3R - 190

REPORTS

DATE:

2002

elpaso Field Services

Certified Mail: #7001 1940 0002 1371 7676

February 28, 2003

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

RE: 2002 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 Annual Reports (Volumes 1, 2 and 3) by land type. Volume 1 contains Annual Reports for sites found on Federal land. Volume 2 contains Non Federal sites and Volume 3 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 and EPFS reiterates request for closure of this site. EPFS understands closure of groundwater sites on Navajo land falls under jurisdiction of the Navajo Nation Environmental Protection Agency and original documents have been submitted to them for review. Other Navajo sites are included in the report for your information.

Three additional sites were submitted for closure in 2002. EPFS recently has received closure on the W.D. Heath B-5. Closure approval is pending on the D Loop Line Drip and Hammond # 41A. All of these sites are included in the 2002 Annual Report.

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 0002 1371 7669**
Mr. Bill Liesse, BLM – w / enclosures (federal sites only), **Certified Mail # 7001 1940 0002 1371 7652**

El Paso Field Services
614 Reilly Farmington, New Mexico 87401

elpaso

El Paso Field Services

San Juan Basin Pit Program Groundwater Sites Project

2002 Annual Report Federal Sites (Volume 1)

March 2003

MWH
10619 South Jordan Gateway, Suite 100
Salt Lake City, Utah 84095

EL PASO FIELD SERVICES ANNUAL GROUNDWATER REPORT

FEDERAL SITES VOLUME I

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
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

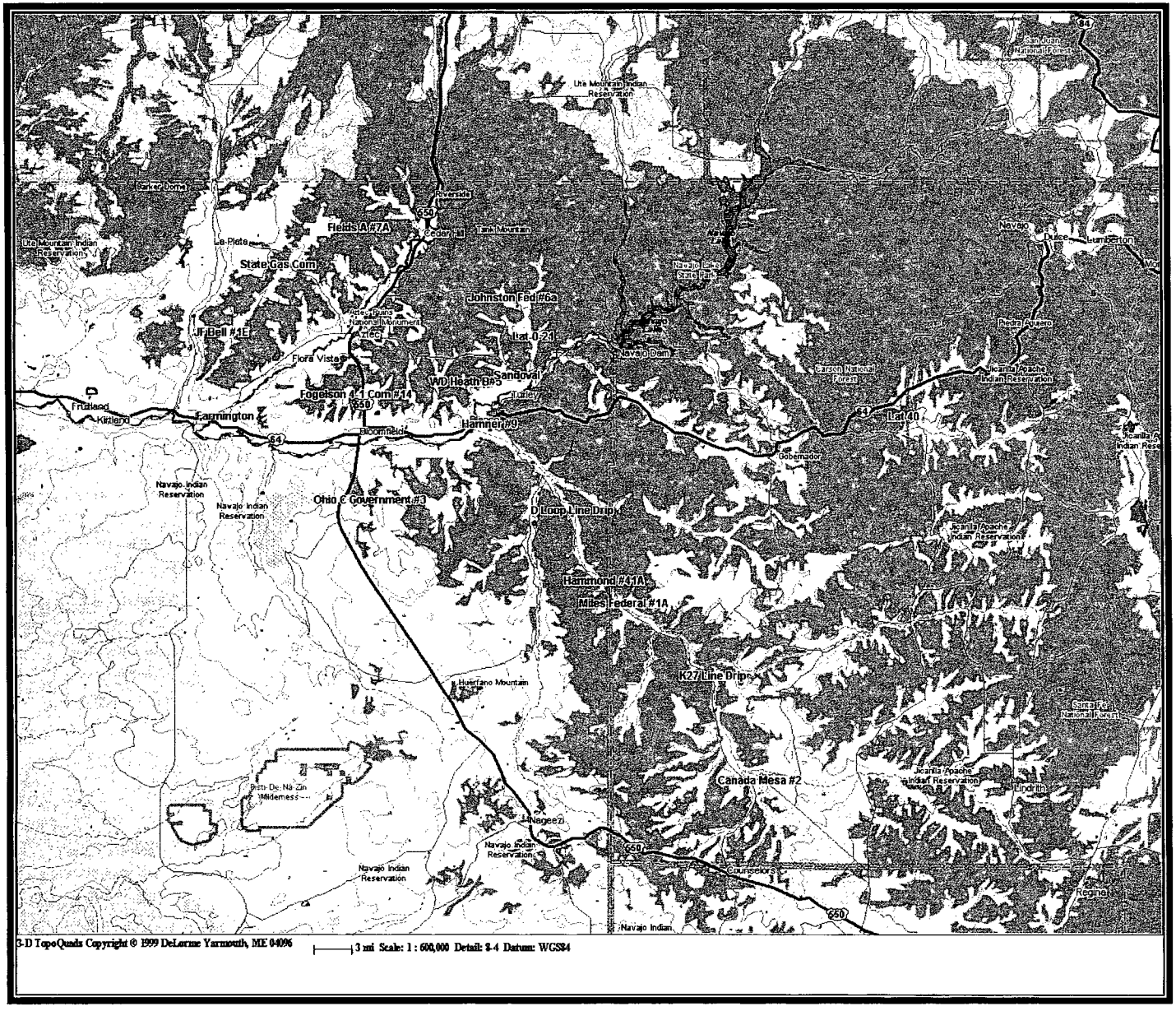
elpaso

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 establihed
NS	not sampled
ORC	oxygen release compound
OCD	Oil Conservation Division
ppb	parts per billion
µg/L	micrograms per liter
X	Total Xylenes

Federal Groundwater Site Map



EPFS GROUNDWATER SITES
2002 ANNUAL GROUNDWATER REPORT

Hamner #9
Meter Code: 97213

SITE DETAILS

LEGAL DESCRIPTION: **Twn:** 29N **Rng:** 9W **Sec:** 20 **Unit:** A

NMOCD Haz Ranking: 30 **Land Type:** Federal **Operator:** Amoco Production Company

PREVIOUS ACTIVITIES

Site Assessment: 5/94	**Excavation:** 5/94	**Soil Boring:** 8/95
Monitor Well: 8/95	**Geoprobe:** 8/96	**Additional MWs:** 9/99
Downgradient MWs: 9/99	**Replace MW:** NA	**Quarterly Initiated:** 11/96
ORC Nutrient Injection: 11/02	**Re-Excavation:** NA	**PSH Removal Initiated:** NA
Annual Initiated: 8/00	**Quarterly Resumed:** NA	

SUMMARY OF 2002 ACTIVITIES

MW-1:

- Semi-annual sampling and water level monitoring was performed during 2002.
- An additional groundwater sample was collected from this well during February 2002.

MW-2: Annual sampling (May 02) and semi-annual water level monitoring was performed during 2002.

MW-3: Annual sampling (June 02) and semi-annual water level monitoring was performed during 2002. The annual sample was originally scheduled for collection during May 2002, however, damage to the protective well casing did not allow the bailer to pass into the well. The surface completion was subsequently repaired and a sample was collected in June.

Site-Wide Activities: An oxygen-releasing compound (ORC) slurry was injected to approximately 15 feet bgs near MW-1 using direct-push technology. Please see the attached site maps for approximate injection point locations.

SUMMARY TABLES AND GRAPHS

- Analytical data are summarized in Table 1 and shown graphically on Figures 4 through 6.
- Direct-push drilling logs for the ORC injection points are provided in Attachment 1.
- Laboratory reports are presented in Attachment 2.
- Field documentation is presented in Attachment 3.

Hamner #9
Meter Code: 97213

SITE MAP

Site maps are attached as Figures 1 through 3.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

Direct-push drilling logs are presented in Attachment 1.

DISPOSITION OF GENERATED WASTES

No wastes were generated at this site during 2002.

ISOCONCENTRATION MAPS

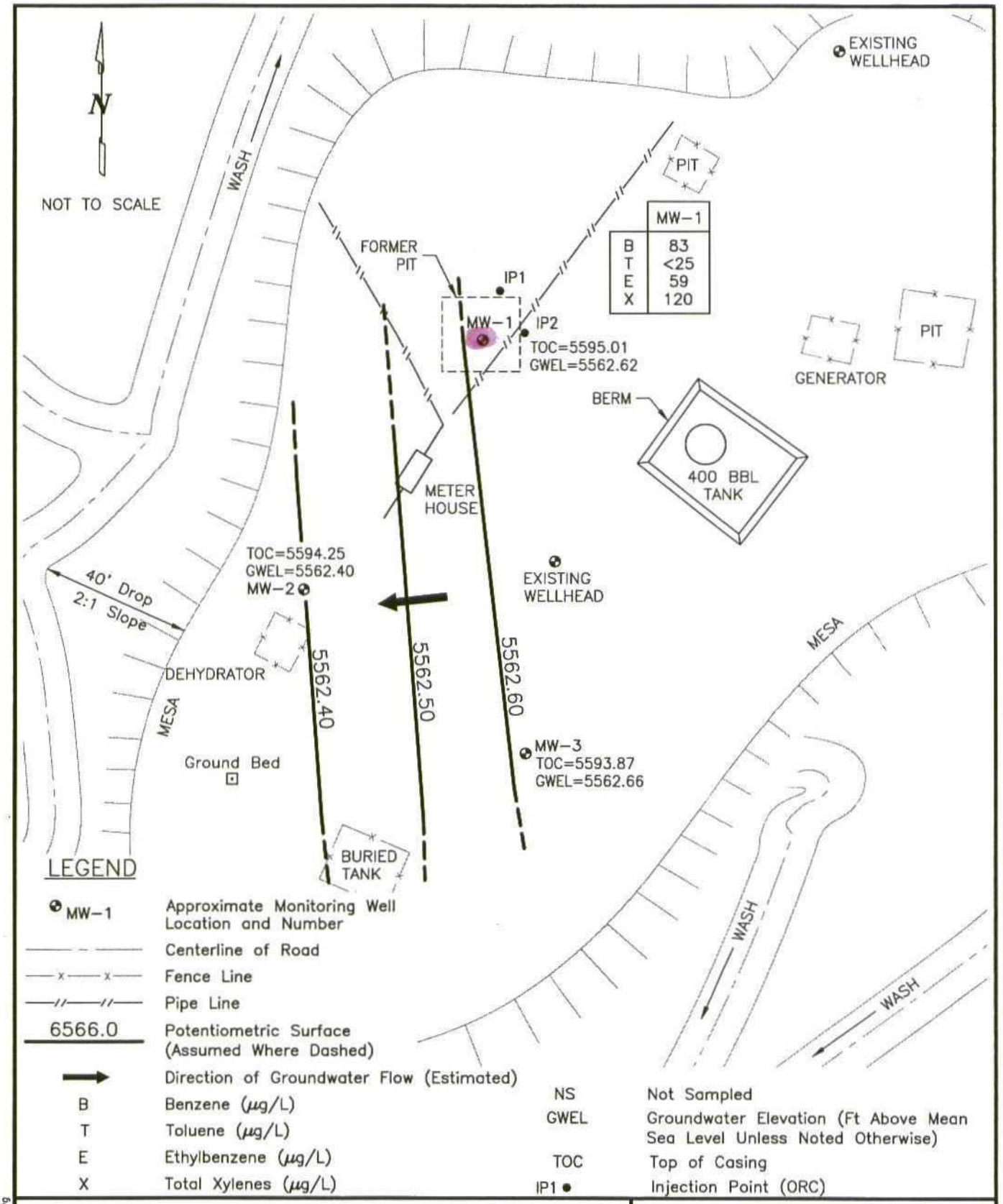
No isoconcentration maps were prepared for this site, however, the attached site maps present both the potentiometric surface and analytical data collected during 2002.

CONCLUSIONS

- The groundwater flow direction at this site trends to the west.
- Analytical results from samples collected at MW-1 indicate that benzene concentrations are continuing to decrease. Benzene concentrations in MW-1 were consistently below 100 µg/l during 2002.
- BTEX concentrations in MW-2 and MW-3 have been below analytical detection limits since 1999.

RECOMMENDATIONS

- EPFS will continue semi-annual sampling at MW-1 to evaluate the ORC injection performance. When BTEX concentrations approach cleanup criteria, sampling at MW-1 will be scheduled on a quarterly basis.
- Because four consecutive annual sampling events at MW-2 and MW-3 indicated BTEX concentrations below detection limits, EPFS recommends that these wells are not sampled until closure.
- EPFS will continue to perform semi-annual water level monitoring at MW-2 and MW-3.

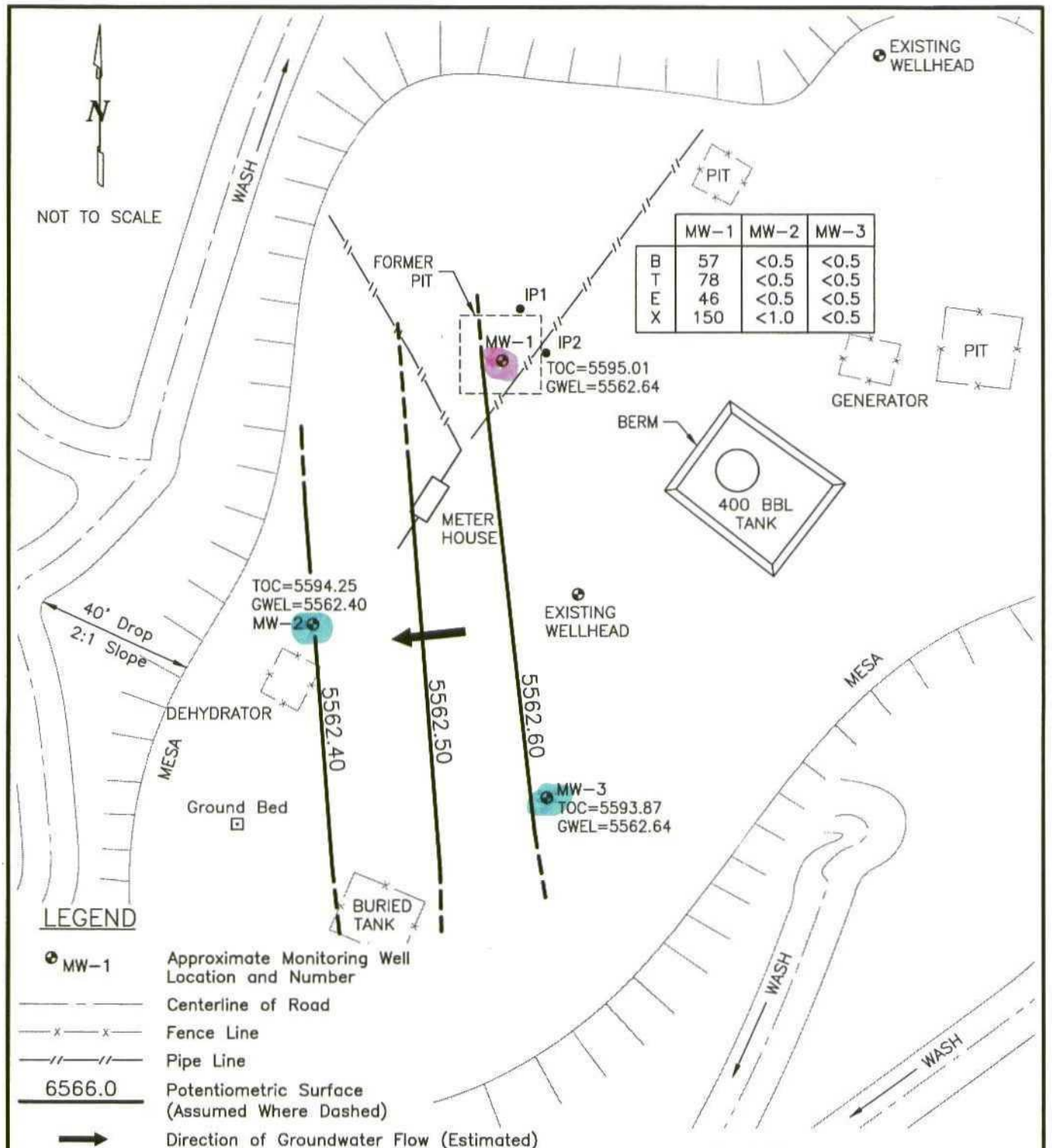


hamner9_02.dwg

HAMNER #9, METER 97213
FEBRUARY, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 1



	MW-1	MW-2	MW-3
B	57	<0.5	<0.5
T	78	<0.5	<0.5
E	46	<0.5	<0.5
X	150	<1.0	<0.5

LEGEND

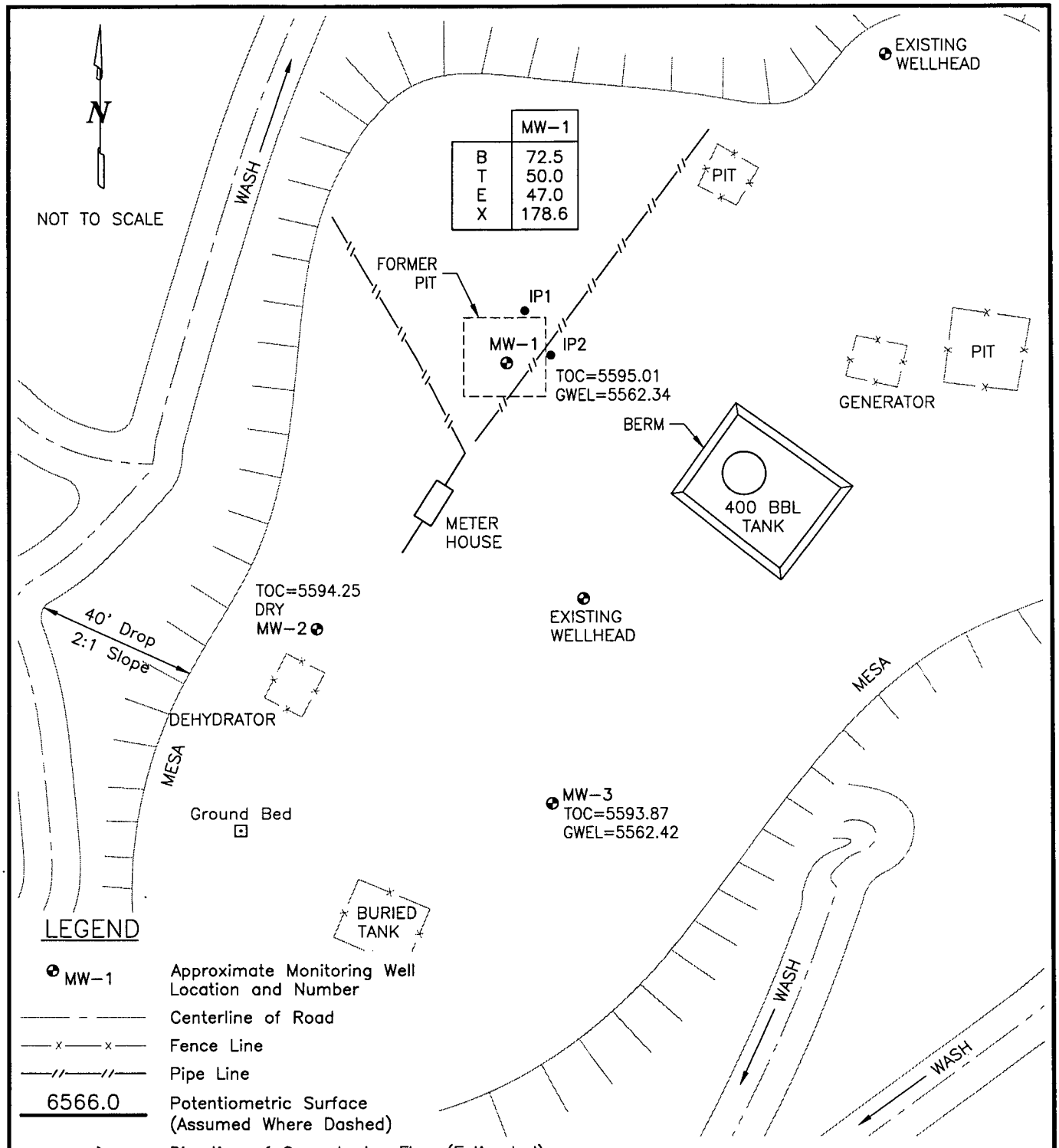
MW-1	Approximate Monitoring Well Location and Number
	Centerline of Road
x x	Fence Line
// //	Pipe Line
6566.0	Potentiometric Surface (Assumed Where Dashed)
→	Direction of Groundwater Flow (Estimated)
B	Benzene (µg/L)
T	Toluene (µg/L)
E	Ethylbenzene (µg/L)
X	Total Xylenes (µg/L)
NS	Not Sampled
GWEL	Groundwater Elevation (Ft Above Mean Sea Level Unless Noted Otherwise)
TOC	Top of Casing
IP1 ●	Injection Point (ORC)

hamner9_02.dwg

HAMNER #9, METER 97213
MAY, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 2



hamner9_02.dwg

HAMNER #9, METER 97213
NOVEMBER, 2002

GROUNDWATER SITES
EL PASO FIELD SERVICES

FIGURE 3

TABLE 1

SUMMARY OF BTEX COMPOUNDS IN GROUNDWATER
HAMNER #9 (METER #97213)
(Page 1 of 1)

Sample Identification	Sample Date	MW Identification	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	m,p-Xylene (µg/l)	o-Xylene (µg/l)	Total Xylenes (µg/l)
HAN-0202-MW1	25-Feb-2002	1	83	<25	59	NA	NA	120
HAN-0205-MW1	14-May-2002	1	57	78	46	NA	NA	150
02-5860-2	04-Nov-2002	1	72.5	50	47	118	60.6	178.6
HAN-0205-MW2	14-May-2002	2	<0.5	<0.5	<0.5	NA	NA	<1.0
HAN-0206-MW3	13-Jun-2002	3	<0.5	<0.5	<0.5	NA	NA	<1.0

Figure 4
BTEX Concentration and Groundwater Elevation vs. Time
Hamner #9 (Meter #97213)
MW-1

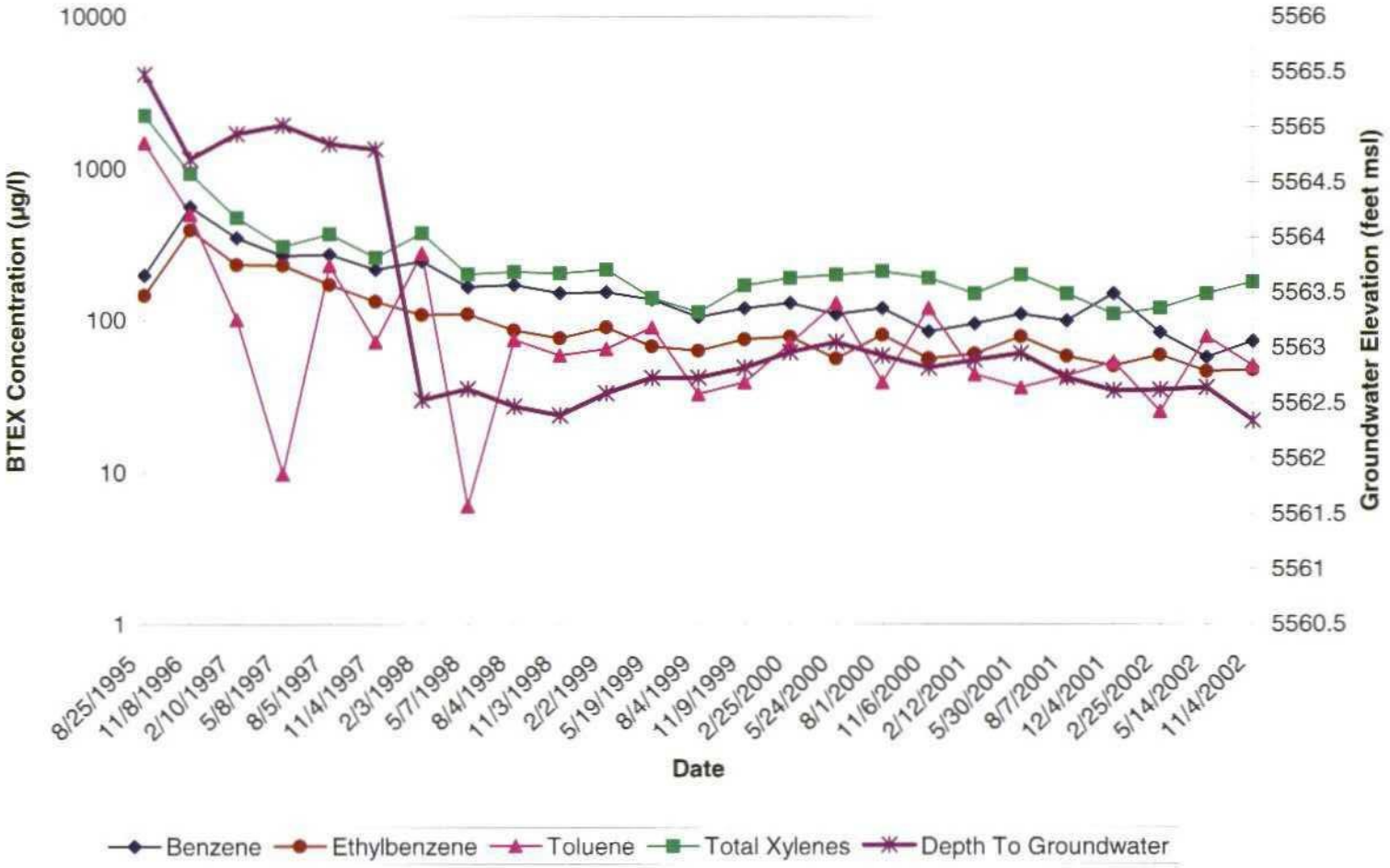


Figure 5
BTEX Concentration and Groundwater Elevation vs. Time
Hamner #9 (Meter #97213)
MW-2

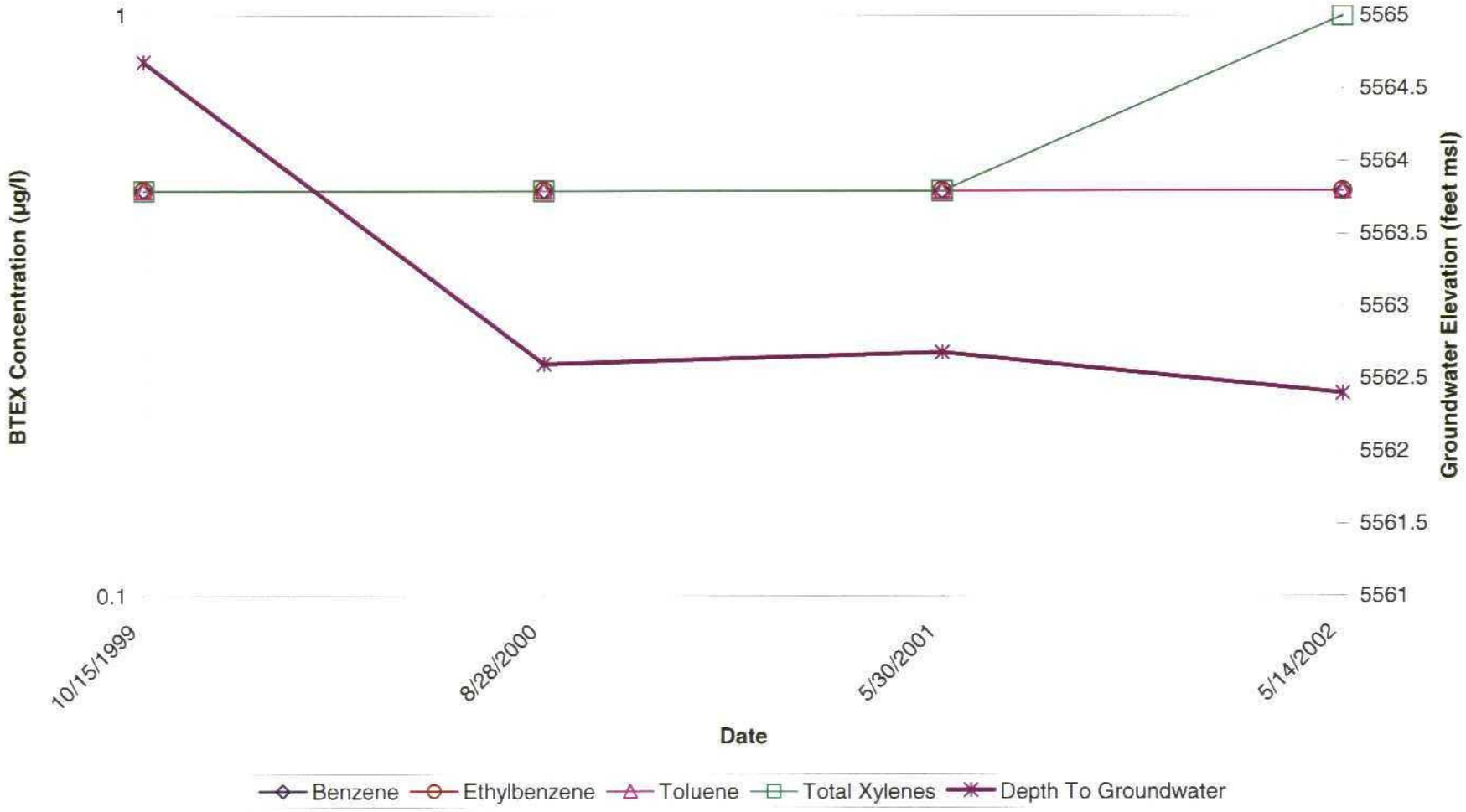
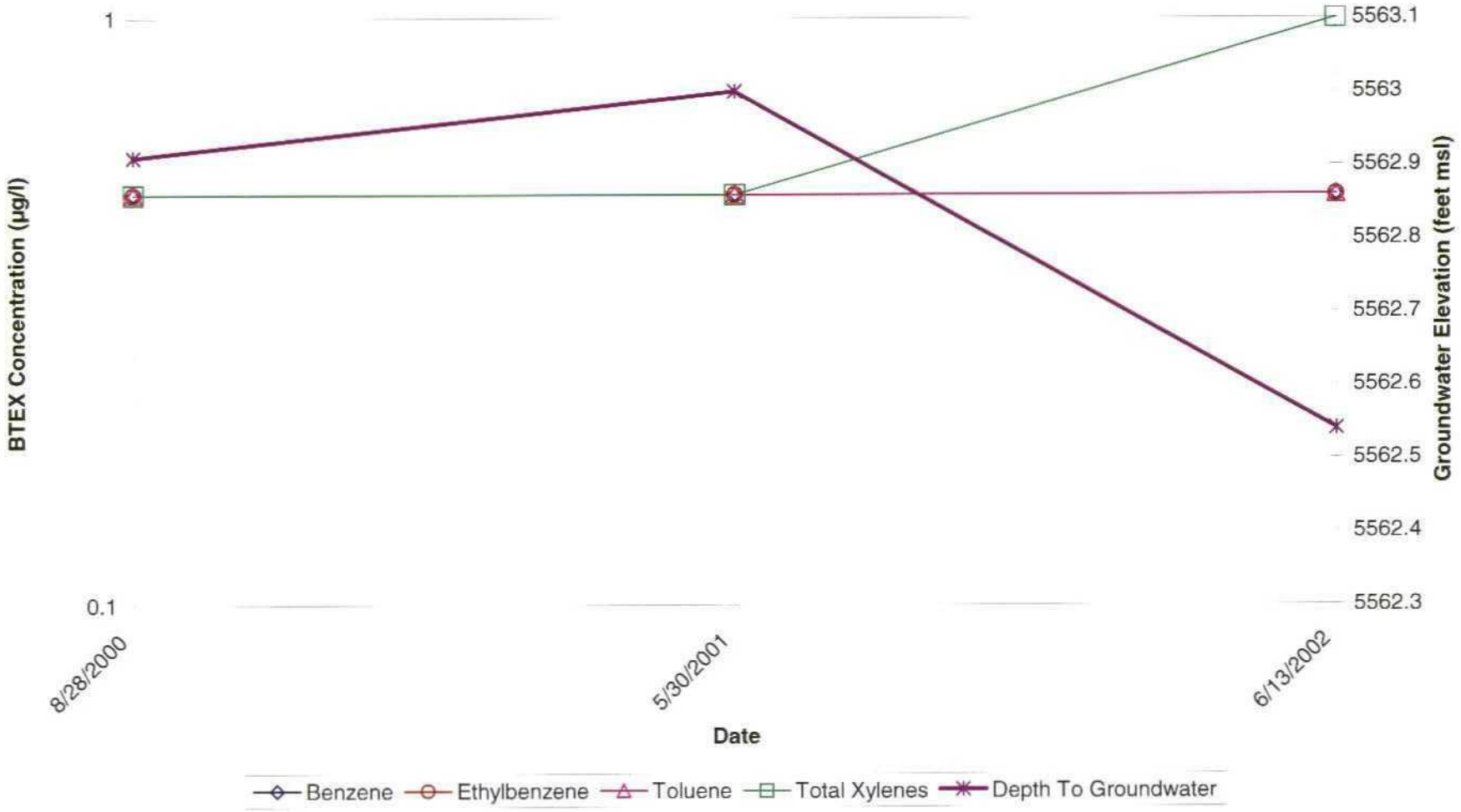


Figure 6
BTEX Concentration and Groundwater Elevation vs. Time
Hamner #9 (Meter #97213)
MW-3



ATTACHMENT 1

DIRECT-PUSH LOGS

Hammer

DIRECT PUSH GEOPROBE LOG

BORING NAME: Injection Point 2 CONTRACTOR: ONSITE DRILLING

BORING DATE: NOV 20, 2002 WEATHER: Clear WARM

GEOLOGIST: L.H. Benally INSTRUMENT: —

PROJECT NO: 4270023 ON BASE: ☐ OFF BASE: ☐ TOTAL DEPTH: 15

Depth	USGS	FID/PID	Graphic log	Soil Description
5				
10				Injection completed 1615
TD 15	—	—	—	Approx 37-38 lbs ORC injected Mix one 30 lbs bag ORC to 5 gal H_2O Approx. 8 lbs ORC to 2 gal H_2O

	Name	/	Depth							
Sample #1		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #2		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #3		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #4		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #5		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		

PROJECT NO.

HAMMER

DIRECT PUSH GEOPROBE LOG

BORING NAME: Injection Point 1 CONTRACTOR: ON SITE DRILLING

BORING DATE: NOV 20, 2002 WEATHER: Clear, Warm

GEOLOGIST: L.H. Benally INSTRUMENT: —

PROJECT NO: 4270033 ON BASE: ☐ OFF BASE: ☐ TOTAL DEPTH: 15

Depth	USGS	FID/PID	Graphic log	Soil Description
5				
10				
TD 15	—	—	-	Injection completed 1545 Approx. 37-38 lbs ORC injected Mix one 30 lb bag ORC to 5 gal H_2O Approx 8 lbs ORC to 2 gal H_2O

	Name	/	Depth							
Sample #1		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #2		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #3		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #4		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		
Sample #5		/		☐ VOC	☐ TPH	☐ SVOC	☐ Metals	☐		

PR NO.

ATTACHMENT 2

LABORATORY REPORTS

DATA VALIDATION WORKSHEET

Analytical Method/Analytes: SW-846 8021B (BTEX) **Sample Collection Date(s):** 11/04/02

Laboratory: APCL **MWH Job Number:** EPC-SJRB (Groundwater)

Batch Identification: 02-05860 **Matrix:** Water

MS/MSD Parent(s)[a]: None **Field Replicate Parent(s):** None

Validation Complete: Brian Buttars 12-10-02
(Date/Signature)

Foot Notes	Site ID	Sample ID	Lab. ID	Hits (Y/N)	Quals.	Comments
1	GW	Fogelson MW-1	02-05860-01	Y	B B B	Ethylbenzene @ 862 µg/l Toluene @ 370 µg/l m/p-Xylene @ 4,080 µg/l
1	GW	Hamner MW-1	02-05860-02	Y	B B B	Ethylbenzene @ 47.0 µg/l Toluene @ 50.0 µg/l m/p-Xylene @ 118 µg/l
1	GW	Standard Oil MW-1	02-05860-03	Y	B B B	Ethylbenzene @ 235 µg/l Toluene @ 207 µg/l m/p-Xylene @ 720 µg/l
1	QC	TB02110401	02-05860-04	Y		Ethylbenzene @ 0.8 µg/l Toluene @ 0.3T µg/l m/p-Xylene @ 0.9T µg/l

DATA VALIDATION WORKSHEET

Analytical Method: SW-846 8021B (BTEX) **MWH Job Number:** EPC-SJRB (Groundwater)

Laboratory: APCL **Batch Identification:** 02-05860

Validation Criteria								
Sample ID	**Fogelson MW-1**	**Hamner MW-1**	**Standard Oil MW-1**	**TB 02110401**				
Lab ID	**02-05860-01**	**02-05860-02**	**02-05860-03**	**02-05860-04**				
Hardcopy vs. Chain-of-Custody	A	A	A	A				
Holding Time	A	A	A	A				
Analyte List	A	A	A	A				
Reporting Limits	A	A	A	A				
Method Blank	A	A	A	A				
Trip Blank	A[1]	A[1]	A[1]	A[1]				
Equipment Rinseate Blanks	N/A	N/A	N/A	N/A				
Field Duplicate/Replicate	N/A	N/A	N/A	N/A				
Initial Calibration	N	N	N	N				
Initial Calibration Verification (ICV)	N	N	N	N				
Continuing Calibration Verification (CCV)	A	A	A	A				
Laboratory Control Sample (LCS)	A	A	A	A				
Laboratory Control Sample Duplicate (LCSD)	N	N	N	N				
Matrix Spike/Matrix Spike Dup. (MS/MSD)	N/A	N/A	N/A	N/A				
Surrogate Spike Recovery	A	A	A	A				
Retention Time Window	N	N	N	N				
Injection Time(s)	N	N	N	N				
EDD vs. Hardcopy	N	N	N	N				
EDD vs. Chain of Custody	N	N	N	N				

(a) List QC batch identification if different than Batch ID
A indicates validation criteria were met
A/L indicates validation criteria met based upon Laboratory's QC Summary Form
X indicates validation criteria were not met
N indicates data review were not a project specific requirement
N/A indicates criteria are not applicable for the specified analytical method or sample
N/R indicates data not available for review

NOTES:

1) The following analytes were detected in the trip blank:
   a) Ethylbenzene @ 0.8 µg/L, qualify all sample concentrations less than or equal to 4.0 µg/L with a "UB" flag and all sample concentrations greater than 4.0 µg/l with a "B" flag.
   b) Toluene @ 0.3T µg/L, qualify all sample concentrations less than or equal to 1.5 µg/L with a "UB" flag and all sample concentrations greater than 1.5 µg/l with a "B" flag.
   c) m/p-Xylene @ 0.9T µg/L, qualify all sample concentrations less than or equal to 4.5 µg/L with a "UB" flag and all sample concentrations greater than 4.5 µg/l with a "B" flag.

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL Analytical Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-025860
Collected by: Ashley Lowe.
Collected on: 11/04/02

Received: 11/05/02
Extracted: N/A
Tested: 11/08-11/02
Reported: 11/15/02

Sample Description: Water
Project Description: 220013 San Juan River Basin Groundwater

Analysis of Water Samples

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 GW Fogelson 02-05860-1	Analysis Result MW-1 GW Hamner 02-05860-2
BTXE					
Dilution Factor				25	1
BENZENE	8021B	µg/L	0.5	625	72.5
ETHYLBENZENE	8021B	µg/L	0.5	862	47.0
TOLUENE	8021B	µg/L	0.5	370	50.0
O-XYLENE	8021B	µg/L	0.5	1,130	60.6
M,P-XYLENE	8021B	µg/L	1	4,080	118

Component Analyzed	Method	Unit	PQL	Analysis Result MW-1 GW Standard Oil 02-05860-3	Analysis Result TB02110401 02-05860-4
BTXE					
Dilution Factor				5	1
BENZENE	8021B	µg/L	0.5	464	< 0.5
ETHYLBENZENE	8021B	µg/L	0.5	235	0.8
TOLUENE	8021B	µg/L	0.5	207	0.3J
O-XYLENE	8021B	µg/L	0.5	365	< 0.5
M,P-XYLENE	8021B	µg/L	1	720	0.9J

PQL: Practical Quantitation Limit. MDL: Method Detection Limit. CRDL: Contract Required Detection Limit
N.D.: Not Detected or less than the practical quantitation limit. "-": Analysis is not required.
J: Reported between PQL and MDL.
Listed Dilution Factors (DF) are relative to the method default DF. All unlisted DFs are 1.0

Respectfully submitted,

Dominic Lau
Laboratory Director
Applied P & Ch Laboratory

Applied P & Ch Laboratory
13760 Magnolia Ave. Chino CA 91710
Tel: (909) 590-1828 Fax: (909) 590-1498

APCL QA/QC Report

Submitted to:
Montgomery Watson Harza
Attention: Brian Buttars
10619 South Jordan Gateway
Salt Lake City, UT 84095
Tel: (801)617-3200 Fax: (801)617-4200

Service ID #: 801-025860
Collected by: Ashley Lowe.
Collected on: 11/04/02
Sample description:
Water
Project: San Juan River Basin /220013

Received: 11/05/02
Tested: 11/08-11/02
Reported: 12/03/02

Analysis of Water

801-025860QC

Component Name	Analysis Batch #	CCV (μg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
BTXE												
Benzene	02G4612	100	100	N.D.	μg/L	18.0	85	91	91	0	68-130	31
Toluene	02G4612	100	100	N.D.	μg/L	70.0	89	95	94	1	66-133	33
Ethylbenzene	02G4612	100	103	N.D.	μg/L	18.0	96	97	98	0	65-134	35
m/p-Xylene	02G4612	200	95	N.D.	μg/L	70.0	92	97	96	1	65-134	35
o-Xylene	02G4612	100	96	N.D.	μg/L	25.0	91	100	102	2	65-134	35

Component Name	Analysis Batch #	CCV (μg/L)	CCV %Rec	M-Blank	Conc. Unit	SP Level	LCS %Rec	MS %Rec	MSD %Rec	MS/MSD %RPD	Control Limit %Rec	Control Limit %Diff
BTXE												
Benzene	02G4636	100	100	N.D.	μg/L	18.0	88	91	90	0	68-130	31
Toluene	02G4636	100	100	N.D.	μg/L	70.0	91	94	94	1	66-133	33
Ethylbenzene	02G4636	100	103	N.D.	μg/L	18.0	96	92	93	0	65-134	35
m/p-Xylene	02G4636	200	95	N.D.	μg/L	70.0	92	94	93	1	65-134	35
o-Xylene	02G4636	100	97	N.D.	μg/L	25.0	92	95	94	1	65-134	35

Notation:
ICV – Initial Calibration Verification
CCV – Continuation Calibration Verification
LCS – Lab Control Spike
MS – Matrix Spike
MSD – Matrix Spike Duplicate
ICS – Interference Check Standard
MD – Matrix Duplicate
N.D. – Not detected or less than PQL
CCB – Continuation Calibration Blank
M-blank – Method Blank
SP Level – Spike Level
%Rec – Recovery Percent
%RPD – Relative Percent Differences
%Diff – Control Limit for %RPD
ICP-SD – ICP Serial Dilution
N.A. – Not Applicable

Respectfully submitted,

Regina Kirakozova,
Associate QA/QC Director
Applied P & Ch Laboratory

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8021B

Client Name:	Montgomery Watson Harza	Contract No:		Lab Code:	APCL
Case No:		SAS No:		SDG Number:	025860
Project ID:	San Juan River Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	02G4636		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		02G4636-LCS-01	88	0
2		02G4636-LSD-01	85	0
3		02G4636-MB-02	87	0
4	MW-1 GW FOGELSON	02-5860-1	94	0
5	MW-1 GW STANDARD OIL	02-5860-3	105	0
6	821818-0500	02-5971-1MS	86	0
7	821818-0500	02-5971-1MSD	86	0
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

QC Control Limit

S1 = 4-BROMO-FLUOROBENZENE (PID) 65-134

Column to be used to flag recovery values:

* - Values outside of contract required QC Limits D - Surrogate diluted out I - Matrix Interference

FORM-2A

Applied P & Ch Laboratory

Surrogate Recovery Summary for Method 8021B

Client Name:	Montgomery Watson Harza	Contract No:		Lab Code:	APCL
Case No:		SAS No:		Service ID:	025860
Project ID:	San Juan River Basin	Project No:	220013	Sample Matrix:	Water
		Batch No:	02G4612		

#	Client Sample No	Lab Sample ID	S1 % #	TOT OUT
1		02G4612-LCS-01	82	0
2		02G4612-LSD-01	83	0
3		02G4612-MB-02	87	0
4	TB02110401	02-5860-4	87	0
5	VR-1	02-5869-4MS	84	0
6	VR-1	02-5869-4MSD	85	0
7	MW-1 GW HAMNER	02-5860-2	104	0
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

	QC Control Limit
S1 = 4-BROMO-FLUOROBENZENE (PID)	65-134

Column to be used to flag recovery values:

* – Values outside of contract required QC Limits D – Surrogate diluted out I – Matrix Interference

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 021104AL01
Page 1 of 1
Air Bill No. 836381676598

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars
Project San Juan River Basin
Project Number 220013
Date Due 21 days
Sampler's Name Ashley Lowe
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix[a]	Sampling Technique[b]	BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0	No Preservative			
GW Standard Oil Com	MW-1		11-04-02	13:28	WG	B	✓											
GW Hamner	MW-1		11-04-02	11:57	WG	B	✓								✓			
GW Fogelson	MW-1		11-04-02	10:45	WG	B	✓								✓			
TB021104401			11-04-02				✓											

5860

[a] **Matrix:**
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] **Sampling Technique:**
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bisti=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
Ashley L Lowe/AESE	Paul C	11-04-02	4:00
	Paul C	11/5/02	1000

LABORATORY USE ONLY

SAMPLES WERE:
1 Shipped or hand delivered
Notes:
2 Ambient or Chilled
Notes:
3 Temperature _____
4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:
5 Properly Preserved
Y N
Notes:
6 Received Within Holding Times
Y N
Notes:

COC Tape Was:
1 Present on Outer Package
Y N NA
2 Unbroken on Outer Package
Y N NA
3 Present on Sample
Y N NA
4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
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 **206052**
June 21, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name HAMNER #9
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 06/14/02 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

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

LIENT	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 206052
ROJECT #	: 1517000121	DATE RECEIVED	: 06/14/02
ROJECT NAME	: HAMNER #9	REPORT DATE	: 06/21/02

INNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
06052 - 01	HAN-0206-MW3	AQUEOUS	06/13/02
06052 - 02	TRIP BLANK	AQUEOUS	06/04/02

PINNACLE LABORATORIES

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
LIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 206052
ROJECT # : 1517000121
ROJECT NAME : HAMNER #9

AMPLE D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
1	HAN-0206-MW3	AQUEOUS	06/13/02	NA	06/16/02	1
2	TRIP BLANK	AQUEOUS	06/04/02	NA	06/14/02	1

ARAMETER	DET. LIMIT	UNITS	HAN-0206-MW3	TRIP BLANK
ENZENE	0.5	UG/L	< 0.5	< 0.5
OLUENE	0.5	UG/L	< 0.5	< 0.5
THYLBENZENE	0.5	UG/L	< 0.5	< 0.5
OTAL XYLENES	1.0	UG/L	< 1.0	< 1.0
UR GATE:				
FLUOROBENZENE (%)			96	101
URROGATE LIMITS	(80 - 120)			

HEMIST NOTES:
I/A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

:ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206052
.ANK I. D.	: 061402	DATE EXTRACTED	: N/A
.IENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/14/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0
URROGATE:		
ROMOFLUOROBENZENE (%)		96
URROGATE LIMITS:	(80 - 120)	

HEMIST NOTES:
/A

PINNACLE LABORATORIES

2709-D Pan American Freeway NE
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Fax (505) 344-4413

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206052
LANK I. D.	: 061602	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/16/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0
URROGATE:		
ROMOFLUOROBENZENE (%)		95
URROGATE LIMITS:	(80 - 120)	

HEMIST NOTES:
I/A

PINNACLE LABORATORIES

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Phone (505) 344-3777
Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206052
ATCH #	: 061402	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/14/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9	UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	18.3	92	19.6	98	7	(80 - 120)	20
OLUENE	<0.5	20.0	18.8	94	20.0	100	6	(80 - 120)	20
THYLBENZENE	<0.5	20.0	19.1	96	20.2	101	6	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	58.8	98	62.4	104	6	(80 - 120)	20

HE[illegible]ST NOTES:
/A[illegible]

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

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

PINNACLE LABORATORIES

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Albuquerque, New Mexico 87107
Phone (505) 344-3777
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GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

:ST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206052
\TCH #	: 061602	DATE EXRACTED	: N/A
.IENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/16/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9	UNITS	: UG/L

\RAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
:NZENE	<0.5	20.0	19.2	96	19.6	98	2	(80 - 120)	20
)LUENE	<0.5	20.0	19.8	99	20.1	101	2	(80 - 120)	20
THYLBENZENE	<0.5	20.0	20.0	100	20.2	101	1	(80 - 120)	20
)TAL XYLENES	<1.0	60.0	62.0	103	62.7	105	1	(80 - 120)	20

HEMIST NOTES:
A

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

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

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Fax (505) 344-4413

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

'EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 206052
ISMSD #	: 206053-01	DATE EXTRACTED	: N/A
:LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 06/14/02
'ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
'ROJECT NAME	: HAMNER #9	UNITS	: UG/L

'ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
)ENZENE	<0.5	20.0	19.0	95	19.2	96	1	(80 - 120)	20
'OLUENE	<0.5	20.0	19.6	98	19.8	99	1	(80 - 120)	20
:THYLBENZENE	<0.5	20.0	19.8	99	19.9	100	1	(80 - 120)	20
'OTAL XYLENES	<1.0	60.0	61.1	102	61.7	103	1	(80 - 120)	20

:HEMIST NOTES:
I/A

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

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

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: _____ PAGE: 1 OF 1

PLI Accession #: 10052

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC
ADDRESS: 2060 AFTON Place
Farmington NM. 87401
PHONE: (505) 327-7928
FAX: (505) 326-5721

BILL TO: Scott Pope
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly AVE
Farmington NM. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	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:
HAN-0206-MW3	6-13-02	1055	H_2O	01				X																					
Trip Blank	6-4-02	1055	H_2O	02				X																					

PROJECT INFORMATION	
PROJ. NO.:	15700012 1
PROJ. NAME:	EPFS GL. proj.
P.O. NO.:	
SHIPPED VIA:	Greyhound

SAMPLE RECEIPT	
NO. CONTAINERS:	3
CUSTODY SEALS:	N/A
RECEIVED INTACT:	Y/N
BLUE ICE/ICE:	Y/N

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED ☐NM ☐SDWA ☐OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HAMNER #9
meter # (97213)

RELINQUISHED BY: 1.	RELINQUISHED BY:
Signature: Time:	Signature: Time:
Printed Name: Date:	Printed Name: Date:
Company:	Company:
See reverse side (Force Majeure)	
RECEIVED BY: 1.	RECEIVED BY: (LAB)
Signature: Time:	Signature: Time: 0930
Printed Name: Date:	Printed Name: Date: 6/14
Company:	Pinnacle Laboratories Inc.

PINNACLE LABORATORIES

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Fax (505) 344-4413

Pinnacle Lab ID number **205132**
May 24, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name HAMNER #9
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 05/17/02 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

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

CLIENT	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 205132
PROJECT #	: 1517000121	DATE RECEIVED	: 05/17/02
PROJECT NAME	: HAMNER #9	REPORT DATE	: 05/24/02

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
05132 - 01	HAN-0205-MW1	AQUEOUS	05/14/02
05132 - 02	HAN-0205-MW2	AQUEOUS	05/14/02

PINNACLE LABORATORIES

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

GAS CHROMATOGRAPHY RESULTS

ΕST : EPA 8021 MODIFIED
LIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 205132
ROJECT # : 1517000121
ROJECT NAME : HAMNER #9

AMPLE . #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
	HAN-0205-MW1	AQUEOUS	05/14/02	NA	05/21/02	5
2	HAN-0205-MW2	AQUEOUS	05/14/02	NA	05/21/02	1

ARAMETER	DET. LIMIT	UNITS	HAN-0205-MW1	HAN-0205-MW2
ENZENE	0.5	**UG/L**	**57**	< 0.5
OLUENE	0.5	**UG/L**	**78**	< 0.5
THYLBENZENE	0.5	**UG/L**	**46**	< 0.5
OTAL XYLENES	1.0	**UG/L**	**150**	< 1.0
JRROGATE:				
[redacted]FLUOROBENZENE (%)			100	101
JRROGATE LIMITS	(80 - 120)			

HEMIST NOTES:
A

PINNACLE LABORATORIES

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GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 205132
LANK I. D.	: 052102	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 05/21/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0

JRROGATE:
ROMOFLUOROBENZENE (%) 102
JRROGATE LIMITS: (80 - 120)
HEMIST NOTES:
'A

PINNACLE LABORATORIES

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

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 205132
ATCH #	: 052102	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 05/21/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9	UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	20.0	100	19.8	99	1	(80 - 120)	20
OLUENE	<0.5	20.0	20.2	101	20.1	101	0	(80 - 120)	20
THYLBENZENE	<0.5	20.0	20.6	103	20.5	103	0	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	63.5	106	63.2	105	0	(80 - 120)	20

HEMIST NOTES:
/A

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

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

PINNACLE LABORATORIES

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

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 205132
ISMSD #	: 205132-02	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 05/21/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9	UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	19.7	99	20.1	101	2	(80 - 120)	20
OLUENE	<0.5	20.0	20.1	101	20.3	102	1	(80 - 120)	20
THYLBENZENE	<0.5	20.0	20.4	102	20.7	104	1	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	63.1	105	63.9	107	1	(80 - 120)	20

HEMIST NOTES:
/A

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

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

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 5-16-02 PAGE: 1 OF ___

PLI Accession #: 20132

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: LISA WINN

COMPANY: AMEC
ADDRESS: 2060 AFTON Place
Farmington N.M. 87401
PHONE: (505) 327-7924
FAX: (505) 326-5721

BILL TO: SCOTT POPE
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly AVE
Farmington N.M. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	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
HAN-0205-MW1	5-14-02	1315	H_2O	01					X																			
HAN-0205-MW2	5-14-02	1233	H_2O	02					X																			

PROJECT INFORMATION	
PROJ. NO.:	517000121
PROJ. NAME:	EPFS GW. proj.
P.O. NO.:	
SHIPPED VIA:	Grey Hound

SAMPLE RECEIPT	
NO. CONTAINERS:	4
CUSTODY SEALS:	Y / N (NA)
RECEIVED INTACT:	Y / N
BLUE ICE/ICE:	Y / N

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HAMNER #9
meter # (97213)

RELINQUISHED BY: 1.	RELINQUISHED BY:
Signature: Chris Mayer Time: 1530	Signature: Time:
Printed Name: Chris Mayer Date: 5-16-02	Printed Name: Date:
Company: AMEC	Company:
See reverse side (Force Majeure)	
RECEIVED BY:	**RECEIVED BY: (LAB)**
Signature: Time:	Signature: Francine Turino Time: 09
Printed Name: Date:	Printed Name: Francine Turino Date: 5/17
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 **202128**
March 07, 2002

AMEC EARTH & ENVIRONMENTAL
2060 AFTON PLACE
FARMINGTON, NM 87401

EL PASO FIELD SERVICES
614 RIELLY STREET
FARMINGTON, NM 87401

Project Name HAMNER #9
Project Number 1517000121

Attention: LISA WINN/SCOTT POPE

On 02/27/02 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	: AMEC EARTH & ENVIRONMENTAL	PINNACLE ID	: 202128
PROJECT #	: 1517000121	DATE RECEIVED	: 02/27/02
PROJECT NAME	: HAMNER #9	REPORT DATE	: 03/07/02

PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
202128 - 01	HAN-0202-MW1	AQUEOUS	02/25/02

PINNACLE LABORATORIES

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
:LIENT : AMEC EARTH & ENVIRONMENTAL PINNACLE I.D.: 202128
'ROJECT # : 1517000121
'ROJECT NAME : HAMNER #9

SAMPLE D. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
)1	HAN-0202-MW1	AQUEOUS	02/25/02	NA	02/27/02	50

'ARAMETER	DET. LIMIT	UNITS	HAN-0202-MW1
3ENZENE	0.5	**UG/L**	**83**
'OLUENE	0.5	UG/L	< 25
:THYLBENZENE	0.5	**UG/L**	**59**
'OTAL XYLENES	1.0	**UG/L**	**120**

SURROGATE:
BROMOFLUOROBENZENE (%) 95
SURROGATE LIMITS (80 - 120)

:HEMIST 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

EST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 202128
LANK I. D.	: 022702	DATE EXTRACTED	: N/A
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE ANALYZED	: 02/27/02
ROJECT #	: 1517000121	SAMPLE MATRIX	: AQUEOUS
ROJECT NAME	: HAMNER #9		

ARAMETER	UNITS	
ENZENE	UG/L	<0.5
OLUENE	UG/L	<0.5
THYLBENZENE	UG/L	<0.5
OTAL XYLENES	UG/L	<1.0

URROGATE:
ROMOFLUOROBENZENE (%) 92
URROGATE LIMITS: (80 - 120)
HEMIST NOTES:
/A

PINNACLE LABORATORIES

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

GAS CHROMATOGRAPHY QUALITY CONTROL
LCS/LCSD

EST	: EPA 8021 MODIFIED		
ATCH #	: 022702	PINNACLE I.D.	: 202128
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE EXTRACTED	: N/A
ROJECT #	: 1517000121	DATE ANALYZED	: 02/27/02
ROJECT NAME	: HAMNER #9	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	19.5	98	19.6	98	1	(80 - 120)	20
OLUENE	<0.5	20.0	19.0	95	19.2	96	1	(80 - 120)	20
THYLBENZENE	<0.5	20.0	18.7	94	18.7	94	0	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	57.4	96	57.9	97	1	(80 - 120)	20

HR NOTES:
/A

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

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

PINNACLE LABORATORIES

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

GAS CHROMATOGRAPHY QUALITY CONTROL
MS/MSD

EST	: EPA 8021 MODIFIED		
SMSD #	: 202123-01	PINNACLE I.D.	: 202128
LIENT	: AMEC EARTH & ENVIRONMENTAL	DATE EXTRACTED	: N/A
ROJECT #	: 1517000121	DATE ANALYZED	: 02/27/02
ROJECT NAME	: HAMNER #9	SAMPLE MATRIX	: AQUEOUS
		UNITS	: UG/L

ARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
ENZENE	<0.5	20.0	20.1	101	19.5	98	3	(80 - 120)	20
OLUENE	<0.5	20.0	19.7	99	19.1	96	3	(80 - 120)	20
THYLBENZENE	<0.5	20.0	19.2	96	18.7	94	3	(80 - 120)	20
OTAL XYLENES	<1.0	60.0	59.2	99	57.5	96	3	(80 - 120)	20

H NOTES:
/A

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

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

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 2-26-02 PAGE: 1 OF 1

PLI Accession #: 202128

PLEASE FILL THIS FORM IN COMPLETELY. SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC
ADDRESS: 2060 AFTON place
Farmington N.M. 87401
PHONE: (505) 325-2928
FAX: (505) 326-5721

BILL TO: Scott Pope
COMPANY: El paso Field Services
ADDRESS: 614 Reilly Ave
Farmington N.M. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB I.D.	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:
HAN-0202-MW1	2-25-02	0930	H2O	01					X																				

PROJECT INFORMATION

PROJ. NO.: 15700021
PROJ. NAME: SJ 5 GW. project
P.O. NO.:
SHIPPED VIA: Greyhound

SAMPLE RECEIPT

NO. CONTAINERS:	2
CUSTODY SEALS:	N/A
RECEIVED INTACT:	Yes
BLUE ICE/ICE:	Yes

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HAMNER #9
meter # (92213)

RELINQUISHED BY: 1.	RELINQUISHED BY:
Signature: Time: 1500	Signature: Time:
Printed Name: Chris A. Mez Date: 2-26-02	Printed Name: Date:
Company: AMEC	Company:
See reverse side (Force Majeure)	
RECEIVED BY: 1.	**RECEIVED BY: (LAB)**
Signature: Time:	Signature: Time: 090
Printed Name: Date:	Printed Name: Date: 2/27/
Company:	Pinnacle Laboratories Inc.

ATTACHMENT 3

FIELD DOCUMENTATION

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Ashley Lowe
Client Company: MWH
Site Name: Hamner

Project No: 220013
Date: 11-12-02

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-3	15:30	31.45	~~35~~ NA	31.85	—	—	lock hard to remove, no cap
MW-2	15:40	—	—	31.97	—	—	dry well

COMMENTS:

Signature: Ashley L Lowe

Date: 11/12/02

WELL DEVELOPMENT AND SAMPLING LOG

Project No: 220013 Project Name: San Juan River Basin Client: MWH

Location: Hamner Well No: MW-1 Development ☐ Sampling ☑

Project Manager Ashley Lowe Date 11-4-02 Start Time 11:30 Weather 40°, cloudy

Depth to Water 32.67 Depth to Product NA Product Thickness NA Measuring Point TOC

Water Column Height 8.14 Well Dia. 4" TD 40.81

Sampling Method: Submersible Pump ☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Other ☐

Bottom Valve Bailer ☑ Double Check Valve Bailer ☐ Stainless-Steel Kemmerer ☐

Criteria: 3 to 5 Casing Volumes of Water Removal ☐ Sabilization of Indicator Parameters ☐ Other or bail dry

Gal/ft x ft of water	Water Volume In Well		Gal/oz to be removed
	Gallons	Ounces	
0.65 x 8.14	5.3 x 3		15.9 gal

Time (military)	pH	SC (umhos/cm)	Temp (°C)	Eh-ORP (millivolts)	D.O. (mg/L)	Turbidity (NTU)	Vol Evac. (gal.)	Comments/ Flow rate
11:35	2.23	>19,000	13.3				1g	clear, light tan color,
	3.07	"	15.5				3	v.s. odor, sheen observed
	2.22	"	17.3				5	conductivity out of range
	2.25	"	17.3				5.5	
	2.23	"	17.2				6.0	bailing down
	2.24	"	17.2				6.3	
	2.23	"	17.3				6.6	dry

Final:

Time	pH	SC	Temp	Eh-ORP	D.O.	Turbidity	Ferrous Iron	Vol Evac.	Comments/Flow rate
11:57	2.23	>19,000	17.3					6.6g	bailed dry

COMMENTS: HCl preservative reacted w/CO_3 in water. HCl rinsed out of bottles. Sampled after well was bailed dry

INSTRUMENTATION: pH Meter ☑ _____ Temperature Meter ☑ _____

DO Monitor ☐ _____ Other ☐ _____

Conductivity Meter ☑ _____

Water Disposal Kutz Plant

Sample ID Hamner MW-1 Sample Time 11:57 BTEX ☑ VOCs ☐ Alkilinity ☐

TDS ☐ Cations ☐ Anions ☐ Nitrate ☐ Nitrite ☐ Ammonia ☐ TKN ☐ NM WQCC Metals ☐

Total Phosphorus ☐ _____ ☐ _____ ☐ _____ ☐ _____ ☐

MS/MSD _____ BD _____ BD Name/Time _____ TB TB021104O1

Product Recovery and Well Observation Data

Project Name: San Juan River Basin
Project Manager: Ashley Lowe
Client Company: MWH
Site Name: Hamner

Project No: 220013
Date: 11-4-02

Well	Time	Depth to Water (ft)	Depth to Product (ft)	Total Well Depth (ft)	Product Thickness (ft)	Volume Removed	Comments
MW-1	11:30	32.67	—	40.81	—	—	sampled
MW-2							cannot open
MW-3							cannot open

COMMENTS: wrong key for MW-2 & MW-3. Will have to return to measure waterlevels

Signature: Ashley L Lowe Date: 11/4/02

CHAIN OF CUSTODY RECORD/LAB WORK REQUEST

LABORATORY APCL
Contract El Paso Corp., San Jaun River Basin

Chain of Custody ID 021104AL01
Page 1 of 1
Air Bill No. 836381676598

MWH
Phone (801) 617-3200 FAX (801) 617-4200
MWH Contact Brian Buttars

Project San Juan River Basin
Project Number 220013
Date Due 21 days
Sampler's Name Ashley Lowe
(print clearly)

Location ID	Sample ID	Depth Interval (ft)	Date Collected	Time Collected	Matrix [a]	Sampling Technique [b]	ANALYSES REQUESTED: BTEX SW-846 8021B	Alkalinity SM 2320B	TDS USEPA 160.1	NM WQCC Metals SW-846 6010B & 7470A	Cations SW-846 6010B	Anions USEPA 300.0	Nitrate USEPA 300.0	Nitrite USEPA 300.0	No Preservative			
GW Standard Oil Com	MW-1		11-04-02	13:28	WG	B	✓											
GW Hammer	MW-1		11-04-02	11:57	WG	B	✓								✓			
GW Fogelson	MW-1		11-04-02	10:45	WG	B	✓								✓			

[a] Matrix:
SO – Soil
WS – Surface Water
WG – Ground Water
AA – Air
WQ – Trip Blank/ Equipment Blanks
WW – Wastewater

[b] Sampling Technique:
Composite=C
Grab=G
Hand Auger=HA
Submersible Pump=SP
Bladder Pump=BP
Bailer=B
Wellhead Faucet=WF
Hydropunch=HP

Location IDs:
Groundwater Sites=GW
Bistl=BI
Jaquez=JA
North Flare Pit=NF
South Flare Pit=SF
San Juan River Plant=SJ

Relinquished by/Affiliation	Received by/Affiliation	Date	Time
Ashley L Lowe/AESE		11-04-02	4:00

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered
Notes:

2 Ambient or Chilled
Notes:

3 Temperature _____

4 Received Broken/Leaking (Improperly Sealed)
Y N
Notes:

5 Properly Preserved
Y N
Notes:

6 Received Within Holding Times
Y N
Notes:

COC Tape Was:

1 Present on Outer Package
Y N NA

2 Unbroken on Outer Package
Y N NA

3 Present on Sample
Y N NA

4 Unbroken on Sample
Y N NA
Notes:

Discrepancies Between Sample Labels and COC Record?
Y N
Notes:

FedEx Express **USA Airbill**

FedEx Tracking Number **836381676598**

Form I.D. No. **0200**

From *Please print and press hard.*

Date 11-04-02 Sender's FedEx Account Number 2362245993

Sender's Name Ashley Lowe Phone (505) 566-9116

Company AESE

Address ~~5109~~ 906 San Juan Blvd, ste D

Dept./Floor/Suite/Room

City Farmington State NM ZIP 87401

Your Internal Billing Reference
First 24 characters will appear on invoice.

To

Recipient's Name Eric Wendland Phone (909) 590 1828

Company APCL

Address 13760 Magnolia Ave

"HOLD" at FedEx location, print FedEx address. We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Dept./Floor/Suite/Room

City Chino State CA ZIP 91710

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4a Express Package Service — *Packages up to 150 lbs.* Delivery commitment may be later in some areas.

- [x] FedEx Priority Overnight — Next business morning
- [ ] FedEx Standard Overnight — Next business afternoon
- [ ] FedEx First Overnight — Earliest next business morning delivery to select locations
- [ ] FedEx 2Day — Second business day
- [ ] FedEx Express Saver — Third business day

FedEx Envelope rate not available. Minimum charge: One-pound rate

4b Express Freight Service — *Packages over 150 lbs.* Delivery commitment may be later in some areas.

- [ ] FedEx 1Day Freight* — Next business day
- [ ] FedEx 2Day Freight — Second business day
- [ ] FedEx 3Day Freight — Third business day

* Call for Confirmation:

5 Packaging — * Declared value limit $500

- [ ] FedEx Envelope*
- [ ] FedEx Pak* — Includes FedEx Small Pak, FedEx Large Pak, and FedEx Sturdy Pak
- [x] Other

6 Special Handling — Include FedEx address in Section 3.

- [ ] SATURDAY Delivery — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select ZIP codes
- [ ] HOLD Weekday at FedEx Location — NOT Available for FedEx First Overnight
- [ ] HOLD Saturday at FedEx Location — Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations

Does this shipment contain dangerous goods? One box must be checked.

- [x] No
- [ ] Yes — As per attached Shipper's Declaration
- [ ] Yes — Shipper's Declaration not required
- [ ] Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous Goods (including Dry Ice) cannot be shipped in FedEx packaging.

- [ ] Cargo Aircraft Only

7 Payment *Bill to:* Enter FedEx Acct. No. or Credit Card No. below.

- [ ] Sender — Acct. No. in Section 1 will be billed.
- [x] Recipient
- [ ] Third Party
- [ ] Credit Card
- [ ] Cash/Check

FedEx Acct. No. / Credit Card No. 1421-27-695 Exp. Date

Total Packages	Total Weight	Total Declared Value†	
1	15 lbs	$ .00	FedEx Use Only

†Our liability is limited to $100 unless you declare a higher value. See back for details.

8 Release Signature Sign to authorize delivery without obtaining signature.

By signing you authorize us to deliver this shipment without obtaining a signature and agree to indemnify and hold us harmless from any resulting claims.

446

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☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 3

Page 1 of 1

Project Name EPFS G.W. PROJECT Project Manager Lisa Winn Project No. 151200021

Client Company El Paso Field Services

Site Name HAMNER #9 (92213) 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	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 38.15
Initial Depth to Water (feet) 31.33
Height of Water Column in Well (feet) 6.82
Diameter (inches): Well 2" Gravel Pack _____

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing	6.82	1.11 x 3	3.33
Gravel Pack			
Drilling Fluids			
Total			3.33

Instruments

	Serial No. (If applicable)
☑ pH Meter	YSI 63
☐ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other _____	

Water Disposal

KUTZ Separator Bloomfield NM.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
6-13-02	1034		X				.75	.75			20.0	6.98	15.7		Cloudy, DARK Gray, mild Septic odor
	1037		X				.75	1.5			17.6	7.24	15.4		" "
	1040		X				.75	2.25			17.1	7.27	15.1		" "
	1042		X				.75	3			16.7	7.26	14.4		Cloudy Light Gray mild Septic odor
	1045		X			32.42	.75	3.75			16.5	7.29	13.5	0.63	Cloudy Light Brown mild Septic odor

Comments Removed Cement and Dug Down Approximately 2.5 FT. Straightened out Buckle, Able To pass Bailer Through. Sampled for BTEX 1055

Developer's Signature(s) [signature] Date 6-13-02 Reviewer [signature] Date 6/14/02

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: _____ PAGE: 1 OF 1

PROJECT MANAGER: Lisa Hinn

COMPANY: AMEC
ADDRESS: 2060 Afton Place
Farmington NM 87401
PHONE: (505) 327-7928
FAX: (505) 326-5721

BILL TO: Scott Pope
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly Ave
Farmington NM 87401

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
HAN-0206-MW3	6-13-02	1055	H_2O					X																						
Trip Blank	6-4-02	1055	H_2O					X																						

PROJECT INFORMATION

PROJ. NO.: 15700012 1
PROJ. NAME: EPFS GU #05
P.O. NO.:
SHIPPED VIA: Greyhound

SAMPLE RECEIPT

NO. CONTAINERS:
CUSTODY SEALS: Y / N / NA
RECEIVED INTACT:
BLUE ICE / ICE:

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED ☐NM ☐SDWA ☐OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HAMNER #9
meter # (97213)

RELINQUISHED BY: 1

Signature: Time:
Printed Name: Date:
Company:
See reverse side (Force Majeure)

RECEIVED BY: 1

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY: 2

Signature:
Printed Name:

PLEASE FILL THIS FORM IN COMPLETELY.

SHADED AREAS ARE FOR LAB USE ONLY.

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 1

Project Name EPFS G.W. project Project Manager LISA Winn Project No 15/7000121

Client Company El paso Field services

Site Name HAMNER #9 97213 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	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 40.85
Initial Depth to Water (feet) 32.37
Height of Water Column in Well (feet) 8.48
Diameter (inches): Well 4" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.48	5.53 X 3	16.59
Gravel Pack			
Drilling Fluids			
Total			16.59

Instruments

	Serial No. (If applicable)
☑ pH Meter	YSI 63
☑ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other _____	

Water Disposal

Kutz Seperator Bloomfield NM.

Water Removal Data

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 (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
5-14-02	1139		X				3.5	3.5			19.3	7.65	15.51		Cloudy, Rotton egg odor, yellow flakes
	1143		X			40.24	3.5	7			17.9	7.63	7.54	0.26	no change

Comments AFTER Bailing approximately 7 gal. Bailed well Dry Let Recover Sampled for BTEX 1315

Developer Signature(s) Chris May 5-14-02 Reviewer [illegible] Date 5/20/02

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 2 Page 1 of 1

Project Name EpFS G.W. PROJECT Project Manager LISA WINN Project No. 157000121

Client Company El Paso Field Services

Site Name HAMNER #9 97213 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	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 36.27
Initial Depth to Water (feet) 31.85
Height of Water Column in Well (feet) 4.42
Diameter (inches): Well 2" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	4.42	0.72 x 3	2.16
Gravel Pack			
Drilling Fluids			
Total			2.16

Instruments

	Serial No. (If applicable)
☐ pH Meter	YSI 63
☑ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other _____	

Water Disposal

kuTZ Seperator Bloomfield N.M.

Water Removal Data

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 (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
5-14-02	12 11		X				.5	.5			18.0	7.52	15.55		Cloudy, Vegetation Mild Septic odor
	12 14		X				.5	1			17.1	7.37	14.44		Cloudy, Dark Gray Vegetation, mild Septic odor
	12 17		X				.5	1.5			16.7	7.33	10.64		" "
	12 19		X				.5	2			16.8	7.37	6.75		" "
	12 22		X			32.14	.5	2.5			16.6	7.35	13.13	0.29	No Change

Comments SAMpled for BTEX 1233

Developer Signature(s) Chris A. Macy 5-14-02 Reviewer L Winn Date 5/20/02

☐ Development
☑ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

Well Number MW 3

Project Name EPFS G.W. project Project Manager Lisa Winn Project No. 151702121

Client Company El paso Field Services

Site Name HAMNER #9 (97213) 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	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 38.15
Initial Depth to Water (feet) 31.23
Height of Water Column in Well (feet) 6.92
Diameter (inches): Well ____ Gravel Pack ____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	6.92	1.12 x 3	3.36
Gravel Pack			
Drilling Fluids			
Total			3.36

Instruments

	Serial No. (If applicable)
☑ pH Meter	YSI 63
☑ DO Monitor	YSI 95
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other	

Water Disposal

KnIT Separator Bloomfield N.M.

Water Removal Data

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 (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
5-14-02	1305		X				~~.25~~	~~0~~							

Comments DAMAGE TO well protector could NOT pass Bailer Through Damaged area, NO Sample collected

Developer Signature(s) Chris A. May Date 5-14-02 Reviewer Lwinn Date 5/20/02

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 5-16-02 PAGE: 1 OF ____

PLEASE PRINT

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC
ADDRESS: 2060 AFTON Place
Farmington N.M. 87401
PHONE: (505) 327-7924
FAX: (505) 326-5721

BILL TO: Scott Pope
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly AVE
Farmington N.M. 87401

SAMPLE ID	DATE	TIME	MATRIX	LAB #
HAN-0205-MW1	5-14-02	1315	H2O	
HAN-0205-MW2	5-14-02	1233	H2O	

ANALYSIS REQUEST

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
					X																						2
					X																						2

SHADED AREAS ARE FOR LAB USE ONLY

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT INFORMATION

PROJ. NO.: 15170000121
PROJ. NAME: EPFS GW pits
P.O. NO.:
SHIPPED VIA: Grey Hound

SAMPLE RECEIPT

NO. CONTAINERS	
CUSTODY SEALS	Y / N / NA
RECEIVED INTACT	
BLUE ICE/ICE	

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HAMMER #9
meter # (97213)

RELINQUISHED BY: 1

Signature: [signature] Time: 1530
Printed Name: Chris AMEC Date: 5-16-02
Company: AMEC
See reverse side (Force Majeure)

RECEIVED BY: 1

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY (LAB): 2

Signature: Time:
Printed Name: Date:
Company:

☑ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA FORM

amec

Well Number MW1 Page 1 of 1

Project Name EPFS GW project Project Manager Lisa Winn Project No 97000121

Client Company El Paso Field Services

Site Name HAMNER #9 (97213) 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	Bailer
☐ Centrifugal	☑ Bottom Valve
☐ Submersible	☐ Double Check Valve
☐ Peristaltic	☐ Stainless-steel Kemmerer

☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 40.85
Initial Depth to Water (feet) 32.39
Height of Water Column in Well (feet) 8.46
Diameter (inches): Well 4" Gravel Pack ____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	8.46	5.52x3	16.56
Gravel Pack			
Drilling Fluids			
Total			16.56

Instruments

	Serial No. (If applicable)
☑ pH Meter	YSI 63
☐ DO Monitor	
☑ Conductivity Meter	YSI 63
☑ Temperature Meter	YSI 63
☐ Other	

Water Disposal

Kutz Separator Bloomfield N.M.

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
2-25-02	0905		X				3.25	3.25			15.3	7.59	13.66		Cloudy yellow flakes Rotten egg odor
	0910		X			39.76	3.25	6.5			14.9	7.58	14.12		no Change

Comments After Bailing approximately 6.5 gal Bailed well Dry Let Recover Sampled for BTEX 0930

Developer's Signature(s) Chris A Mar Date 2-25-02 Reviewer [signature] Date 3/1/02

Pinnacle Laboratories Inc.

CHAIN OF CUSTODY

DATE: 2-26-02 PAGE: 1 OF 1

PLI Accession #:

PROJECT MANAGER: Lisa Winn

COMPANY: AMEC
ADDRESS: 2060 AFTON Place
Farmington N.M. 87401
PHONE: (505) 327-7928
FAX: (505) 326-5721

BILL TO: Scott Pope
COMPANY: El Paso Field Services
ADDRESS: 614 Reilly Ave
Farmington N.M. 87401

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB #
HAN-0202-MW1	2-25-02	0930	H_2O	

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 GCMS (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
				X																					

PROJECT INFORMATION

PROJ. NO.: 15170002.1
PROJ. NAME: SJ5 GW. project
P.O. NO.:
SHIPPED VIA: Greyhound

SAMPLE RECEIPT

NO. CONTAINERS		
CUSTODY SEALS	N/A	
RECEIVED INTACT		
BLUE ICE/ICE		

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

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

CERTIFICATION REQUIRED: ☐ NM ☒ SDWA ☐ OTHER

METHANOL PRESERVATION ☐

COMMENTS: FIXED FEE ☐

HAMNER #9
meter # (97213)

RELINQUISHED BY: 1

Signature: [signature] Time: 1500
Printed Name: Chris A. Mack Date: 2-26-02
Company: AMEC
See reverse side (Force Majeure)

RECEIVED BY: 1

Signature: Time:
Printed Name: Date:
Company:

RELINQUISHED BY: 2

Signature: Time:
Printed Name: Date:
Company:

RECEIVED BY/LAB: 2

Signature: Time:
Printed Name: Date:

WELL OBSERVATION DATA

amec

Project Name: EPFS GW Project

Project No.: 15170001.21

Project Mngr: Lisa Winn

Task: 2

Client Co.: El Paso Field Services

Date: 2-25-02

Site Name: HAMNER #9 (97213)

Well or Piezometer	Time	Reason Not Measured	Depth to Floating Product (Feet)	Depth to Water (Feet)	Depth to Sinking Product (Feet)	Total Well Depth (Feet)	Floating Product Thickness	Sinking Product Thickness	Comments
MW 2	0915			31.85					
MW 3	0919			31.21					

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

Comments:

Signature: Christ Mey

Date: 2-25-02

elpaso Field Services

Certified Mail: #7001 1940 0003 1553 8513

February 28, 2002

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

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**

El Paso Field Services
614 Reilly Farmington, New Mexico 87401