401

Ms. Winn:

Enclosed please find the report for the sample received by our laboratory for analysis on March 6, 2001.

If you have any questions about the result of the analysis, please don't hesitate to call at your convenience.

Thank you for choosing IML for your analytical needs!

Sincerely,

William Lipps
Assistant Lab Manager/IML-Farmington

Enclosure

xc: File

Client: Philip Environmental Services
Sample ID: Jennapah - 2/01
Lab ID: 0301W01184
Matrix: Water
Condition: Cool/Intact

Date Received: 03/09/01
Date Reported: 03/19/01
Date Sampled: 03/06/01
Time Sampled: 1000

Parameter	Analytical Result	Units
-----------	-------------------	-------

Specific Gravity	0.750	g/cc
------------------	-------	------

Reference: SM - "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WEF, 19th Edition, 1995.

Reviewed By: WAC



CHAIN OF CUSTODY RECORD

326-2262

Client/Project Name		Project Location		ANALYSES / PARAMETERS			
PDC - Lisa Wynn		Chain of Custody Tape No.		No. of Containers		Remarks	
Sample No./ Identification	Date	Time	Lab Number	Matrix			
Jennings 2/01	5/16/01	10:00	184				
AB							
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time	
Lisa Wynn		5/16/01	10:00				
Relinquished by: (Signature)		Date	Time	Received by: (Signature)	Date	Time	
Relinquished by: (Signature)		Date	Time	Received by laboratory: (Signature)	Date	Time	
					5/16/01	13:30	

☐ 555 Absaraka
Sheridan, Wyoming 82801
Telephone (307) 674-7506

☐ 1633 Terra Avenue
Sheridan, Wyoming 82801
Telephone (307) 672-8945

☐ 1701 Phillips Circle
Gillette, Wyoming 82718
Telephone (307) 682-8945

☐ 2506 West Main Street
Farmington, NM 87401
Telephone (505) 326-4737

☐ 11183 State Hwy. 30
College Station, TX 77845
Telephone (979) 776-8945

Inter-Mountain Laboratories, Inc.

69717

Date 9-5-01

Date 6-19-01

amec

Project No.: 1517 0000121

Task: 2

Date: 12-17-01

[illegible]

Comments: _____

Date: 12-17-01