

3R - 190

REPORTS

DATE:

2001

SAN JUAN BASIN PIT CLOSURES

San Juan Basin, New Mexico

**El Paso Field Services
Pit Project Groundwater Sites
Annual Report
Volume IB-Federal Sites**

RECEIVED

MAR 04 2002

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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 IB

TABLE OF CONTENTS

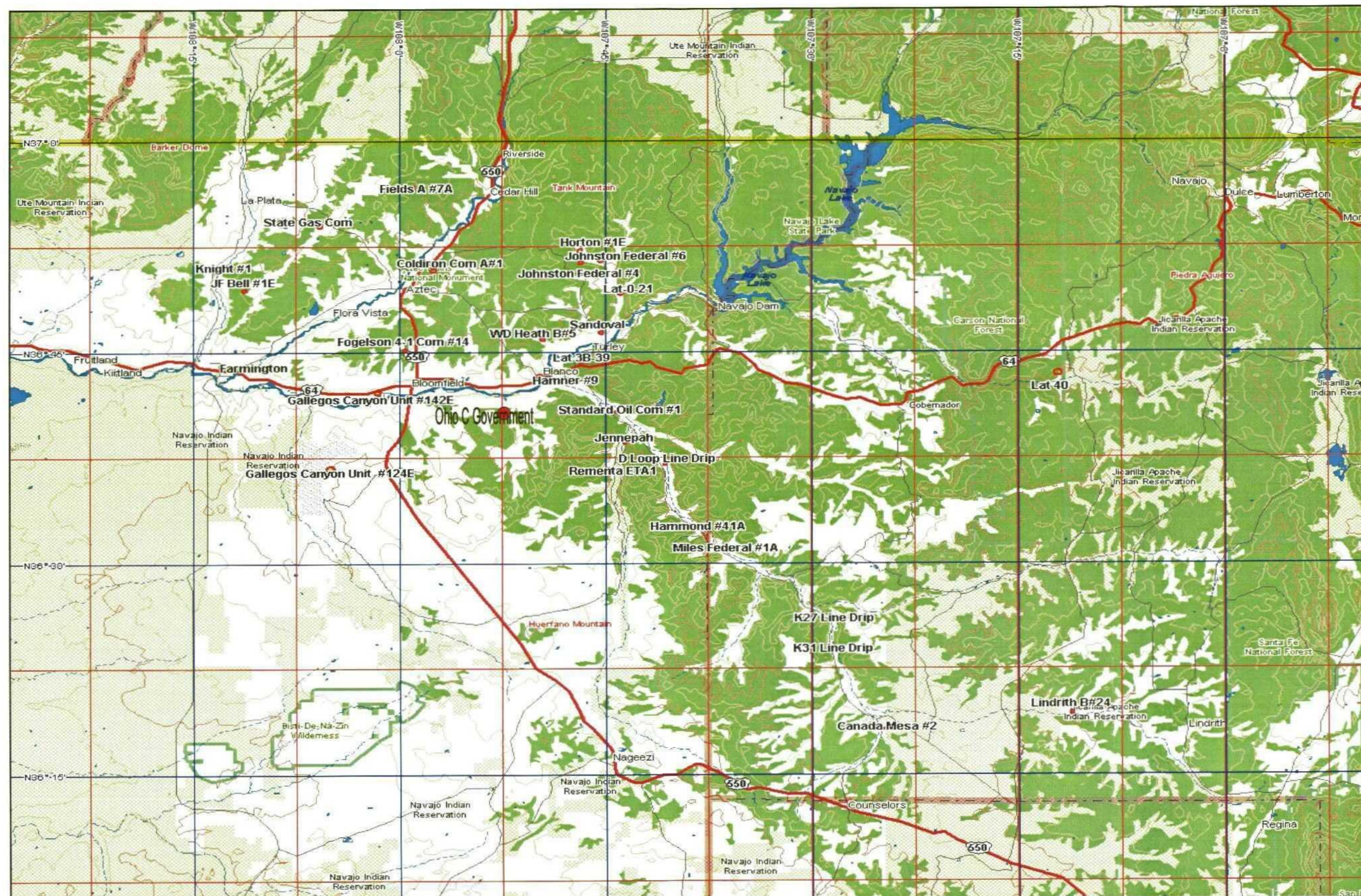
Site Map

METER or LINE ID	SITE NAME	TOWNSHIP	RANGE	SECTION	UNIT
97213	Hamner #9	29N	09W	20	A
72890	Ohio C Government #3	28N	11W	26	P
LD169	D Loop Line Drip	28N	08W	33	I
LD174	LAT LD 40	28N	04W	13	H
89894	Hammond #41A	27N	08W	25	O
94810	Miles Fed 1A	26N	07W	5	F
LD072	K27 LD072	25N	06W	4	E
87640	Canada Mesa #2	24N	06W	24	I



MWH
MONTGOMERY WATSON HARZA

Groundwater Site Map



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096

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

EPFS GROUNDWATER PITS 2001 ANNUAL GROUNDWATER REPORT

Hamner #9

Meter Code 97213

SITE DETAILS

Legals Twn: 29N Rng: 09W Sec: 20 UNIT: A
NMOCD Haz Ranking 30 Land Type: Federal Operator: Amoco Production Company

PREVIOUS ACTIVITIES

Site Assessment: May-94 Excavation May-94 Soil Boring: Aug-95 Monitor Well: Aug-95
Geoprobe: Aug-96 Additional MWs: Sep-99 Downgradient MW's: NA Replace MW: NA
PSH Removal Initiated: NA ORC Nutrient Injection NA Re-Excavation: NA
Quarterly Initiated Nov-96 Annual Initiated Aug-00 Quarterly Resumed: NA

2001 ACTIVITY

Groundwater monitoring - Quarterly monitoring continued through 2001 for MW-1. Annual samples were obtained for MW-2 and MW-3 on August 2001.

SUMMARY TABLES AND GRAPHS

Groundwater analytical data are presented in Table 1 BTEX. Copies of the laboratory data sheets and the associated quality assurance/quality control data are presented as 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 performed at this site for 2001.

DISPOSITION OF GENERATED WASTES

No wastes were generated at this site for 2001.

EPFS GROUNDWATER PITS 2001 ANNUAL GROUNDWATER REPORT

Hamner #9
Meter Code: 97213

ISOCONCENTRATION MAPS

No isoconcentration maps were generated at this site.

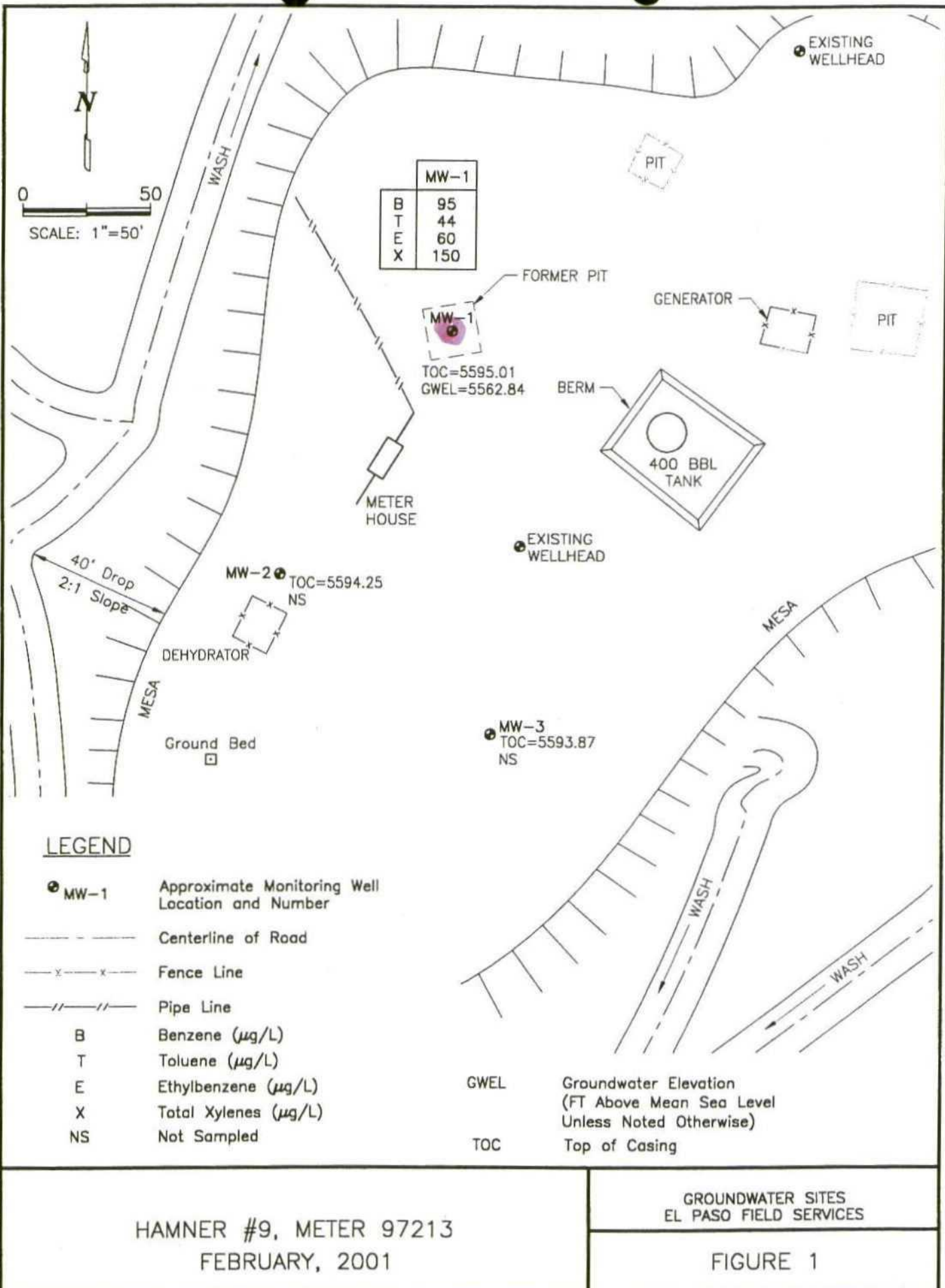
CONCLUSIONS

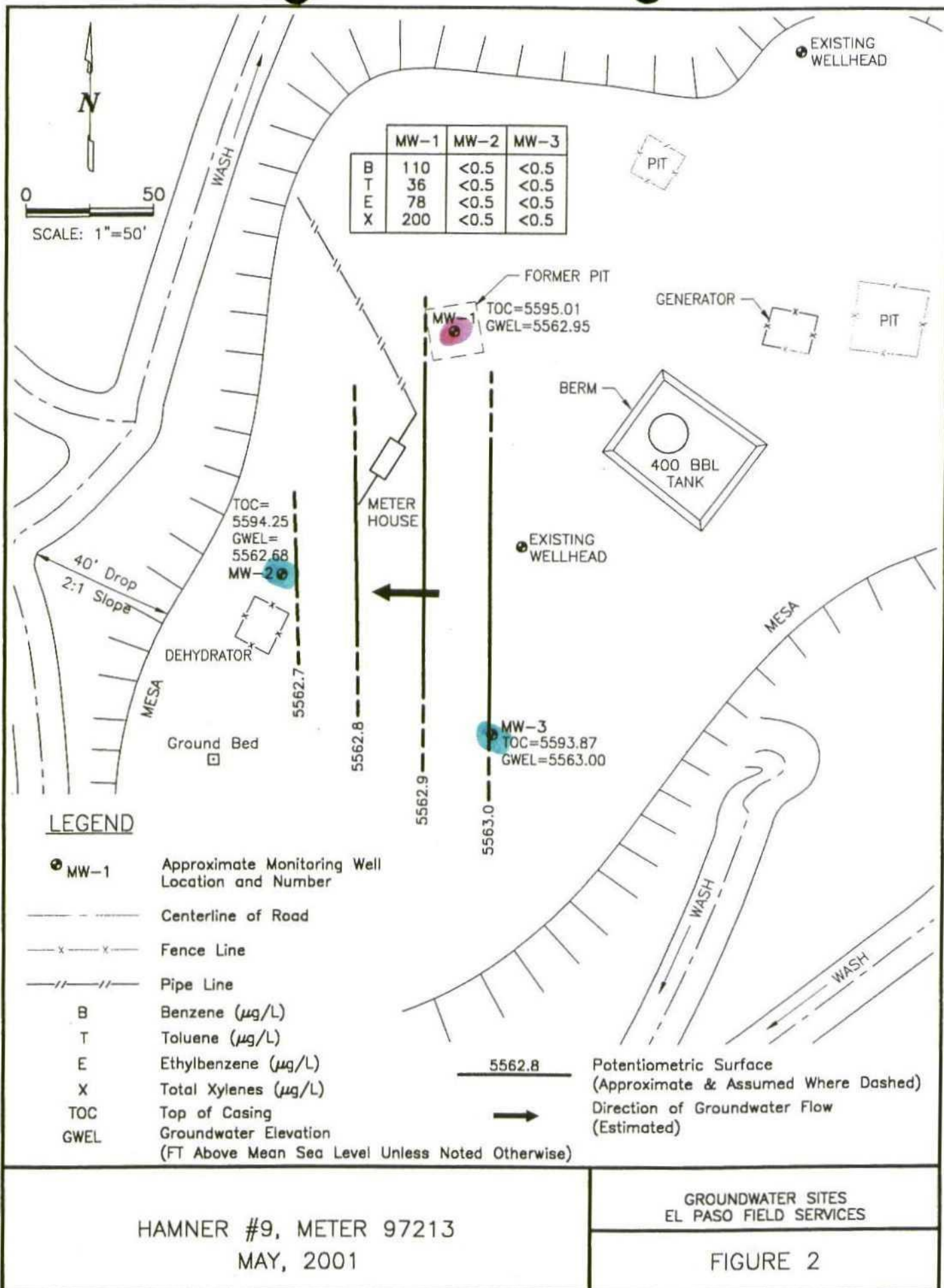
Concentrations in MW-1 have remained fairly steady at around 100 ppb benzene.

Concentrations in MW-2 and MW-3 have been below analytical detection limits for the three annual sampling events in 1999, 2000, and 2001.

RECOMMENDATIONS

- > EPFS recommends oxygenation of source well MW-1 to decrease hydrocarbon concentrations
- > Continue sampling MW-1 on a semi-annual basis to evaluate success of oxygenation. Once NMWQCC standards are attained, perform quarterly sampling to demonstrate closure.
- > Based on the history of non-detected hydrocarbons, EPFS recommends not sampling MW-2 and MW-3 until the site is ready for closure.
- > Following OCD approval for closure, monitoring wells will be abandoned using OCD approved guidelines.

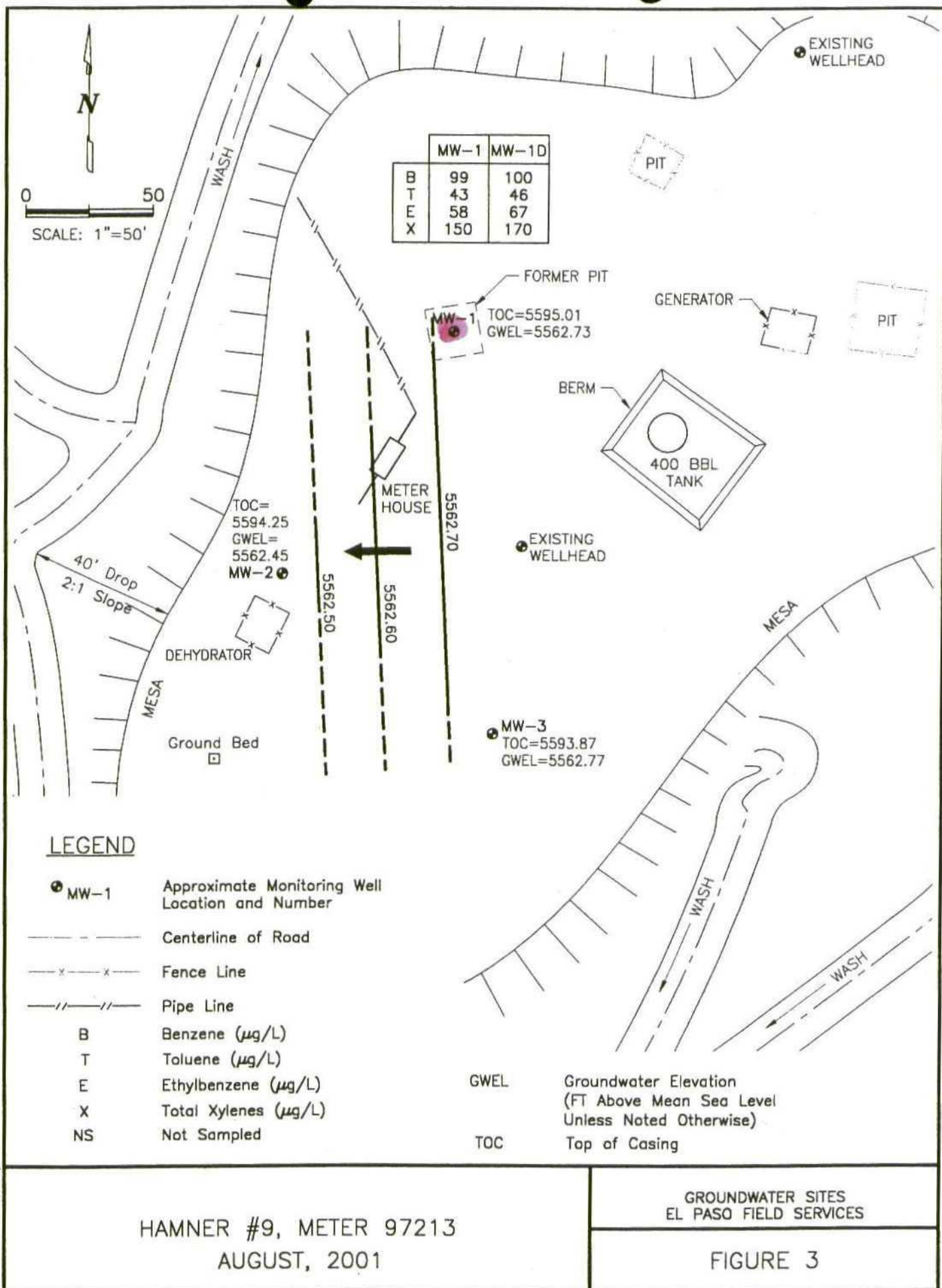




HAMNER #9, METER 97213
MAY, 2001

GROUNDWATER SITES
EL PASO FIELD SERVICES

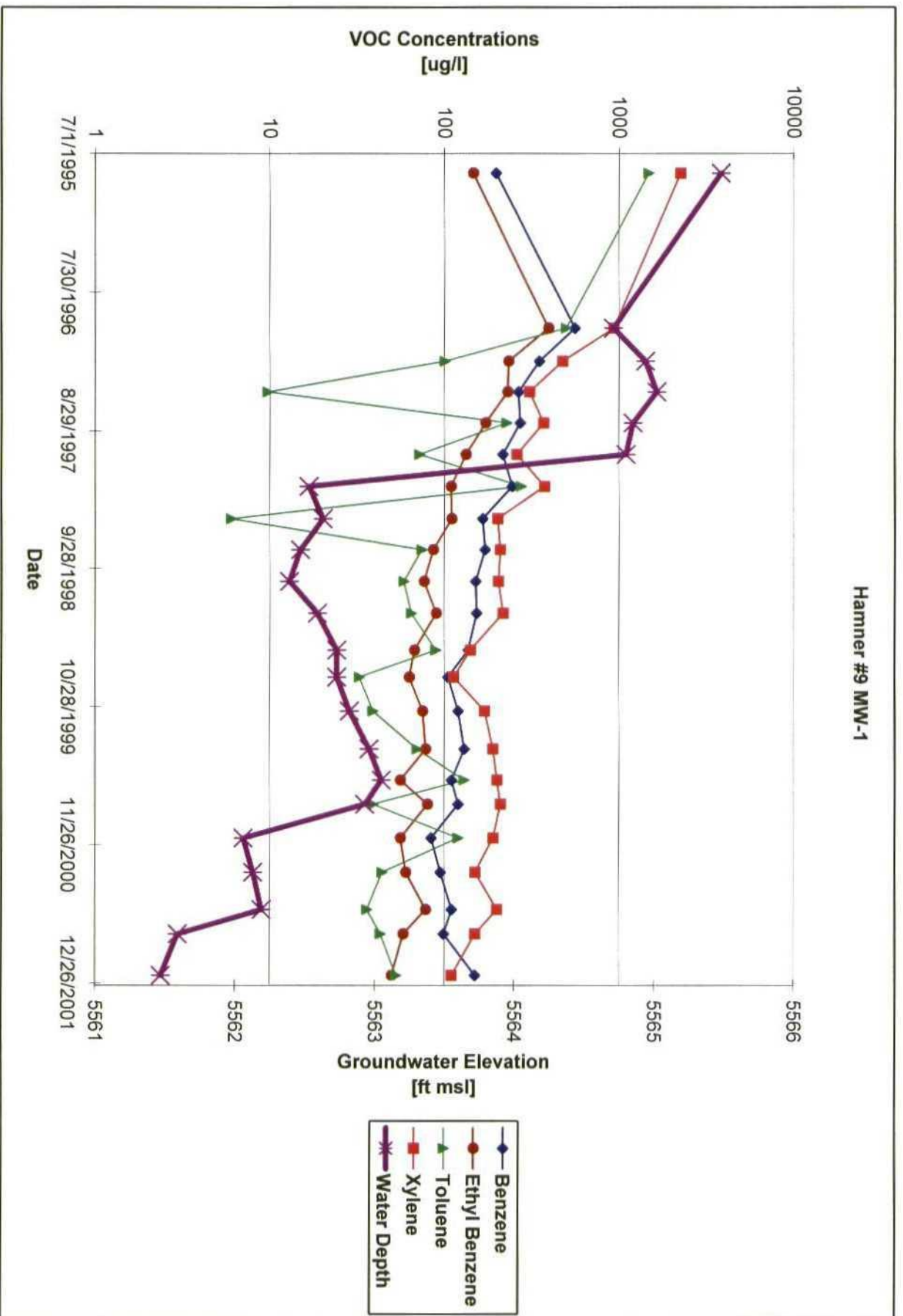
FIGURE 2



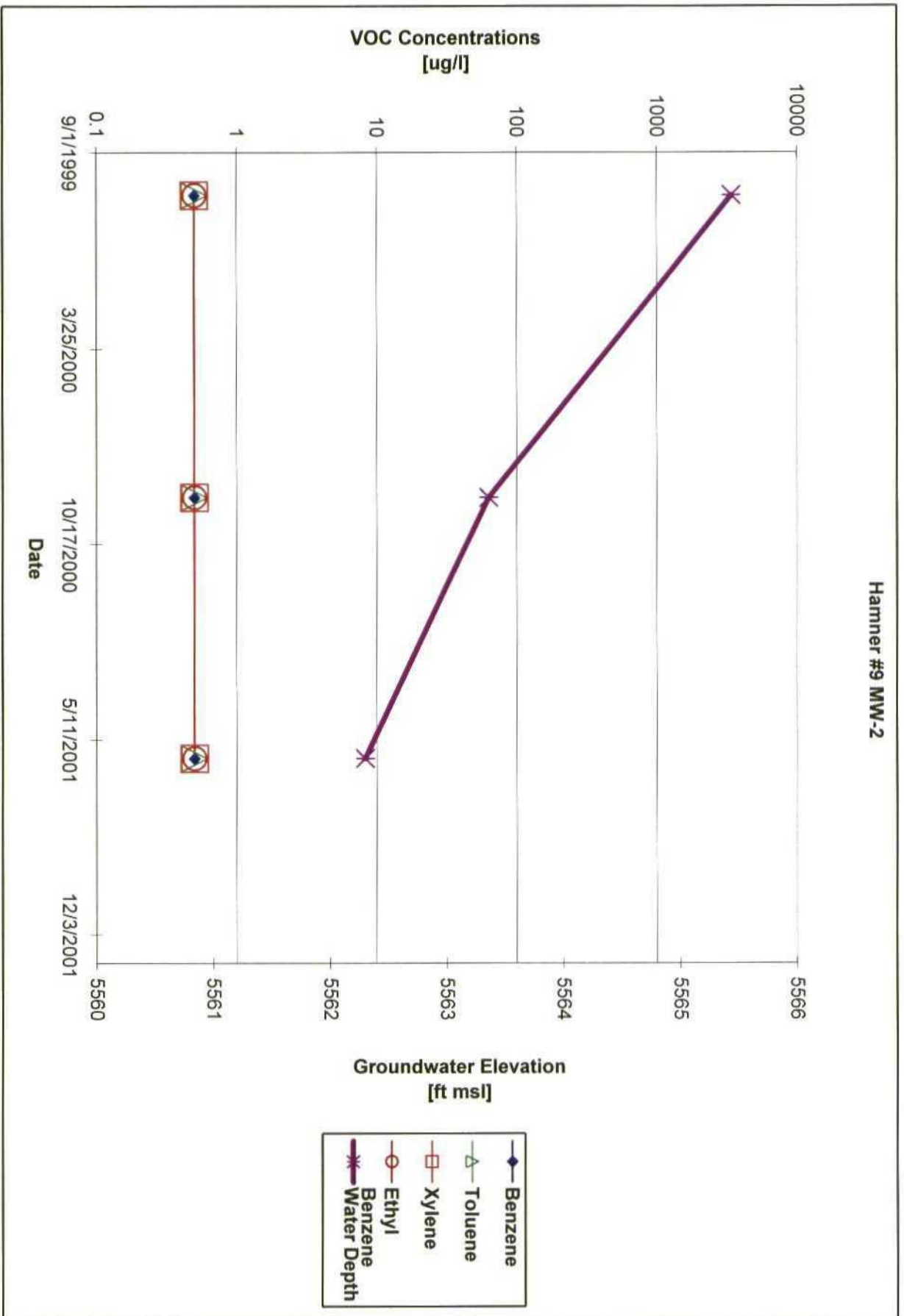
**Table 1 BTEX
Hamner #9**

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)
97213	Hamner #9	2/12/2001	1	95	60	44	150	32.12	5562.13
97213	Hamner #9	5/30/2001	1	110	78	36	200	32.06	5562.19
97213	Hamner #9	8/7/2001	1	99	58	43	150	32.28	5561.59
97213	Hamner #9	12/4/2001	1	150	50	53	110	32.40	5561.47
97213	Hamner #9	5/30/2001	2	< 0.5	< 0.5	< 0.5	< 0.5	31.57	5562.3
97213	Hamner #9	5/30/2001	3	< 0.5	< 0.5	< 0.5	< 0.5	30.87	5563
97213	Hamner #9	8/7/2001	MWS1	100	67	46	170	32.28	

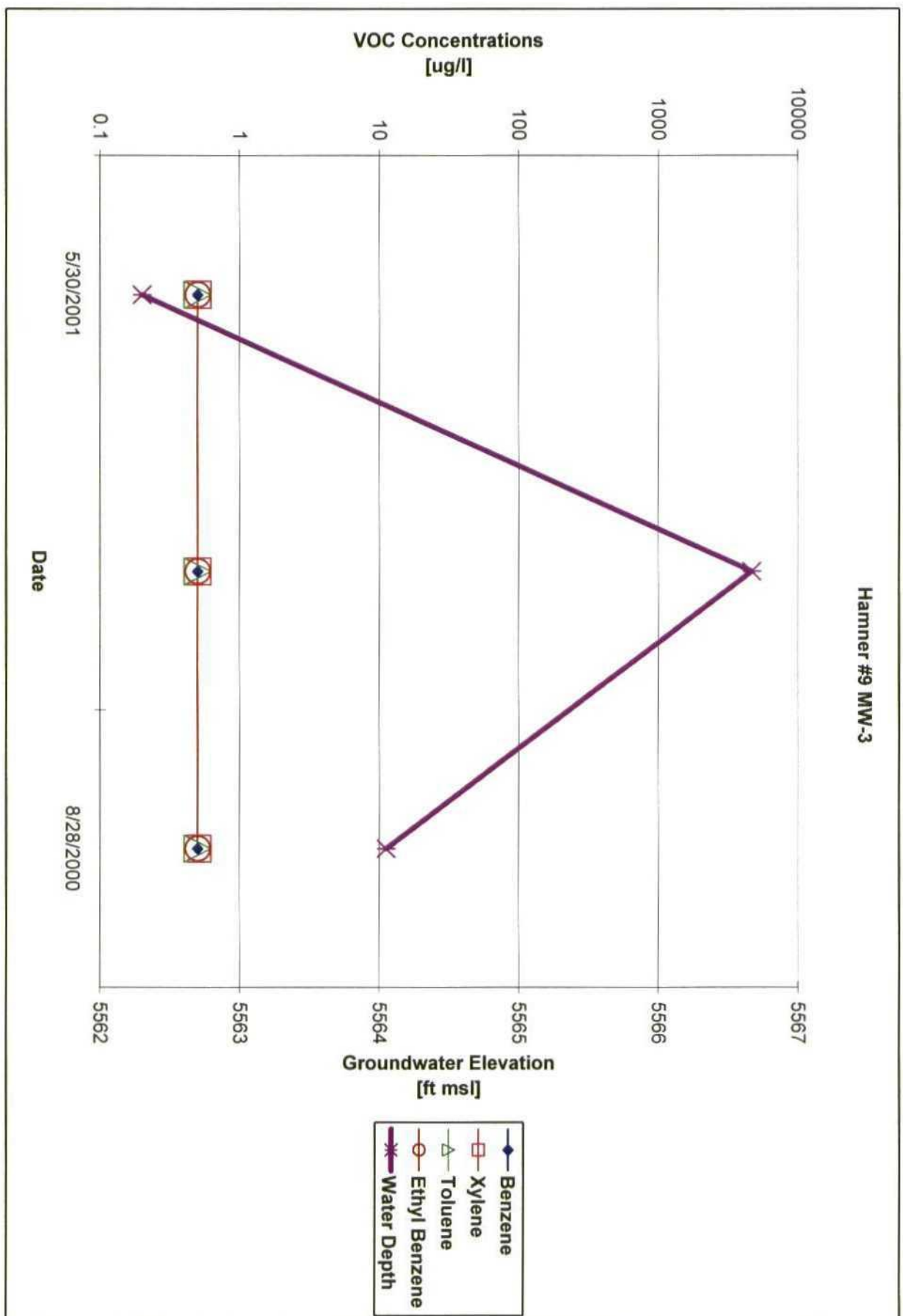
Hammer #9 MW-1



Hammer #9 MW-2

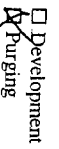


Hammer #9 MW-3



ATTACHMENT 1

2001 GROUNDWATER ANALYTICAL



WELL DEVELOPMENT AND PURGING DATA FORM

Well Number 155

Page 1 of 1

Project Name EW Project

Project Manager _____

Project No. 1573012

Client Company 77111616 Field 07070707

Site Name HA-50697213

Site Address 21401 Sun Town Cir

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 40.00

Initial Depth to Water (feet) 32.00

Height of Water Column in Well (feet) _____

Diameter (inches): Well _____ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.75	5,512.3	16,500
Gravel Pack			
Drilling Fluids			
Total			16,500

instruments

Serial No. (if applicable)

- ## Methods of Development
- | Pump | Boiler |
|--------------------------------------|---|
| ☐ Centrifugal | ☒ Bottom Valve |
| ☐ Submersible | ☐ Double Check Valve |
| ☐ Peristaltic | ☐ Stainless-steel Kemmerer |
| ☐ Other | |

Water Disposal

Kurt's Separator Bicycles Co. Mfg.

Water Removal Data

[illegible]

Comments

Developmental Signature(s)

Date 2-4-01

Reviewer J1) was

Date 12/12/01

SHADED AREAS ARE FOR LAB USE ONLY

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

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

PLI Accession #

[illegible]

amec

Project No.: K205121

Task: _____

Date: 12-05-2011

1000

Reason Not Measured: D = Dry; O = Obstructed; N = Not Accessible

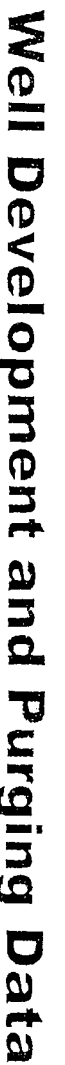
Comments: MW 3 well protected Damaged By pile of debris
Blowing of material

Signature: Chris L. Moore Date: 12-4-09

Comments: MW 3 well protected Damaged By pipe & debris
Bladder of water

Date: 12-4-01

WELL OBSERVATION DATA



Page 1 of 1

Alina

a) No. (if applicable)

Scytirator Blount, 1911

☐ Other

☐ W
Kurt
Sam

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
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[illegible]

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Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

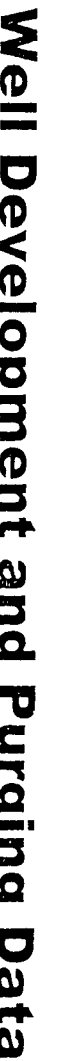
DATE: 8-1-01 PAGE: 1 OF 1

PLI Accession #:

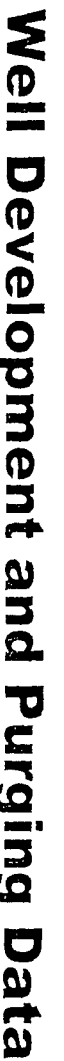
PROJECT MANAGER: LISA Lwin					
COMPANY: GEM					
ADDRESS: 906 San Juan 13100, Suite D Farmington NM 87401					
PHONE: (505) 566-9116					
FAX: (505) 566-9120					
BILL TO: SCOTT POPE					
COMPANY: EL Paso Field Services					
ADDRESS: 604 Reilly Ave Farmington NM 87401					
SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	
HAN-OIO8-Mix 1	8-2-01	1630	H ₂ O		Petroleum Hydrocarbons (418.1) TRPH
HAN-OIO8-Mix 1	8-2-01	1630	H ₂ O		(MOD.8015) Diesel/Direct Inject
Trigo Blank	8-1-01	1430	H ₂ O		(M8015) Gas/Purge & Trap
					8021 (BTEX)/8015 (Gasoline) MTBE
				X	8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE
				X	8021 (TCL)
				X	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

11/17/09 [REDACTED] Inc.: Pinnacle Laboratories, Inc. • 2709-D Pan American Freeway, NE • Albuquerque, New Mexico 87110 • (505) 344-3777 • Fax (505) 344-4413 • E-mail: P.I.N._LAB@WORLDFINE.AT.TE.NET
DISTRIBUTION: [REDACTED] P.L.I. Canary - Origination

Pinnacle Laboratories Inc.

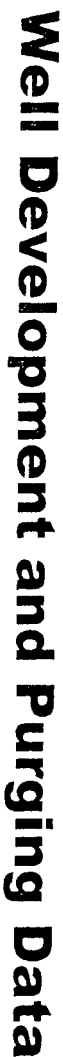


2076



Well Development and Purging Data

65



Page / of /

Ser Tarn CO.

Project Manager LISA WINN

Instruments
☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter

☐ Other

Sampling Activities

Type of Container VQA No. of Containers 2
Parameters Sampled For BTEX & O2

Date	Time	Pump	Development Method	Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
								Increment	Cumulative	Increment	Cumulative					
8-30-01	1415			X				.75	.75			20.4	5.60	8540		Cloudy / no odor
	1418			X				.75	1.5			19.2	5.64	9280		"
	1450			X				.75	2.25			18.9	5.0	8170		Cloudy, Light Brown odor
	1453			X				.75	3			18.3	5.67	8010		"
	1456			X			31.21	.75	3.75			18.2	5.68	7870		No Change

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

Comments	Sampled for BTEX
	5/10

575

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Pinnacle Laboratories Inc.

CHAIN OF CUSTODY DATE: 5-30-01 PAGE: 1 OF 1

PLAASSOT

PROJECT INFORMATION		PRIORITY AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	
PROJ NO.	6167	(RUSH) ☐ 2hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☒
PROJ NAME	555-1000-1000 Supply	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER	
P.O. NO.		METHANOL PRESERVATION ☐	
SHIPPED VIA		COMMENTS: FIXED FEE ☐	
SAMPLE RECEIPT		F-X RESULTS TO LISA WINN	
NO. CONTAINERS			
CUSTODY SEALS	Y/N/NA		
RECEIVED INTACT			
BLUE ICE			
RECEIVED BY:		RECEIVED BY:	
Signature:		Signature:	
Time:		Time:	
Printed Name:		Printed Name:	
Date:		Date:	
Company:		Company:	
See (reverse side) (Force Majeure)			
RECEIVED BY:		RECEIVED BY (CAB)	
Signature:		Signature:	
Time:		Time:	
Printed Name:		Printed Name:	
Date:		Date:	
Company:		Company:	

11/1/03/98 P. [redacted] Pinnacle Laboratories, Inc. • 2709-D Par American Freeway, NE Albuquerque, New Mexico 87107 • (505) 344-3777 • Fax (505) 344-4413 • E-mail: P.LAB@WORLDNET.ATT.NET
DISTRIBUTION: W.H. Canary - Originator

PHILIP

Well Number MW 01

☐ North Point
☒ Purging

WELL DEVELOPMENT AND PURGING DATA

ENVIRONMENTAL

Serial No. WORD

Page 1 of 1

Project Name GPS Quarterly Sampling

Project Manager R Thompson

Project No. 62800107

Client Company

Phone/Task No. 0301

Site Name HAMMER #9

Site Address Rural Sen 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) 40.85

Initial Depth to Water (feet) 32.12

Height of Water Column in Well (feet) 8.73

Diameter (inches): Well 4" Gravel Pack

Item	Water Volume in Well (Cubic Feet)	Gravel Pack (Gallons)	Gravel Pack Removed (Gallons to be Removed)
Well Casing	<u>8.73</u>	<u>5.69</u>	<u>X3</u>
Gravel Pack			
Drilling Fluids			
Total			<u>17.07</u>

Methods of Development

☐ Pump
☐ Centrifugal
☐ Submersible
☐ Peristaltic
☐ Other

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

Water Disposal Bramfield NM K-12 Separator

Water Removal Data

Date	Time	Development Method (Pump/Boiler)	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Pumped (gallons)		Predicted Volume Removed (gallons)	Temperature (°F)	pH	Conductivity µmhos/cm	Dissolved Oxygen (mg/l)	Comments
						Incremental	Cumulative						
02-12-01	1353	✓	✓			3.5	3.5		17.7	7.82	OUT OF Range		Sieve Retain 88.0%
						3.5	7						
						3.5	10.5						
						3.5	14						
			✓			3.5	17.5						

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

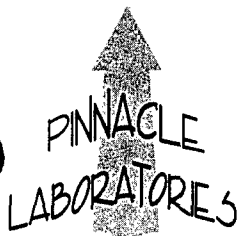
Comments AFTER Bailing Approximately 5.5 gal. Bailed well Dry, Let Recover Sampled for BTEX 1430

Developer's Signature OK A. M. as

Date 02-12-01

Reviewer RT

Date 2/13/01



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

Pinnacle Lab ID number **112035**
December 27, 2001

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS GW PROJECT *Hamner #9 97213*
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

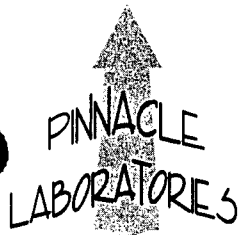
On 12/10/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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	PINNACLE ID	: 112035
PROJECT #	: 1517000121	DATE RECEIVED	: 12/10/01
PROJECT NAME	: EPFS GW PROJECT	REPORT DATE	: 12/27/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
112035 - 01	HAN-0112-MW1	AQUEOUS	12/04/01



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

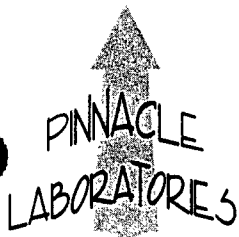
PINNACLE I.D.: 112035

SAMPLE		DATE		DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	HAN-0112-MW1	AQUEOUS	12/04/01	NA	12/11/01	100

PARAMETER	DET. LIMIT	UNITS	HAN-0112-MW1
BENZENE	0.5	UG/L	150
TOLUENE	0.5	UG/L	53
ETHYLBENZENE	0.5	UG/L	< 50
TOTAL XYLENES	0.5	UG/L	110

SURROGATE:
BROMOFLUOROBENZENE (%) 109
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.	: 112035
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)

TEST 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 # : 121101
CLIENT : AMEC EARTH & ENVIRONMENTAL
PROJECT # : 1517000121
PROJECT NAME : EPFS GW PROJECT

PINNACLE I.D. : 112035
DATE EXTRACTED : N/A
DATE ANALYZED : 12/11/01
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	20.3	102	0	(80 - 120)	20
TOLUENE	<0.5	20.0	20.8	104	20.6	103	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	20.6	103	20.5	103	0	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	64.6	108	64.0	107	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

PINNACLE
LABORATORIES

ITAMNER #1

97213

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

Pinnacle Lab ID number **108040**
August 22, 2001

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

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name EPFS REMEDIAITON PROJECT
Project Number 6169

Attention: LISA WINN/SCOTT POPE

On 08/08/01 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	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 108040
PROJECT #	: 6169	DATE RECEIVED	: 08/08/01
PROJECT NAME	: EPFS REMEDIAITON PROJECT	REPORT DATE	: 08/22/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
108040 - 01	HAN-0108-MW1	AQUEOUS	08/07/01
108040 - 02	HAN-0108-MWS1	AQUEOUS	08/07/01
108040 - 03	TRIP BLANK	AQUEOUS	08/01/01

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIAITON PROJECT

PINNACLE I.D.: 108040

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	HAN-0108-MW1	AQUEOUS	08/07/01	NA	08/17/01	10
02	HAN-0108-MWS1	AQUEOUS	08/07/01	NA	08/17/01	10
03	TRIP BLANK	AQUEOUS	08/01/01	NA	08/16/01	1

PARAMETER	DET. LIMIT	UNITS	HAN-0108-MW1	HAN-0108-MWS1	TRIP BLANK
BENZENE	0.5	UG/L	99	100	< 0.5
TOLUENE	0.5	UG/L	43	46	< 0.5
ETHYLBENZENE	0.5	UG/L	58	67	< 0.5
TOTAL XYLENES	0.5	UG/L	150	170	< 0.5

SURROGATE:

BROMOFLUOROBENZENE (%)

106

110

96

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

PINNACLE
LABORATORIES

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.	: 108040
BLANK I. D.	: 081601	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/16/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIATION 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 (%) 102
SURROGATE LIMITS: (80 - 120)
TEST NOTES:
N/A



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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 108040
BLANK I. D.	: 081701	DATE EXTRACTED	: NA
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 08/17/01
PROJECT #	: 6169	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS REMEDIAITON PROJECT		

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

URROGATE:
ROMOFLUOROBENZENE (%) 103
URROGATE LIMITS: (80 - 120)
HIST NOTES:
I/A

PINNACLE
LABORATORIES

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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 108050-01
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS REMEDIAITON PROJECT

PINNACLE I.D. : 108040
DATE EXTRACTED : NA
DATE ANALYZED : 08/16/01
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	20.7	104	20.7	104	0	(80 - 120)	20
TOLUENE	<0.5	20.0	22.0	110	22.2	111	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	22.6	113	22.8	114	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	67.8	113	68.3	114	1	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

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August 9, 01

Scott Pope

This is to inform you that Pinnacle Laboratories, Inc. received samples on 8/8/01.
Enclosed is a copy of the Chain of Custody. If you have any questions regarding the status of
your project please reference Pinnacle ID number 108040.

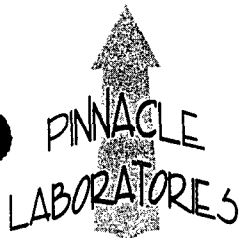
Thank you,


Jacinta Tenorio, Project Manager
Pinnacle Laboratories, Inc.

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Fax (505) 344-4413

Pinnacle Lab ID number **106004**
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
Project Number 6169

HAMNER #9

Meter 89620

Attention: Lisa Winn/Scott Pope

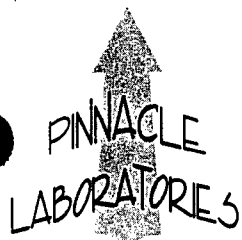
On 06/01/01 Pinnacle Laboratories, Inc., (ADHS License No. AZ0592 pending), received a request to analyze **aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

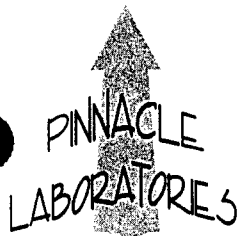
MR: jt

Enclosure



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

CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	PINNACLE ID	: 106004
PROJECT #	: 6169	DATE RECEIVED	: 06/01/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 06/05/01
PINNACLE			
ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
106004 - 01	HAM-0105-MW1	AQUEOUS	05/30/01
106004 - 02	HAM-0105-MW2	AQUEOUS	05/30/01
106004 - 03	HAM-0105-MW3	AQUEOUS	05/30/01



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

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

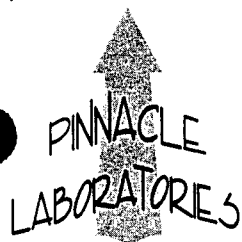
PINNACLE I.D.: 106004

PROJECT NAME: FLEETS QUARTERLY SAMPLING						
SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	HAM-0105-MW1	AQUEOUS	05/30/01	NA	06/01/01	5
02	HAM-0105-MW2	AQUEOUS	05/30/01	NA	06/01/01	1
03	HAM-0105-MW3	AQUEOUS	05/30/01	NA	06/01/01	1

PARAMETER	DET. LIMIT	UNITS	HAM-0105-MW1	HAM-0105-MW2	HAM-0105-MW3
BENZENE	0.5	UG/L	110	< 0.5	< 0.5
TOLUENE	0.5	UG/L	36	< 0.5	< 0.5
ETHYLBENZENE	0.5	UG/L	78	< 0.5	< 0.5
TOTAL XYLENES	0.5	UG/L	200	< 0.5	< 0.5

SURROGATE:
BROMOFLUOROBENZENE (%) 120 103 104
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:
N/A



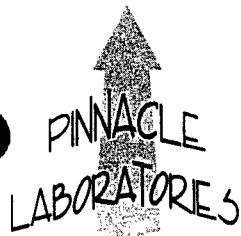
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 106004
BLANK I. D.	: 060101	DATE EXTRACTED	: N/A
CLIENT	: GOLDEN ENVIRONMENTAL MNGT.	DATE ANALYZED	: 06/01/01
PROJECT #	: 6169	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:
N/A



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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 060101
CLIENT : GOLDEN ENVIRONMENTAL MNGT.
PROJECT # : 6169
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 106004
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

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

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

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PROJECT MANAGER:	LISA WINN
COMPANY:	GEM
ADDRESS:	906 Santa Juana Blvd Farmington N.M. 87401
PHONE:	(505) 566 9116
FAX:	(505) 566 -
BILL TO:	SCOTT POPE
COMPANY:	EL PASO Field Services
ADDRESS:	614 Reilly Ave Farmington N.M. 87499

[illegible]

PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	
PROJ. NO.:	6169	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK	(NORMAL) ☒
PROJ. NAME:	Epis quarterly Sampling	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER	
P.O. NO.:		METHANOL PRESERVATION ☐	
SHIPPED VIA:		COMMENTS: FIXED FEE ☐	
SAMPLE RECEIPT		Fax Results To Lisa Winn	
NO. CONTAINERS	6		
CUSTODY SEALS	Y/N/NA		
RECEIVED INTACT	YES		
BLUE ICE/ICE	6.2.2		

[illegible]

RELINQUISHED BY:	1.	Time: 1600	RELINQUISHED BY:	2.
Signature: <i>[Signature]</i>			Signature: <i>[Signature]</i>	
Printed Name: CHICA.MEZ		Date: 5-3-01	Printed Name: MANUEL TORRES	
Company:			Company:	
See reverse side (Force Majeure)			RECEIVED BY: (LAB)	2.
RECEIVED BY:	1	Time:	Signature: <i>[Signature]</i>	Time: <i>[Signature]</i>
Signature:		Date:	Printed Name: MANUEL TORRES	Date: 6/1/01
Printed Name:			Company:	Pinnacle Laboratories Inc.

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number **102068**
February 27, 2001

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 02/16/01 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.

The scheduled reagent blank associated with this study did not run. However, clean samples validated the instrument in lieu of the reagent blank. The sample data is reported.

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	: 102068
PROJECT #	: 62800107	DATE RECEIVED	: 02/16/01
PROJECT NAME	: EPFS QUARTERLY SAMPLING	REPORT DATE	: 02/27/01
PINNACLE			DATE
ID #	CLIENT DESCRIPTION	MATRIX	COLLECTED
102068 - 01	HAM-0201-MW01	AQUEOUS	02/12/01



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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.: 102068

SAMPLE			DATE	DATE	DATE	DIL.
C. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	HAM-0201-MW01	AQUEOUS	02/12/01	NA	02/22/01	50

PARAMETER	DET. LIMIT	UNITS	HAM-0201-MW01
BENZENE	0.5	UG/L	95
TOLUENE	0.5	UG/L	44
ETHYLBENZENE	0.5	UG/L	60
TOTAL XYLENES	0.5	UG/L	150

surrogate:
BROMOFLUOROBENZENE (%) 106
SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 102068
BLANK I. D.	: 022101-B	DATE EXTRACTED	: NA
CLIENT	: PHILIP ENVIRONMENTAL	DATE ANALYZED	: 02/21/01
PROJECT #	: 62800107	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: EPFS QUARTERLY SAMPLING		

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

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



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GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 102067-01
CLIENT : PHILIP ENVIRONMENTAL
PROJECT # : 62800107
PROJECT NAME : EPFS QUARTERLY SAMPLING

PINNACLE I.D. : 102068
DATE EXTRACTED : NA
DATE ANALYZED : 02/21/01
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	19.1	96	19.3	97	1	(80 - 120)	20
TOLUENE	<0.5	20.0	18.0	90	17.9	90	1	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.4	97	19.7	99	2	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	57.5	96	57.5	96	0	(80 - 120)	20

CHEMIST NOTES:
N/A

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

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

