

3R - 174

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:

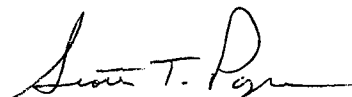
In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual reports for the 30 remaining groundwater impacted sites that were identified during our pit closure project of 1994 / 1995.

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 IA-Federal Sites**

March 2002

Prepared for

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



MWH

MONTGOMERY WATSON HARZA

EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

FEDERAL SITES VOLUME IA

TABLE OF CONTENTS

Site Map

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
89961	Fields A#7A	32N	11W	34	E
89232	Johnston Fed #6A	31N	09W	35	F
94715	James F. Bell #1E	30N	13W	10	P
89620	Sandoval GC A #1A	30N	09W	35	C
87493	W D Heath B-5	30N	09W	31	M
LD151	Lat 0-21 Line Drip	30N	09W	12	O
73220	Fogelson 4-1 Com. #14	29N	11W	4	P



MWH

MONTGOMERY WATSON HARZA

3 mi Scale: 1 : 600,000 Detail: 3:4 Datum: WGS84

EPFS GROUNDWATER PITS 2001 ANNUAL GROUNDWATER REPORT

Fogelson 4-1 Com. #14

Meter Code 73220

SITE DETAILS

Legals Twn: 29N Rng: 11W Sec: 4 UNIT: P
NMOCD Haz Ranking 10 Land Type: Federal Operator: Burlington Resources

PREVIOUS ACTIVITIES

Site Assessment: Mar-94 Excavation Apr-94 (65cy) Soil Boring: Oct-95 Monitor Well: Oct-95
Geoprobe: Dec-96 Additional MWs: Jun-00 Downgradient MW's: NA Replace MW: NA
PSH Removal Initiated: NA ORC Nutrient Injection Aug-01 Re-Excavation: NA
Quarterly Initiated Dec-96 Annual Initiated Jun-98 Quarterly Resumed:

2001 ACTIVITY

Groundwater monitoring - MW-1 changed to semi-annual sampling based on high BTEX concentrations.

MW-2 and 3 were sampled annually.

ORC socks were installed in MW-1 to oxygenate the source area in August 2001.

SUMMARY TABLES AND GRAPHS

Groundwater analytical data is presented in Table 1 BTEX. Copies of the laboratory data sheets and the associated quality assurance/quality control data are presented in Attachment 1. Included are BTEX Data graphs for MW-1 through MW-3.

SITE MAP

Site Maps with BTEX concentrations and groundwater elevations are attached.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

No drilling activities were conducted at this site in 2001.

DISPOSITION OF GENERATED WASTES

No wastes were generated at this site.

EPFS GROUNDWATER PITS

2001 ANNUAL GROUNDWATER REPORT

Fogelson 4-1 Com. #14

Meter Code: 73220

ISOCONCENTRATION MAPS

BTEX concentrations were listed in Figure 1.

CONCLUSIONS

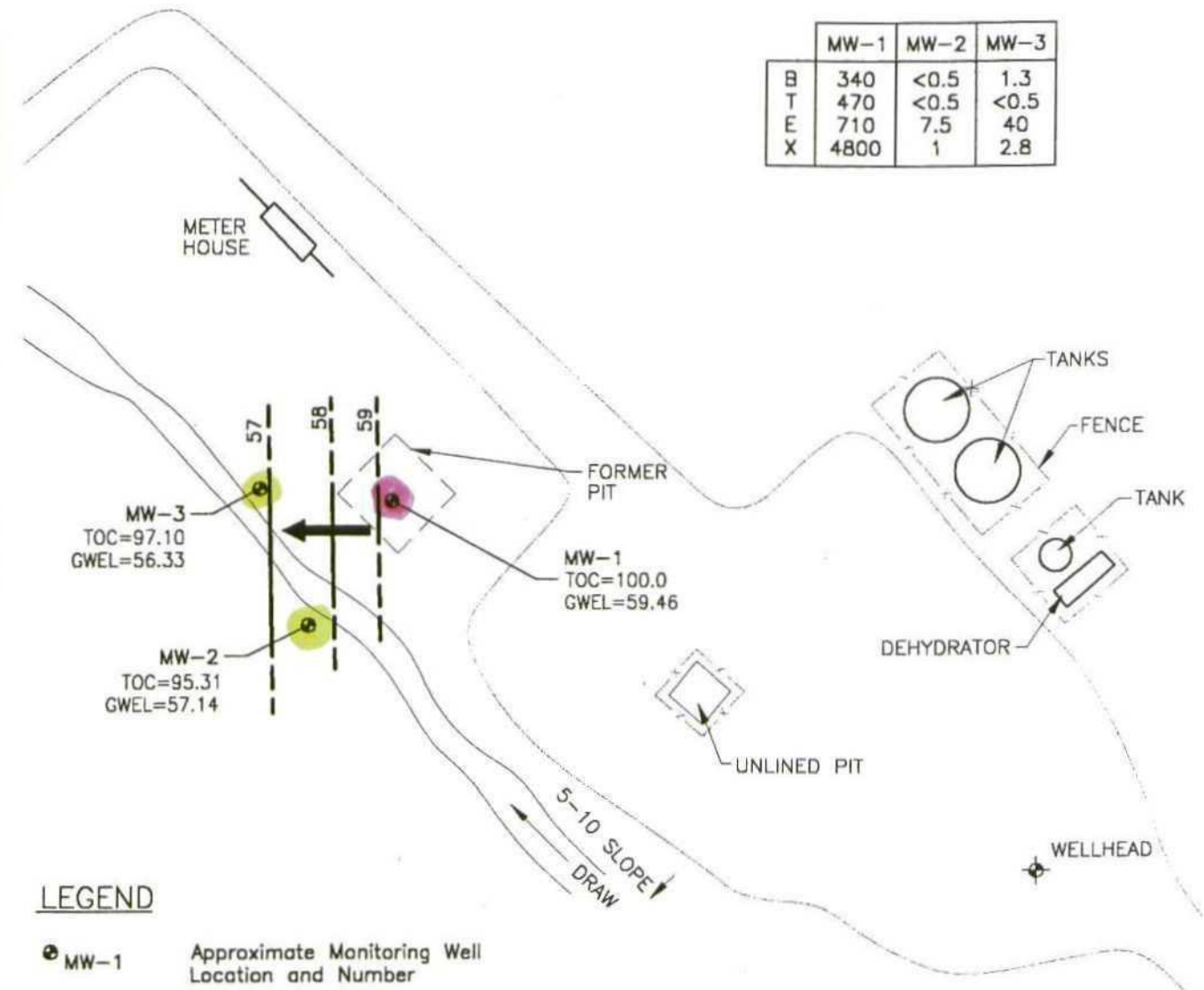
Source oxygenation was performed using ORC in MW-1. ORC was installed in August 2001; benzene increased from 340 to 420 ppb from May 2001 through November 2001. However, water levels were increasing during this time frame presumably adding to the dissolved hydrocarbon mass.

Benzene has decreased to below NMWQCC standards in downgradient wells MW-2 and MW-3.

RECOMMENDATIONS

- > Continue ORC oxygenation of MW-1.
- > Continue annual monitoring in MW-2 and -3.
- > Continue semi-annual sampling at MW-1 until groundwater constituents are near NMWQCC standards, then sample quarterly for closure.
- > Following OCD approval for closure wells MW-1 through -3 will be abandoned using OCD approved procedures.

	MW-1	MW-2	MW-3
B	340	<0.5	1.3
T	470	<0.5	<0.5
E	710	7.5	40
X	4800	1	2.8



LEGEND

- MW-1 Approximate Monitoring Well Location and Number
- x — x — Fence Line
- B Benzene ($\mu\text{g/L}$)
- T Toluene ($\mu\text{g/L}$)
- E Ethylbenzene ($\mu\text{g/L}$)
- X Total Xylenes ($\mu\text{g/L}$)
- 57 Potentiometric Surface (Approximate & Assumed Where Dashed)
- Direction of Groundwater Flow (Estimated)
- GWEL Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
- TOC Top of Casing



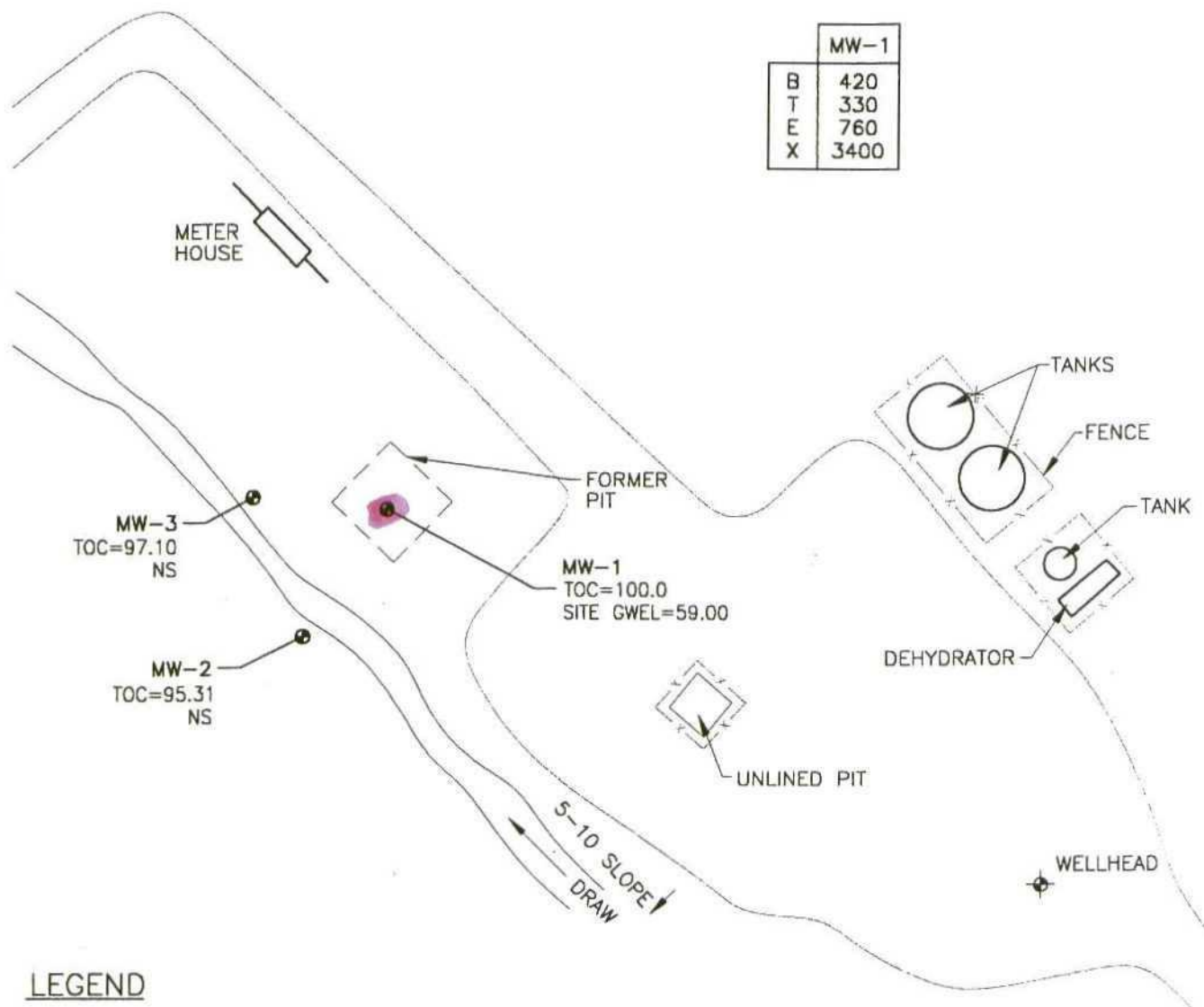
NOT TO SCALE

FOGELSON 4-1 #14, METER 73220
MAY, 2001

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1

MW-1	
B	420
T	330
E	760
X	3400



LEGEND

⊙ MW-1	Approximate Monitoring Well Location and Number
— x — x —	Fence Line
B	Benzene ($\mu\text{g/L}$)
T	Toluene ($\mu\text{g/L}$)
E	Ethylbenzene ($\mu\text{g/L}$)
X	Total Xylenes ($\mu\text{g/L}$)
GWEL	Groundwater Elevation (FT Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
NS	Not Sampled

NOT TO SCALE

FOGELSON 4-1 #14, METER 73220
NOVEMBER, 2001

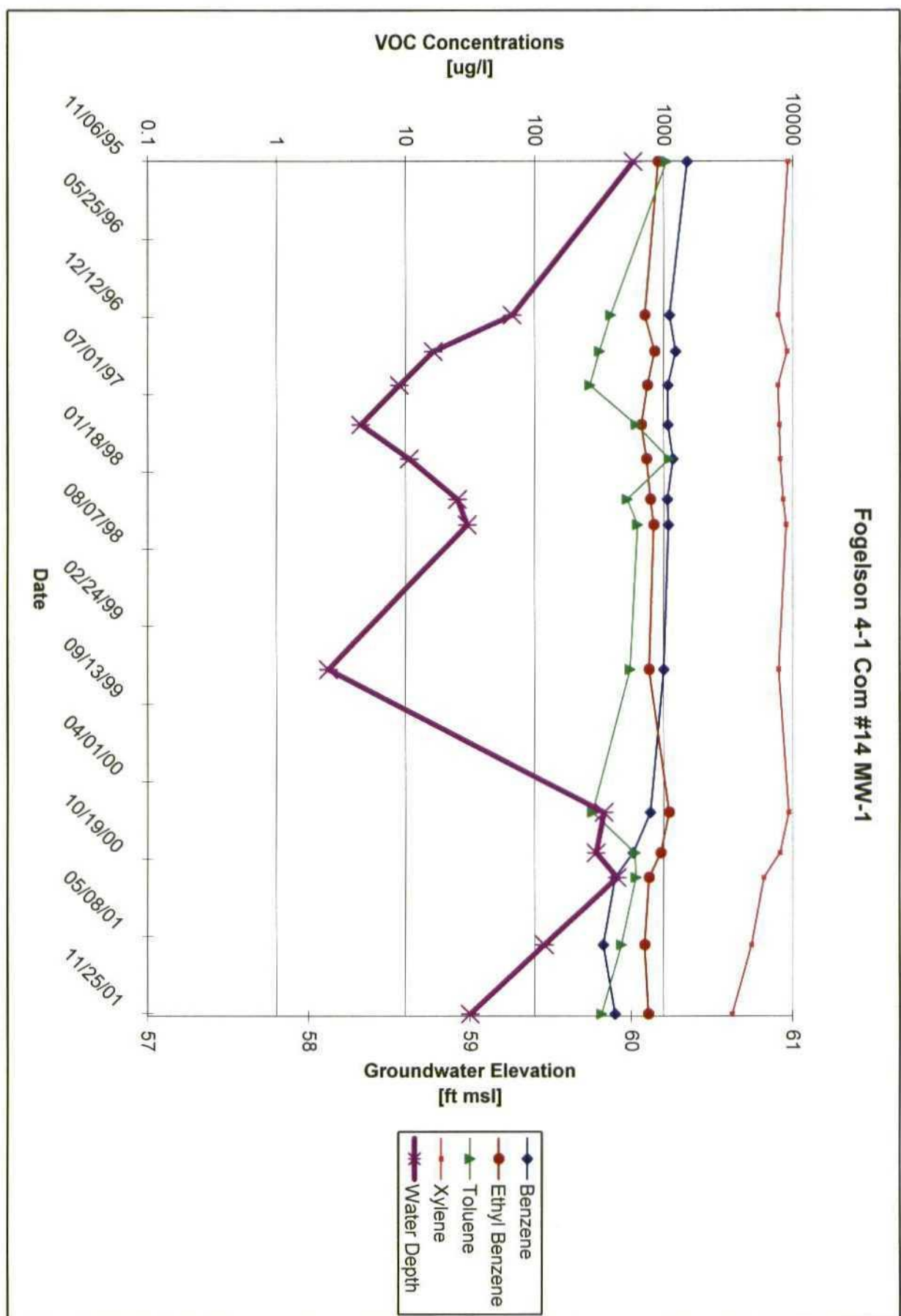
GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2

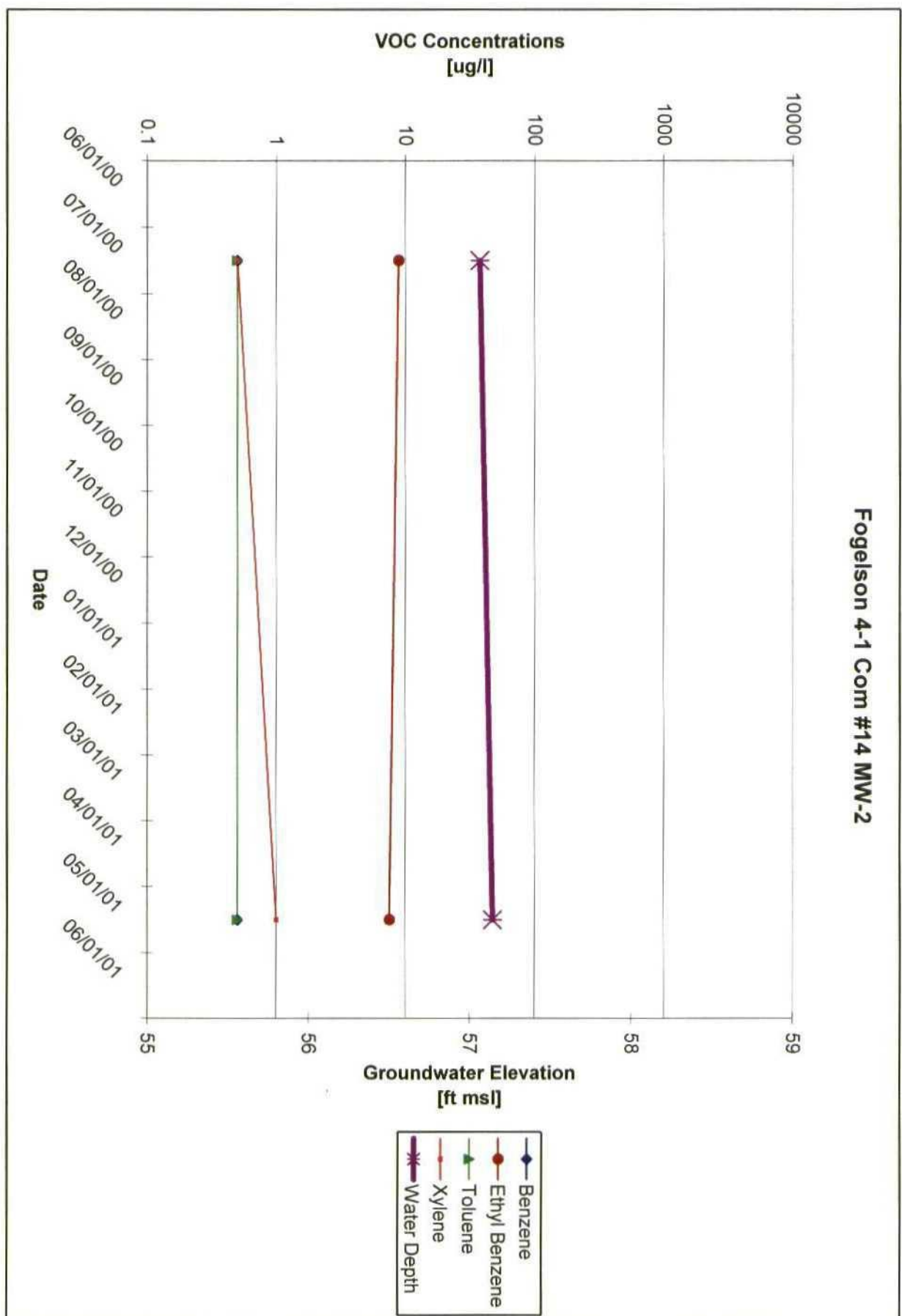
Table 1 BTEX
Fogelson 4-1 Com #14

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)
FOG0105	73220	Fogelson 4-1 Com. #14	5/30/2001	1	340	710	470	4800	40.54	59.46
FOG1101	73220	Fogelson 4-1 Com. #14	11/26/2001	1	420	760	330	3400	41.00	59
FOG0105	73220	Fogelson 4-1 Com. #14	5/30/2001	2	< 0.5	7.5	< 0.5	1	38.17	57.14
FOG0105	73220	Fogelson 4-1 Com. #14	5/30/2001	3	1.3	40	< 0.5	2.8	40.77	56.33

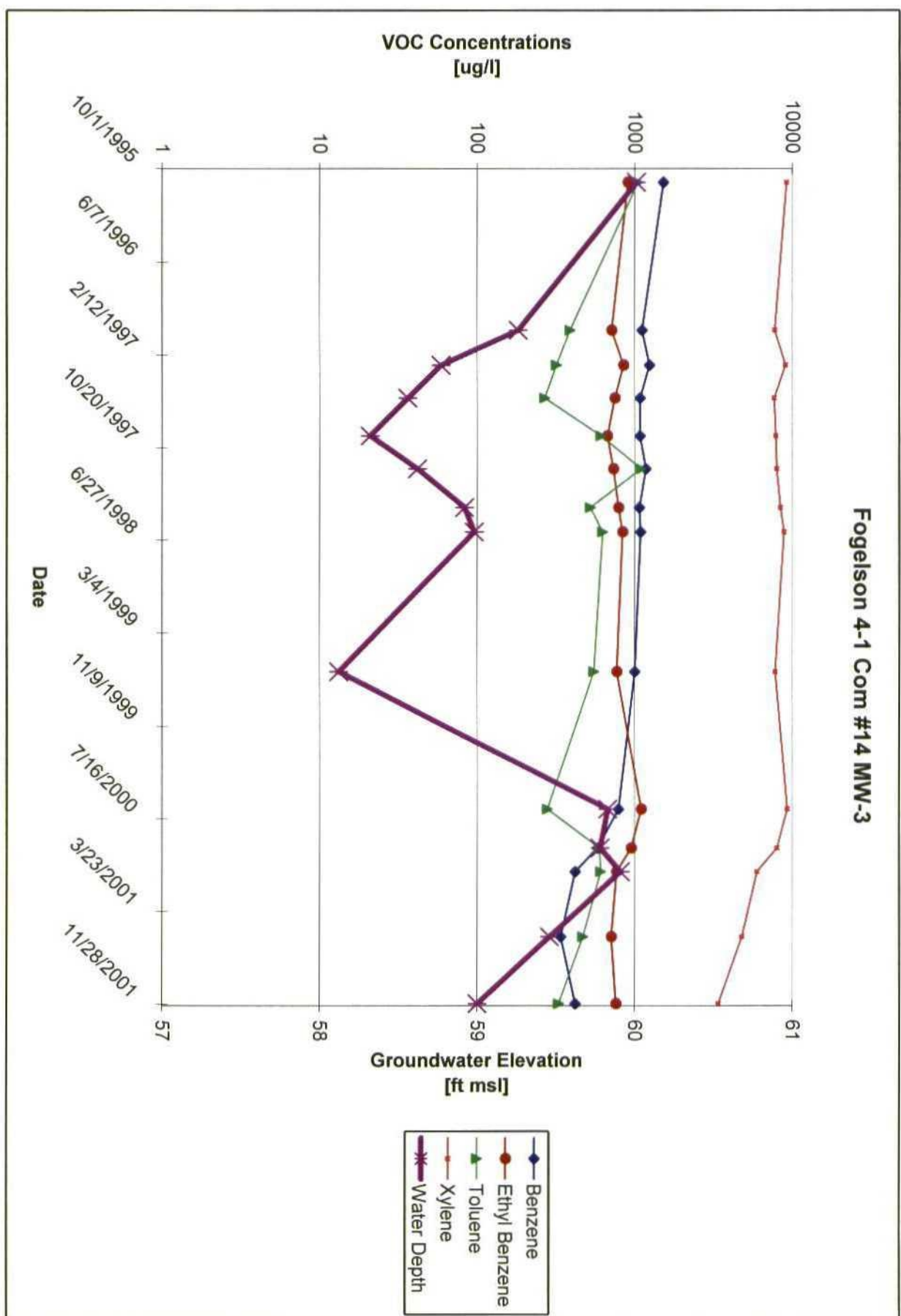
Fogelson 4-1 Com #14 MW-1



Fogelson 4-1 Com #14 MW-2

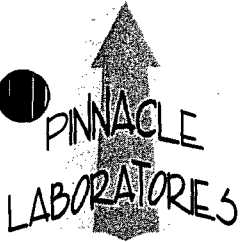


Fogelson 4-1 Com #14 MW-3



ATTACHMENT 1

2001 GROUNDWATER ANALYTICAL



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

Pinnacle Lab ID number 112028
December 28, 2001

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

MW1

Project Name EPFS GW PROJECT
Project Number 1517000121

Fogelson 73220

Attention: LISA WINN/SCOTT POPE

On 12/10/01 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.

Sample received last day of hold-time. Initial analysis run day of receipt. Dilution analyzed one day past hold-time.

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 : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE ID : 112028
DATE RECEIVED : 12/10/01
REPORT DATE : 12/28/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
112028 - 01	FOG-1101-MW01	AQUEOUS	11/26/01
112028 - 02	TRIP BLANK	AQUEOUS	11/26/01



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 : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D.: 112028

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01A	FOG-1101-MW01	AQUEOUS	11/26/01	NA	12/10/01	1
01B	FOG-1101-MW01	AQUEOUS	11/26/01	NA	12/11/01	50
02	TRIP BLANK	AQUEOUS	11/26/01	NA	12/10/01	1

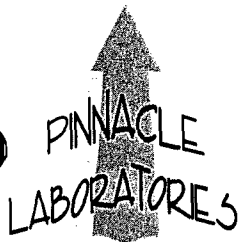
PARAMETER	DET. LIMIT	UNITS	FOG-1101-MW01	FOG-1101-MW01	TRIP BLANK
BENZENE	0.5	UG/L	420	400	< 0.5
TOLUENE	0.5	UG/L	330	270	< 0.5
ETHYLBENZENE	0.5	UG/L	760	600	< 0.5
TOTAL XYLENES	0.5	UG/L	3400	4200	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)	--	116	110
SURROGATE LIMITS (80 - 120)			

CHEMIST NOTES:

The initial analysis on 12.10.01 is included. The 50X dilution analysis on 12.11.01 confirms original data. Since samples arrived on last day of hold-time, dilution run one day past hold-time.



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.	: 112028
BLANK I. D.	: 121001	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/10/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT		

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 (%)

111

SURROGATE LIMITS: (80 - 120)

CHART NOTES:
N/A



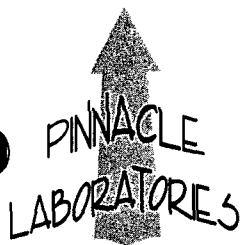
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 112028
BLANK I. D.	: 121101	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/11/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT		

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 (%) 112
SURROGATE LIMITS: (80 - 120)
CHECKLIST 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.	: 112028
MSMSD #	: 112031-06	DATE EXTRACTED	: N/A
CLIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 12/11/01
PROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS GW PROJECT	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	20.3	101	2	(80 - 120)	20
TOLUENE	<0.5	20.0	20.7	103	20.6	103	0	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.5	103	20.1	100	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	64.2	107	63.0	105	2	(80 - 120)	20

CHART 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. 1517000121-2

Serial No. (If applicable)

YSI 63

KUTZ SEPARATOR

[illegible]

11/29/01

SHADED AREAS ARE FOR LAB USE ONLY.

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 12-10-01 PAGE: 1 OF 1

PLI Accession #

PROJECT MANAGER: LISH WU/NV				ANALYSIS REQUEST			
COMPANY: AMEC EARTH & ENVIRONMENTAL				Petroleum Hydrocarbons (418.1) TRPH			
ADDRESS: 2060 AFTON PLACE				(MOD.8015) Diesel/Direct Inject			
FARMINGTON, NM 87401							
PHONE: (505) 327-7928				(M8015) Gas/Purge & Trap			
FAX: (505) 326-5721				8021 (BTEX)/8015 (Gasoline) MTBE			
BILL TO: SCOTT POPE				8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE			
COMPANY: EL PASO FIELD SERVICE				8021 (TCL)			
ADDRESS: 611 RILEY AVE.				8021 (EDX)			
FARMINGTON, NM 87101				8021 (HALO)			
SAMPLE ID				8021 (CUST)			
DATE				504.1 EDB ☐ / DBCP ☐			
TIME				8260 (TCL) Volatile Organics			
MATRIX				8260 (Full) Volatile Organics			
LAB ID				8260 (CUST) Volatile Organics			
FOG - 1101 - MUD01				8260 (Landfill) Volatile Organics			
TRAIL BLANK				Pesticides /PCB (608/8081/8082)			
				Herbicides (615/8151)			
				Base/Neutral/Acid Compounds GC/MS (625/8270)			
				Polynuclear Aromatics (610/8310/8270-SIMS)			
				General Chemistry:			
				Priority Pollutant Metals (13)			
				Target Analyte List Metals (23)			
				RCRA Metals (8)			
				RCRA Metals by TCLP (Method 1311)			
				Metals:			
				NUMBER OF CONTAINERS			
PROJECT INFORMATION				PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS			
PROJ NO: 1517000121				(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒			
PROJ NAME: PMS 610 PROBE CT				CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER			
P.O. NO:				METHANOL PRESERVATION ☐			
SHIPPED VIA: GREEK HOUND				COMMENTS: FIXED FEE ☐			
SAMPLE RECEIPT				RELINQUISHED BY: 1			
NO. CONTAINERS				Signature: [Signature] Time: 10:15			
CUSTODY SEALS				Printed Name: LISH WU Date: 12-10-01			
RECEIVED INTACT				Company: AMEC			
BLUE				RECEIVED BY: 1			
				Signature: [Signature] Time: [Time]			
				Printed Name: [Name] Date: [Date]			
				Company: [Company]			
				RECEIVED BY (LAB) 2			
				Signature: [Signature] Time: [Time]			
				Printed Name: [Name] Date: [Date]			
				Company: [Company]			
				Printed Name: [Name] Date: [Date]			
				Company: [Company]			

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number 106003
June 05, 2001

GOLDEN ENVIRONMENTAL MNGT.
906 SAN JUAN BLVD.
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS QUARTERLY SAMPLING *Fogelson 4-1 Com #14*
Project Number (NONE) *Meter 73220*

Attention: LISA WINN/SCOTT POPE

On 06/01/01 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.

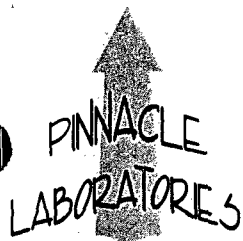


H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

*MW1
MW2
MW3*



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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 106003
PROJECT #	: (NONE)	DATE RECEIVED	: 06/01/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/05/01

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
106003 - 01	FOG-0105-MW1	AQUEOUS	05/30/01
106003 - 02	FOG-0105-MW2	AQUEOUS	05/30/01
106003 - 03	FOG-0105-MW3	AQUEOUS	05/30/01

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : (NONE)
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D.: 106003

SAMPLE			DATE	DATE	DATE	DIL.
D. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
1	FOG-0105-MW1	AQUEOUS	05/30/01	NA	06/04/01	20
2	FOG-0105-MW2	AQUEOUS	05/30/01	NA	06/04/01	1
3	FOG-0105-MW3	AQUEOUS	05/30/01	NA	06/01/01	1

PARAMETER	DET. LIMIT	UNITS	FOG-0105-MW1	FOG-0105-MW2	FOG-0105-MW3
BENZENE	0.5	UG/L	340	< 0.5	1.3
TOLUENE	0.5	UG/L	470	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	710	7.5	40
TOTAL XYLENES	0.5	UG/L	4800	1.0	2.8

SURROGATE:
BROMOFLUOROBENZENE (%) 103 101 120
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
I/A



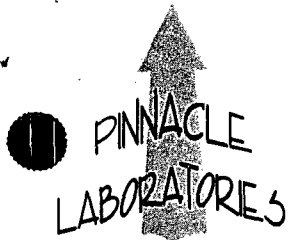
2709-D Pan American Freeway NE
Albuquerque, New Mexico 87107
Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 106003
BLANK I. D.	: 060101	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/01/01
PROJECT #	: (NONE)	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 (%) 99
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
I/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.	: 106003
BLANK I. D.	: 060401	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/04/01
PROJECT #	: (NONE)	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 (%) 114
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 # : 060101
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : (NONE)
PROJECT NAME : EPFS QUARTERLY SAMPLING
PINNACLE I.D. : 106003
DATE EXTRACTED : N/A
DATE ANALYZED : 06/01/01
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	18.0	90	18.6	93	3	(80 - 120)	20
TOLUENE	<0.5	20.0	18.6	93	19.2	96	3	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.5	97	20.2	101	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	58.0	97	60.1	100	4	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA WINN COMPANY: BEM ADDRESS: 906 Sam Jones Blvd. Farmington NM 87401 PHONE: (505) 566-9116 FAX: (505) 566 BILL TO: SCOTT POPE COMPANY: EL PASO Field Services ADDRESS: 641 Reilly Ave Farmington N.M. 87499		ANALYSIS REQUEST Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct Inject (M8015) Gas/Purge & Trap 8021 (BTEX)/8015 (Gasoline) MTBE 8021 (BTEX) MTBE 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: NUM. OF CONTAINERS							
SAMPLE ID Fog-0105-MW1 Fog-0105-MW2 Fog-0105-MW3		DATE 5-30-01 5-30-01 5-30-01		TIME 1040 1130 1230		MATRIX H2O H2O H2O		LAB ID 01 02 03	
PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS (RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒ CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER METHANOL PRESERVATION ☐ COMMENTS: FIXED FEE ☐ Fax Results to Lisa Winn									
PROJECT INFORMATION PROJ. NO.: PROJ. NAME: EPCS Quarterly Sampling P.O. NO.:		RELINQUISHED BY: Signature: [Signature] Printed Name: Chris A Macz Date: 5-31-01 Company: See reverse side (Force Majeure)							
RELINQUISHED BY: Signature: [Signature] Printed Name: [Blank] Date: [Blank] Company: [Blank]		RECEIVED BY: Signature: [Signature] Printed Name: [Blank] Date: [Blank] Company: [Blank]							
SAMPLE RECEIPT NO. CONTAINERS: 6 CUSTODY SEALS: Y/N (NA) RECEIVED INTACT: YES BLUE ICE: 6.2°C		RECEIVED BY: Signature: [Signature] Printed Name: [Blank] Date: [Blank] Company: [Blank]							



Page 1 of 1

Site Address Russell Sav-Tanna CO.

Project Manager LISA LWIN

Water Volume Calculation

47.76

Initial Depth to Water (feet)

Height of Water Column in Well (feet) 7.22
Diameter (inches): Well 4" Gravel Pack _____

Serial No. (if applicable)

Answers

11

Hydrac

Hyder

Bailer

☒ Bottom Valve

☐ Double Check Valve

☐ Stainless-steel Kemmerer

Type of Container VOA

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	7.22	4.71x3	14.13
Gravel Pack			
Drilling Fluids			
Total			

Water Disposal

cutz Separator Bloomfield N.M.

Type of Container VOAParameters Sampled For BTX 802.1

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
5-30-01	1015		X				3	3			20.3	7.07	760		Cloudy, 10 PM 5-30-01
	1020		X				3	6			19.1	7.07	650		" "
	1026		X				3	9			18.4	7.06	690		" "
	1031		X				5	12			19.1	7.06	610		" "
	1036		X			41.66	3	15			17.9	7.08	580		no change

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

Comments Sawmilled for BTex 10-10

Date 30-01

Reviewer

Date _____

6/4/



Page 1 of 1

Purgings

Name/Identification	Site Address
FiberScan 4-1 Com #403220	Duraal Set ITMm CO.

EPFS quarterly Sampling

Project Manager Lisa White

Development Criteria

~~Z6~~ 10.5 Casing Volumes of Water Removal

Stabilization of Indicator Parameters

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 47.21

Initial Depth to Water (feet)

Height of Water Column in Well (feet)

Diameter (inches): Well 2'1' Gravel Pack

Methods of Development

Pump	B ailer

☐ Centrifugal

☒ Bottom Valve

☐ Submersible ☐ Double Check Valve

☐ Peristaltic ☐ Stainless-steel Kemmerer

☐ Other

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	9,001	1,478.3	4,471
Gravel Pack			
Drilling Fluids			
Total			4,471

☐ Other

Water Disposal

Field No. 508-27

amplifying Activities

name of Container	No of Containers
1:004	2
2	
3	

Parameters Sampled For 15 Tex 8021

Water Removal Data

Date	Time	Development		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume		Product Volume		Temperature (°C)	pH	Conductivity (amhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Method	Bailer				Removed (gallons)	Cumulative	Removed (gallons)	Cumulative					
5-30-01	1106		X				1	1			17.2	7.33	5290		210- dry Brown
	1110		X				1	2			17.7	6.96	5160		" "
	1114		X				1	3			16.7	6.96	5060		" "
	1116		X				1	4			16.5	6.89	5300		" "
	1121		X			42.36	1	5			16.2	6.85	5690		no change

Circle the date and time that the development criteria are met

Comments Sampled for BT02 1130

Developer's Sign _____(s)

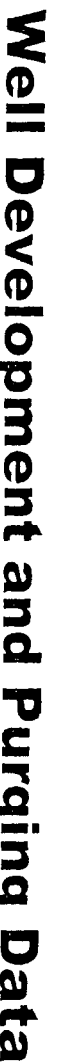
20-7-20

Date 30-01

Reviewer

Date _____

र	ग
---	---



Client/Project Name	En pusa Field Services EPOS Quarterly Sampling
Project Manager	LISA WAIN

Water Volume Calculation

2.5 Casing Volumes of Water Removal

7 Stabilization of Indicator Parameters

☐ Other _____

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

Centrifugal

☐ Submersible

☐ Peristaltic ☐ Stainless-steel Kemmerer

☐ Other

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	11.41	1.8623	5.58
Gravel Pack			
Drilling Fluids			
Total			5.58

Type of Container	No. of Containers
WDA	

Parameters Sampled For ~~ATEX~~ 4021

Water Disposal

Kurtz Separator Blomfield A/M.

☐ Other

☒ Temperature Meter

☒ Conductivity Meter

Hydax
Hydax☒ PH Meter

Hydraz

Instruments

Serial No. (if applicable)

Project Manager LiSA wynn

2122

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

	Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature ($^{\circ}\text{C}$)	pH	Conductivity ($\mu\text{mhos/cm}$)	Dissolved Oxygen (mg/L)	Comments
			Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
S-30	a	1153-		X				1.25	1.25			20.1	6.79	8350		Cloudy water
		1156		X				1.25	2.50			18.9	6.71	8160	"	"
		1159		X				1.25	3.75			18.5	6.22	8490	"	"
		1203		X				1.25	5			18.2	6.77	8140	"	"
		A 04		X			49.30	1.25	6.25			16.9	7.08	8920	No Change	

Comments After 13 min approximately 6.25 gal spilled well but let recover. Sampled

for BTeX 1230

Developer's Signature (s)

Date 7-20-01 Reviewer _____

Reviewer

Date _____

17

