

3R - 183

REPORTS

DATE:

1997



Certified Mail: #Z 295 387 297; #Z 295 387 296

February 27, 1998

Mr. William C. Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

RECEIVED

MAR 02 1998

Environmental Bureau
Oil Conservation Division

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for 57 groundwater impacted locations that were identified during our pit closure project of 1994/1995.

Of the 57 reports, EPFS hereby requests your approval for closure of 11 of these locations. The 11 reports for which EPFS requests closure, are in 2 separate binders entitled "Request for Closure".

After you have had an opportunity to review these updates, EPFS would like to schedule a meeting with you to discuss issues related to closure criteria for some of the more complex locations that are currently being addressed.

If you have any questions regarding this information, please call me at 505/599-2141. I will contact you within the next quarter to schedule a meeting.

Sincerely,

A handwritten signature in cursive script that reads 'Sandra D. Miller'.

Sandra D. Miller
Environmental Manager

xc: Mr. Bill Liese, BLM w/o enclosures
Mr. Denny Foust, NMOCD - Aztec w/enclosures; **Certified Mail #Z 295 387 298; #Z 295 387 299**
Ms. Charmaine Tso, Navajo EPA w/enclosures; **Certified Mail #Z 295 387 292**

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project
Pit Closure Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP
ENVIRONMENTAL

GROUNDWATER ANALYSIS



A 2210

CHAIN OF CUSTODY RECORD

[illegible]



EL PASO FIELD SERVICES



5-6-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970318
MTR CODE SITE NAME:	75212	Graham #53 MW-1
SAMPLE DATE TIME (Hrs):	4/17/97	1440
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	4/18/97	4/18/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	4.44	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	4.44	PPB				

The Surrogate Recovery was at 99.6 % for this sample All QA/QC was acceptable.

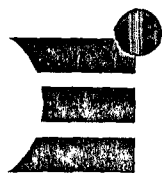
arrative:

proved By:

John L. Litch

Date:

4/24/97



EL PASO FIELD SERVICES



5-6-97

Field Services Laboratory Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970318
DATE SAMPLED:	04/17/97
TIME SAMPLED (Hrs):	1410
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	75212
SAMPLE SITE NAME:	Huerfano Pipeline
SAMPLE POINT:	Graham #53 MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.9	Units	04/18/97
Alkalinity as CO_3	0	PPM	04/18/97
Alkalinity as HCO_3	299	PPM	04/18/97
Calcium as Ca	503	PPM	04/19/97
Magnesium as Mg	34	PPM	04/19/97
Total Hardness as CaCO_3	1,395	PPM	04/19/97
Chloride as Cl	12	PPM	04/18/97
Sulfate as SO_4	1,800	PPM	04/18/97
Fluoride as F	1.5	PPM	04/18/97
Nitrate as $\text{NO}_3\text{-N}$	<0.6	PPM	04/18/97
Nitrite as $\text{NO}_2\text{-N}$	<0.6	PPM	04/18/97
Ammonium as NH_4^+	<0.6	PPM	04/19/97
Phosphate as PO_4	<0.6	PPM	04/18/97
Potassium as K	0.9	PPM	04/19/97
Sodium as Na	397	PPM	04/19/97
Total Dissolved Solids	3,000	PPM	04/19/97
Calculated TDS	2,895	PPM	04/19/97
Conductivity	3,530	umhos/cm	04/18/97
Anion/Cation %	2.7%	%, <5.0 Accepted	04/21/97

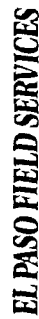
Remarks:

Sorted By: mh

Approved By:

[Signature]

Date: 4/21/97



Well Number MW-1
Meter Code 75213

Site Name GRAHAM #53

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 43.48
Initial Depth to Water (feet) 28.91
Height of Water Column in Well (feet) 14.57

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		9.6	28.9
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. C.

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Developer's Signature: _____

Emilio Bied

Date 4/17/97

Reviewer

John Fisher

Date: _____

CS/11/17/13



Natural Gas Company

A 2027

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Requested Analysis				Type and No. of Sample Containers	Preservation Technique	Remarks
SAMPLERS: (Signature) <i>Dennis Bird</i> Date: 7-16-97								
Date	Time	Comp.	GRAB	Sample Number				
7-16-97	1236		X	970670	5-1 400 X			GRAHAM #53 MW-1 MC-75212
7-16-97	—		X	—	5-1 400 X			TRIP BLANK
[The following rows are crossed out with a diagonal line]								
RELINQUISHED BY: (Signature) <i>Dennis Bird</i> Date/Time 7-16-97 1615		RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)		RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)
Carrier Co:		Carrier Phone No.		Remarks:		Date Results Reported / by: (Signature)		
				7/17/97 1415				



EL PASO FIELD SERVICES



8/8/97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970670
MTR CODE SITE NAME:	75212	Graham #53
SAMPLE DATE TIME (Hrs):	7/16/97	1226
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	7/17/97	7/17/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.99	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	1.99	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.4 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

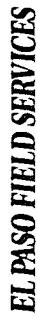
Narrative:

Approved By:

John L. Linder

Date:

7/22/97



John Lundberg Date 7/22/97



Natural Gas Company

A 2113

CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971123
MTR CODE SITE NAME:	75212	Graham #53
SAMPLE DATE TIME (Hrs):	10/21/97	1028
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	10/23/97	10/23/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	9.80	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	10	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

John Sweller

Date: _____

10-27-97

971123BTEXMW,10/24/97



Well Development and Purging Data

Site Name GRAHAM #53

Development ☐ Purging ☒

Well Number MW-1
Meter Code 75212

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 43.48
Initial Depth to Water (feet) 29.19
Height of Water Column in Well (feet) 14.29

Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>9.4</u>	<u>28.3</u>
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMISTS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		pH	Conductivity $\mu\text{mho/cm}$	Dissolved Oxygen mg/L	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative				
10-21-97	0929										<u>6.72</u>	<u>3120</u>		
10-21-97	0936						<u>5.0</u>	<u>5.0</u>			<u>6.72</u>	<u>3080</u>		
10-21-97	0944						<u>5.0</u>	<u>10.0</u>			<u>6.82</u>	<u>3120</u>		
10-21-97	0953						<u>5.0</u>	<u>15.0</u>			<u>6.86</u>	<u>3210</u>		
10-21-97	1001						<u>5.0</u>	<u>20.0</u>			<u>6.91</u>	<u>3190</u>		
10-21-97	1009						<u>5.0</u>	<u>25.0</u>			<u>6.94</u>	<u>3200</u>		
10-21-97	1018						<u>5.0</u>	<u>30.0</u>			<u>6.93</u>	<u>3160</u>	<u>1.5</u>	

Comments _____

Developer's Signature Dennis Bird

Date 10-21-97

Reviewer _____

John Luller

Date 10-27-97

SAMPLE 4 4TH QTR

A 2176



Natural Gas Company

CHAIN OF CUSTODY RECORD

[illegible]



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980009
MTR CODE SITE NAME:	75212	Graham #53
SAMPLE DATE TIME (Hrs):	1/6/98	1457
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	1/12/98	1/12/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	7.87	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	8	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.3 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

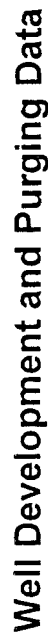
Approved By: _____

John L. Landon

Date: _____

1/2/98

980009BTEXMonitorWell, 1/16/98



Well Number MW-1

Meter Code 75213

☐	Development
☒	Purging

Case Name GRAHAM #53

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 43.48

Initial Depth to Water (feet) 23.75Height of Water Column in Well (feet) 14.73

Diameter (inches): Well Gravel Pack

Temperature Meter
Other *D.O. CHEMETS KIT*

Methods of Development

- | | | | |
|--------------------------|-------------|-------------------------------------|--------------------------|
| ☐ | Pump | ☐ | Bailer |
| ☐ | Centrifugal | ☒ | Bottom Valve |
| ☐ | Submersible | ☐ | Double Check Valve |
| ☐ | Peristaltic | ☐ | Stainless-steel Kemmerer |

Other

Water Disposal

K072 SEP 25 2107

Water Removal Data

[illegible]

ments

Developer's Signature

Date 1-6-98

Reviewer

John F. Ladd.

Date 1/24/98

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

Burlington Environmental Inc.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Project Name EPNG PITS
Project Number 14509 Phase 6000.77
Project Location Grubbs #53 75212

Elevation
Borehole Location 2440 L-512-T22-RP
GWL Depth
Logged By J.F. LaBarbera
Drilled By K. Padilla
Date/Time Started 7/17/95 - 1240
Date/Time Completed - 1830

Well Logged By J.F. LaBarbera
Personnel On-Site K. Padilla, F. Rivera, D. Charlie
Contractors On-Site
Client Personnel On-Site
Drilling Method 4 1/4 ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: ppm BZ BH S			Drilling Conditions & Blow Counts
0										
5										
10										
15	1	15-16.5	17	Brown, soft, SILT, CL fine sand, dry, odor	ML		0	8	1778 576	1950
20	2	20-20.75	9	Brown, med. stiff, CLAY, damp, odor, med. plastic	CL		0	143	1390 29	1300
25	3	25-26	12	Gray, loose, ^{fine} SAND, ^{fine} silt, odor, damp	SP		0	124	160 84	1316
30	4	30-31.25	15	Brown, ^{fine} silt, ^{fine} sand, moist, silty odor			2	144	5714 2.5	1320
35										
40										

Comments:

(came up to)
water encountered at 25.33'. Sample bagged & used. Sample
JFL is sent for BTEX / TPH analysis. 4" monitoring well set
at 35 feet
40'

Geologist Signature *J.F. LaBarbera*

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Marvaco Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH1
Well # mw1
Page 1 of 1

Project Name EPHIG Pit Closure
Project Number 14509 Phase Comm. 77
Project Location Graham #53 75212

Elevation _____
Well Location 22th and S-10-T27-R8
GWL Depth 25.33'
Installed By K. Padilla

On-Site Geologist John LaBarbera
Personnel On-Site K. Padilla, F. Ramirez, D. Charl.
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 2/12/95 - 1345
Date/Time Completed - 1830

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing	—		Top of Protective Casing	<u>0</u>
Bottom of Protective Casing	—		Top of Riser	<u>+3</u>
Top of Permanent Borehole Casing	—		Ground Surface	<u>0</u>
Bottom of Permanent Borehole Casing	—			
Top of Concrete	—			
Bottom of Concrete	—			
Top of Grout	Portland	<u>-5</u>		
Bottom of Grout	10 x 94# Portland	<u>-20</u>		
Top of Well Riser	4" PVC	<u>+3</u>		
Bottom of Well Riser	4" PVC	<u>-25</u>		
Top of Well Screen	4" PVC 0.010"	<u>-25</u>	Top of Seal	<u>-20</u>
Bottom of Well Screen	4" PVC 0.010"	<u>-40</u>		
Top of Peltonite Seal		<u>-20</u>		
Bottom of Peltonite Seal	2.5 x 50# H-2 Plug	<u>-22</u>	Top of Gravel Pack	<u>-22</u>
Top of Gravel Pack	10-20 silica	<u>-22</u>	Top of Screen	<u>-25'</u>
Bottom of Gravel Pack	50# x 20 10-20 silica	<u>-40</u>		
Top of Natural Cave-In	—			
Bottom of Natural Cave-In	—			
Top of Groundwater	no data		Bottom of Screen	<u>-40'</u>
Total Depth of Borehole		<u>-40</u>	Bottom of Borehole	<u>-40'</u>

Comments: _____

Geologist Signature

John LaBarbera

CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

Phase II

~~Dawson A #1 M~~ m.v. rpe

(32)

Graham #63 (30-31.25)

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JFL10	947009
MTR CODE SITE NAME:	75212	N/A
SAMPLE DATE TIME (Hrs):	7/17/95	13:20
SAMPLED BY:	Phase II Drill	N/A
DATE OF TPH EXT. ANAL.:	7-18-95	7-18-95
DATE OF BTEX EXT. ANAL.:	7-19-95	7-20-95
TYPE DESCRIPTION:	V6	Brown wet clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.025	MG/KG	1			
TOLUENE	0.077	MG/KG	1			
ETHYL BENZENE	<0.025	MG/KG	1			
TOTAL XYLENES	0.076	MG/KG	1			
TOTAL BTEX	0.153	MG/KG				
TPH (418.1)	65.6	MG/KG			1.99	28
HEADSPACE PID	5714	PPM				
PERCENT SOLIDS	80.7	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95 % for this sample All QA/QC was acceptable.

Narrative:

ATI Results attached.

DF = Dilution Factor Used



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 507358
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE/PHASE II DRIL

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
14	947009	NON-AQ	07/17/95	07/19/95	07/20/95	1

PARAMETER	UNITS	14
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	0.077
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	0.076

SURROGATE:

BROMOFLUOROBENZENE (%) 95



Analytical **Technologies**, Inc.

2709-D Pan American Freeway, NE Albuquerque, NM 87107
Phone (505) 344-3777 FAX (505) 344-4413

ATI I.D. 507358

July 25, 1995

El Paso Natural Gas Co.
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: PIT CLOSURE/PHASE II DRIL M/W 24324

Attention: John Lambdin

On 07/19/95, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous and non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

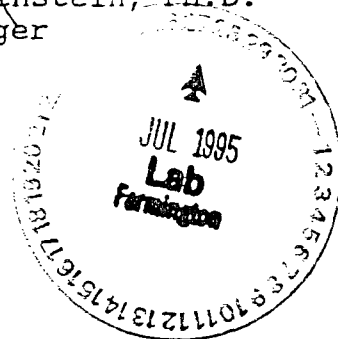
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



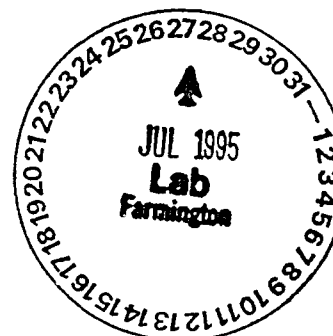


Analytical Technologies, Inc.

CLIENT : EL PASO NATURAL GAS CO. DATE RECEIVED : 07/19/95
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE/PHASE II DRIL REPORT DATE : 07/25/95

ATI ID: 507358

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	946991	NON-AQ	07/13/95
02	946992	NON-AQ	07/13/95
03	946993	NON-AQ	07/13/95
04	946994	NON-AQ	07/13/95
05	946995	NON-AQ	07/13/95
06	946996	AQUEOUS	07/13/95
07	946997	AQUEOUS	07/13/95
08	946998	AQUEOUS	07/13/95
09	946999	AQUEOUS	07/13/95
10	947005	NON-AQ	07/14/95
11	947006	NON-AQ	07/14/95
12	947007	NON-AQ	07/17/95
13	947008	NON-AQ	07/17/95
14	947009	NON-AQ	07/17/95
15	947019	AQUEOUS	07/17/95



---TOTALS---

MATRIX	#SAMPLES
AQUEOUS	5
NON-AQ	10

ATI STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: EPA 8015 MODIFIED	ATI I.D.	: 507358
BLANK I.D.	: 072095	MATRIX	: NON-AQ
CLIENT	: EL PASO NATURAL GAS CO.	DATE EXTRACTED	: 07/20/95
PROJECT #	: 24324	DATE ANALYZED	: 07/22/95
PROJECT NAME	: PIT CLOSURE/PHASE II DRIL	DILUTION FACTOR	: 1

PARAMETER	UNITS	
FUEL HYDROCARBONS	MG/KG	<5
HYDROCARBON RANGE		-
HYDROCARBONS QUANTITATED USING		-

SURROGATE:

1,2,4-TERPHENYL (%)	110
---------------------	-----

JP
7/21/95



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST : EPA 8015 MODIFIED
MSMSD # : 072095 ATI I.D. : 507358
CLIENT : EL PASO NATURAL GAS CO. DATE EXTRACTED : 07/20/95
PROJECT # : 24324 DATE ANALYZED : 07/22/95
PROJECT NAME : PIT CLOSURE/PHASE II DRIL SAMPLE MATRIX : NON-AQ
REF. I.D. : 072095 UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
FUEL HYDROCARBONS	<5	100	120	120	110	110	9

JS 7/21/95

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

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



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX (EPA 8020)	ATI I.D.	: 507358
BLANK I.D.	: 072095	MATRIX	: AQUEOUS
CLIENT	: EL PASO NATURAL GAS CO.	DATE EXTRACTED	: NA
PROJECT #	: 24324	DATE ANALYZED	: 07/20/95
PROJECT NAME	: PIT CLOSURE/PHASE II DRIL	DILUTION FACTOR	: 1

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

SURROGATE:

BROMOFLUOROBENZENE (%)	103
------------------------	-----



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX (EPA 8020)	ATI I.D.	: 507358
BLANK I.D.	: 072095B	MATRIX	: AQUEOUS
CLIENT	: EL PASO NATURAL GAS CO.	DATE EXTRACTED	: NA
PROJECT #	: 24324	DATE ANALYZED	: 07/20/95
PROJECT NAME	: PIT CLOSURE/PHASE II DRIL	DILUTION FACTOR	: 1

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
------------------------	-----



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX (EPA 8020)	ATI I.D.	: 507358
BLANK I.D.	: 072195	MATRIX	: AQUEOUS
CLIENT	: EL PASO NATURAL GAS CO.	DATE EXTRACTED	: NA
PROJECT #	: 24324	DATE ANALYZED	: 07/21/95
PROJECT NAME	: PIT CLOSURE/PHASE II DRIL	DILUTION FACTOR	: 1

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 (%)	104
------------------------	-----



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST : BTEX (EPA 8020)
MSMSD # : 50735809 ATI I.D. : 507358
CLIENT : EL PASO NATURAL GAS CO. DATE EXTRACTED : NA
PROJECT # : 24324 DATE ANALYZED : 07/20/95
PROJECT NAME : PIT CLOSURE/PHASE II DRIL SAMPLE MATRIX : AQUEOUS
REF. I.D. : 50735809 UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	2.0	10	12	100	12	100	0
TOLUENE	<0.5	10	10	100	10	100	0
ETHYLBENZENE	<0.5	10	11	110	11	110	0
TOTAL XYLENES	<0.5	30	32	107	32	107	0

JP
7/31/95

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

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



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX (EPA 8020)	ATI I.D.	: 507358
BLANK I.D.	: 071995	MATRIX	: NON-AQ
CLIENT	: EL PASO NATURAL GAS CO.	DATE EXTRACTED	: 07/19/95
PROJECT #	: 24324	DATE ANALYZED	: 07/20/95
PROJECT NAME	: PIT CLOSURE/PHASE II DRIL	DILUTION FACTOR	: 1

PARAMETER	UNITS	
BENZENE	MG/KG	<0.025
TOLUENE	MG/KG	<0.025
ETHYLBENZENE	MG/KG	<0.025
TOTAL XYLENES	MG/KG	<0.025

SURROGATE:

BROMOFLUOROBENZENE (%)	112
------------------------	-----

JS 7/21/95



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST : BTEX (EPA 8020)
MSMSD # : 50735703 ATI I.D. : 507358
CLIENT : EL PASO NATURAL GAS CO. DATE EXTRACTED : 07/19/95
PROJECT # : 24324 DATE ANALYZED : 07/19/95
PROJECT NAME : PIT CLOSURE/PHASE II DRIL SAMPLE MATRIX : NON-AQ
REF. I.D. : 50735703 UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.025	1.0	1.1	110	1.1	110	0
TOLUENE	<0.025	1.0	1.1	110	1.1	110	0
ETHYLBENZENE	<0.025	1.0	1.1	110	1.1	110	0
TOTAL XYLENES	<0.025	3.0	3.3	110	3.4	113	3

8-
7/21/95

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

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

CHAIN OF CUSTODY

DATE: 7/18/95 PAGE 1 OF 2

ATI LAB I.D.

507358

PROJECT MANAGER: JOHN LAMBDIN

COMPANY: EL PASO NATURAL GAS
ADDRESS: P.O. BOX 4990
FARMINGTON, NM 87499
PHONE: (505) 599-2144
FAX: (505) 599-2261
BILL TO: SAME AS ABOVE
COMPANY:
ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
946991	7/13/95	9:13	Soil	-01
946992	↑	11:41	↑	-02
946993	↓	16:18	↓	-03
946994	↓	16:18	↓	-04
946995	↓	16:30	Soil	-05
946996	↓	13:45	Water	-06
946997	↓	13:50	↑	-07
946998	↓	14:05	↓	-08
946999	7/13/95	16:50	Water	-09

ANALYSIS REQUEST

ANALYSIS REQUEST	NUMBER OF CONTAINERS
Petroleum Hydrocarbons (418.1)	1
(MOD 8015) Gas/Diesel	1
Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	1
BTXE/MTBE (8020)	1
BTEX (8020)	1
Chlorinated Hydrocarbons (601/8010)	1
Aromatic Hydrocarbons (602/8020)	1
SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.	1
Pesticides/PCB (608/8080)	1
Herbicides (615/8150)	1
Base/Neutral/Acid Compounds GC/MS (625/8270)	1
Volatile Organics GC/MS (624/8240)	1
Polynuclear Aromatics (610/8310)	1
SDWA Primary Standards - Arizona	1
SDWA Secondary Standards - Arizona	1
SDWA Primary Standards - Federal	1
SDWA Secondary Standards - Federal	1
The 13 Priority Pollutant Metals	1
HCRA Metals by Total Digestion	1
HCRA Metals by TCLP (1311)	1

PROJECT INFORMATION

PROJ. NO.: 24324
PROJ. NAME: PIT CLOSURE/Phase II Drill
P.O. NO.: 38822
SHIPPED VIA: FEDERAL EXPRESS

SAMPLED & RELINQUISHED BY:

1. Signature: [Signature] Time: 14:30
Printed Name: Rheabays Date: 7/18/95
Company: EL PASO NATURAL GAS

RECEIVED BY:

1. Signature: [Signature] Time: 0950
Printed Name: [Signature] Date: 7-19-95
Company: Analytical Technologies, Inc.

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☒ 72hr (NORMAL) ☐ 2 WEEK
Comments: CHARGE CODE: 50% 108-51570-24-(XX)-1-(X) 12-31-2010
50% 108-52452-24-(XX)-1-(X) 12-31-2010
QA/QC ON PROJECT SAMPLES

PROJECT MANAGER: JOHN LAMBDIN

COMPANY: EL PASO NATURAL GAS

ADDRESS: P.O. BOX 4990

FARMINGTON, NM 87499

PHONE: (505) 599-2144

FAX: (505) 599-2261

BILL TO: SAME AS ABOVE

COMPANY:

ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
947005	7/14/95	11:23	Soil	-10
947006	7/14/95	15:25	↑	-11
947007	7/17/95	09:20	↑	-12
947008	↑	11:33	↓	-13
947009	↓	13:20	Soil	-14
947019	7/17/95	15:25	Wdr	-15

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.: 24324		NO. CONTAINERS	
PROJ. NAME: PIT CLOSURE / <i>Next Dril</i>		CUSTODY SEALS	Y / N / NA
P.O. NO.: 38822	<i>M/W</i>	RECEIVED INTACT	
SHIPPED VIA: FEDERAL EXPRESS		RECEIVED COLD	<i>34°F</i>

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☒ 72hr ☐ 1 WEEK

Comments: CHARGE CODE: 50% 108-51570-24-(X)1-(X)12-31-2010 7210
50% 108-52452-24-(X)1-(X)12-31-2010

QALOC ON PROJECT SAMPLES

	NUMBER OF CONTAINERS	1	1	1	1	1	2
Petroleum Hydrocarbons (418.1)	(MOD 8015) Gas/Diesel						
Diesel/Gasoline/BTXE/MTBE (MOD 8015/8020)	BTXE/MTBE (8020)	X	X	X	X	X	X
	BTEX (8020)	X	X				
Chlorinated Hydrocarbons (601/8010)							
Aromatic Hydrocarbons (602/8020)							
SDWA Volatiles (502.1/503.1), 502.2 Reg. & Unreg.							
Pesticides/PCB (608/8080)							
Herbicides (615/8150)							
Base/Neutral/Acid Compounds GC/MS (625/8270)							
Volatile Organics GC/MS (624/8240)							
Polynuclear Aromatics (610/8310)							
SDWA Primary Standards - Arizona							
SDWA Secondary Standards - Arizona							
SDWA Primary Standards - Federal							
SDWA Secondary Standards - Federal							
The 13 Priority Pollutant Metals							
RCRA Metals by Total Digestion							
RCRA Metals by TCLP (1311)							

SAMPLED & RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
Signature:	Time:	Signature:	Time:	Signature:	Time:
		<i>[Signature]</i>	14:30		
Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
		<i>Rhea Bays</i>	7/18/95		
Company:	Phone:	Company:		Company:	
			EL PASO NATURAL GAS		
RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY (LAB): 3.	
Signature:	Time:	Signature:	Time:	Signature:	Time:
Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
Company:		Company:			Analytical Technologies, Inc.

QUALITY CONTROL REPORT
TPH by Modified 418.1 by Infrared

Date of Analysis: July 18, 1995

19 Pit Samples

LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES NO
INITIAL CALIBRATION VERIF. "B" Heavy Oil (Lot M3G9616)	HORIBA	200	249	125	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES NO
947000	2nd Extract	181	244	29.6	X
947010	2nd Extract	327	339	3.6	X

Narrative : Acceptable.

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SA)MG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES NO
947000	3130	181	3610	110	X
947010	3130	327	3910	114	X

Narrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

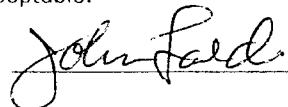
SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
ERA TPH STANDARD #1 LOT # 91026	ENVIRONMENTAL RESOURCE ASS.	1340	1620	804 - 1680	X
ERA TPH STANDARD #2 w/int LOT # 91026	ENVIRONMENTAL RESOURCE ASS.	2590	3160	1550 - 3240	X

Narrative: Acceptable.

LABORATORY REAGENT BLANK:

SAMPLE ID	SOURCE	TPH LEVEL (MG/KG)	STATUS
Freon Solvent	EPNG Lab	< 10.0	ACCEPTABLE
Reagent Blank	EPNG Lab	< 10.0	ACCEPTABLE

Narrative: Acceptable.

Approved By: 

Date: 19-Jul-95

Extracted: 07/18/95

EPFS GROUNDWATER PITS

1997 ANNUAL GROUNDWATER REPORT

GRAHAM #53
Meter/Line ID - 75212

SITE DETAILS

Legals - Twn: 27N Rng: 8W Sec: 10 Unit: L
NMOCD Hazard Ranking: 30 Land Type: FEDERAL
Operator: R & G DRILLING COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Jan-95 Excavation: Feb-95 (160 cy) Soil Boring: Jul-95
Monitor Well: Jul-95

The pit was excavated to 12 feet below ground surface (bgs) and a soil sample was collected from the bottom of the excavation. The soil headspace reading from the pit bottom was 173 ppm. Soil analytical were as follows; benzene – 7.38 mg/kg, total BTEX – 134 mg/kg, TPH – 1,560 mg/kg.

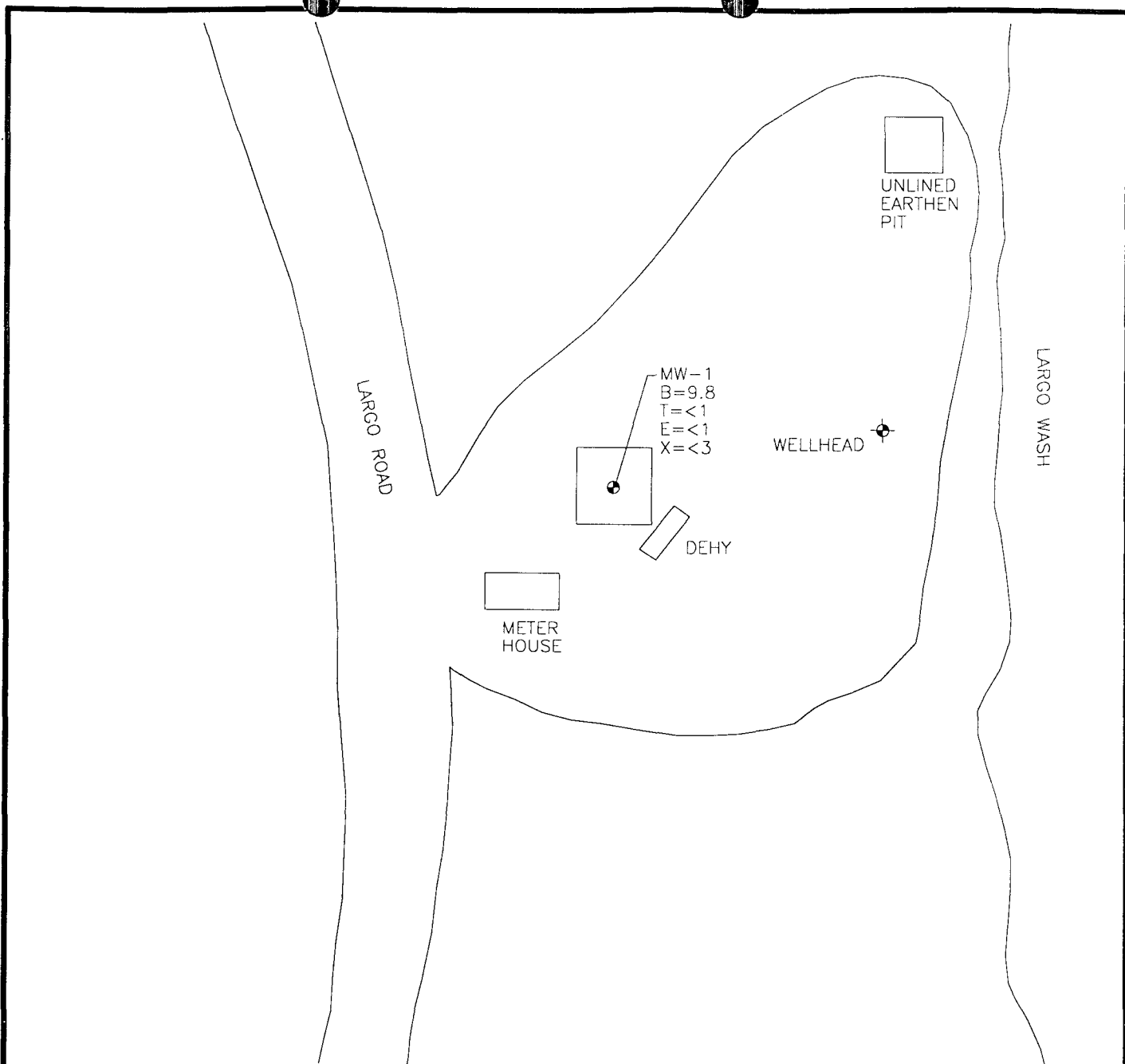
A soil boring was drilled in the center of the former pit and a groundwater monitoring well was installed. A soil sample was collected from 25-26 feet bgs. Soil analytical were as follows; benzene – ND, total BTEX – ND, TPH – 65.6 mg/kg. Quarterly groundwater monitoring was initiated on 4/17/97. Groundwater analytical data are summarized in Table 1, and a site map is presented in Figure 1.

CONCLUSIONS

Groundwater analytical data has been below standards since quarterly sampling was initiated at MW-1. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

- EPFS requests closure at this site.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



LEGEND

MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER

B BENZENE (ug\L)
 T TOLUENE (ug\L)
 E ETHYL BENZENE (ug\L)
 X XYLENE (ug\L)

ug\L MICROGRAMS PER LITER

0 50
FEET



COL. 17520AU-001



TITLE:

GRAHAM #53
75212

DWN:

TMM

DES.:

CC

PROJECT NO.:

17520

EPFS GW PITS

CHKD:

CC

APPD:

DATE:

1/18/98

REV.:

0

FIGURE 1

FIELD PIT SITE ASSESSMENT FORM

GENERAL

Meter: 75212 Location: GRAHAM #S3
 Operator #: _____ Operator Name: R&G DRILLING P/L District: BAUAPD
 Coordinates: Letter: L Section 10 Township: 27 Range: 8
 Or Latitude _____ Longitude _____
 Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____
 Site Assessment Date: 1-25-95 Area: 07 Run: 32

SITE ASSESSMENT

NMOCD Zone: (From NMOCD Maps) Inside ☒ (1) Outside ☐ (2)
 Land Type: BLM ☒ (1) State ☐ (2) Fee ☐ (3) Indian _____

Depth to Groundwater
 Less Than 50 Feet (20 points) ☒ (1)
 50 Ft to 99 Ft (10 points) ☐ (2)
 Greater Than 100 Ft (0 points) ☐ (3)

Wellhead Protection Area :
 Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☐ (1) YES (20 points) ☒ (2) NO (0 points)

Horizontal Distance to Surface Water Body
 Less Than 200 Ft (20 points) ☐ (1)
 200 Ft to 1000 Ft (10 points) ☒ (2)
 Greater Than 1000 Ft (0 points) ☐ (3)

Name of Surface Water Body CAÑON LARGO
 (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)
 Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only)
☐ (2) > 100'

TOTAL HAZARD RANKING SCORE: 30 POINTS

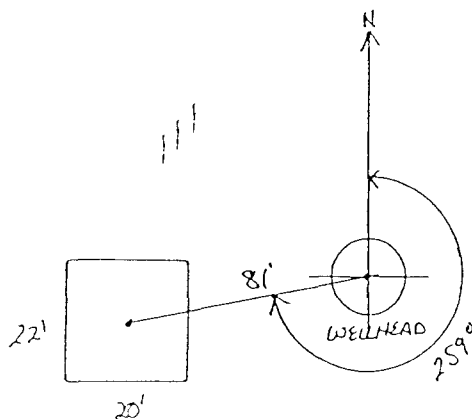
ARK

Remarks : REDLINE & TOPO SHOW LOCATION INSIDE V.2. ONLY PIT ON LOCATION.
BELONGS TO EPAG. WILL CLOSE PIT.

75212

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 259° Footage from Wellhead 81'
b) Length 22' Width : 20' Depth : 2'



Remarks :

PHOTOS-1402

Completed By:

[Signature]

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylene (PPB)	Total BTEX
970318	75212	Graham #53	4/17/97	1	Sample 4 - 1st Quarter	= 4.44	< 1	< 1	< 3	4
970670	75212	Graham #53	7/17/97	1	Sample 4 - 2nd Quarter	= 1.99	< 1	< 1	< 3	2
971123	75212	Graham #53	10/21/97	1	Sample 4 - 3rd Quarter	= 9.8	< 1	< 1	< 3	= 10
980009	75212	Graham #53	1/6/98	1	Sample 4 - 4th Quarter	= 7.87	< 1	< 1	< 3	= 8

PHASE I EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 75212 Location: GRAHAM #53

Coordinates: Letter: L Section 10 Township: 27 Range: 8

Or Latitude _____ Longitude _____

Date Started : 2-7-95 Run: 07 32

FIELD OBSERVATIONS

Sample Number(s): KP 414

Sample Depth: 12' Feet

Final PID Reading 173 PID Reading Depth 12' Feet

Yes No

Groundwater Encountered ☐ ☐ Approximate Depth _____ Feet

CLOSURE

Remediation Method :

Excavation



Approx. Cubic Yards

160 cu. yd.
150 2-10-95

Onsite Bioremediation



Backfill Pit Without Excavation



Soil Disposition:

Envirotech



Tierra

Other Facility



Name: _____

Pit Closure Date: KP-2-8-95
2-7-95 2-8-95

Pit Closed By: B.E.F.

REMARKS

Remarks : Some LINE MARKERS. started Remediating to 12'
Soil At 12' is dark BLACK with A strange H.C odor.
Closed Pit.

Signature of Specialist: Kelly Padilla



CHAIN OF CUSTODY RECORD

Page _____ of _____

505-599-2144

White - Testing Laboratory Canary - EPNG Lab Pink - Field Sampler

FM-08-0565 A (Rev 05-94)



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	158 414	946656
MTR CODE SITE NAME:	75212	N/A
SAMPLE DATE TIME (Hrs):	2-8-95	1250
SAMPLED BY:	Phase I	N/A
DATE OF TPH EXT. ANAL.:	2-10-95	2-10-95
DATE OF BTEX EXT. ANAL.:	2/9/95	2/17/95
TYPE DESCRIPTION:	VC	Black w/some Brown clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	7.38 6.94 ^{4/21/95}	MG/KG	0.47847		2.09	20
TOLUENE	24.3	MG/KG	I		I	I
ETHYL BENZENE	9.76	MG/KG	I		I	I
TOTAL XYLENES	92.1	MG/KG	I		I	I
TOTAL BTEX	134	MG/KG				
TPH (418.1)	1560	MG/KG			1.94	28
HEADSPACE PID	173	PPM				
PERCENT SOLIDS	77.3	%				

-- TPH is by EPA Method 418.1 and BTEX is by EPA Method 8020 --

h
arrogate Recovery was at 86.5 % for this sample All QA/QC was acceptable.
larative:Toluene was reported off a duplicate run due to unacceptable
integration of toluene on this analysis.

F = Dilution Factor Used

approved By:

Dr. Larch

Date:

4/27/95

Date of Analysis: February 10, 1995

16 Samples

LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES NO
INITIAL CALIBRATION VERIF. "B" Heavy Oil (Lot M3G9616)	HORIBA	300	306	102	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES NO
946646	2nd Extract	112	90	21.8	X
946654	2nd Extract	246	434	55.3	X

Narrative : Acceptable for sample # 946646.

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SA)MG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES NO
946646	2920	112	3560	118	X
946654	3020	246	4000	124	X

Narrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
ERA TPH STANDARD #1 LOT # 91026	ENVIRONMENTA RESOURCE ASS.	1340	1630	804 - 1680	X
ERA TPH STANDARD #2 w/int LOT # 91026	ENVIRONMENTA RESOURCE ASS.	2590	3140	1550 - 3240	X

Narrative: Acceptable.

LABORATORY REAGENT BLANK:

SAMPLE ID	SOURCE	TPH LEVEL (MG/KG)	STATUS
Freon Solvent	EPNG Lab	<10.0	ACCEPTABLE
Reagent Blank	EPNG Lab	<10.0	ACCEPTABLE

Narrative: Acceptable.

Approved By:

John Larcher

Date: 20-Feb-95

Extracted: 02/10/95

MEMO

Date: April 21, 1995

To: John Lambdin

From: Tony Tristano *ATT*

Subject: Sample set consisting of sample numbers 946644E & 946656E

Two samples, 946644 and 946656 were sampled on February 7, 1995 and February 8, 1995 respectively and submitted for BTEX analysis by Method 8020.

Since we are using sample preparation and analysis methods found in the "Test Methods for Evaluating Solid Waste", SW-846 3rd. edition, USEPA, 1986 and its approved updates I felt it would be necessary to detail discrepancies between the methods and the quality control report.

First, the toluene recovery for the Laboratory Calibration Standard (LCS) was higher than expected due to the soil vial used for the analysis contained carryover contamination from the sample previously analyzed in the soil vial. The small peaks in the chromatogram which replaced the normally smooth baseline, demonstrated by both the auto blank analysis and the soil vial blank analysis, leads me to believe the contamination is present. I feel the contamination is a rare occurrence despite our rigorous cleaning of the soil vials following being used in an analysis.

Secondly, the lower than expected recoveries for the Continuing Calibration Verification (CCV) are due to an on going instrumental problem. The response from the Photo-Ionization Detector (PID) gradually decreases until the recoveries of the analytical surrogates, which are added to every sample, drop to unacceptable levels. The CCV was analyzed late in the batch as illustrated by the attached batch list which corresponded to a significant decrease in response and should therefore be disregarded.

Despite the problems discussed, I feel the results for these two samples are correct due to the fact that the samples were analyzed at the beginning of the batch and following the acceptable calibration verifications before the response decrease came into play. In addition the samples could not be re-analyzed before the holding time lapsed due to continued equipment problems.

*Reviewed &
Approved
4/27/95
JTD*

E 80 NATURAL GAS - FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 946644E and 946656E

QA/QC for 2/17/95 Sample Set

LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-41626 25 PPB					RANGE	
Benzene	Standard	25.0	21.1	84.4	75 - 125 %	X
Toluene	Standard	25.0	24.2	96.8	75 - 125 %	X
Ethyl benzene	Standard	25.0	23.7	94.8	75 - 125 %	X
Total Xylenes	Standard	75.0	72.6	96.8	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-41626 200 PPB					RANGE	
Benzene	Standard	200	197	98.5	75 - 125 %	X
Toluene	Standard	200	220	110.0	75 - 125 %	X
Ethyl benzene	Standard	200	206	103.0	75 - 125 %	X
m & p - Xylene	Standard	400	396	99.0	75 - 125 %	X
o - Xylene	Standard	200	205	102.5	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
LCS DB-00050 25 PPB					RANGE	
Benzene	Standard	25.0	32.2	128.8	39 - 150	X
Toluene	Standard	25.0	46.6	186.4	46 - 148	X
Ethyl benzene	Standard	25.0	31.7	126.8	32 - 160	X
Total Xylenes	Standard	75.0	100.2	133.6	Not Given	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
CCV LA-41626 25 PPB					RANGE	
Benzene	Standard	25.0	20.6	82.4	75 - 125 %	X
Toluene	Standard	25.0	18.9	75.6	75 - 125 %	X
Ethyl benzene	Standard	25.0	17.7	70.8	75 - 125 %	X
Total Xylenes	Standard	75.0	53.8	71.7	75 - 125 %	X

Narrative: Unacceptable. The calibration check is okay but the CCV is low due to reduced response from the PID samples after the calibration check samples were rejected.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE (Analysis, Portion, or Sample)	SAMPLE RESULT PPM (mg/Kg)	DUPLICATE RESULT PPM (mg/Kg)	RPD	ACCEPTABLE	
					YES	NO
946656					RANGE	
Benzene	2nd Analysis	7.4	6.9	6	+/- 35 %	X
Toluene	2nd Analysis	11.2	24.3	74	+/- 35 %	X
Ethyl benzene	2nd Analysis	9.8	9.5	3	+/- 35 %	X
Total Xylenes	2nd Analysis	92.1	88.5	4	+/- 35 %	X

Narrative: Acceptable. Toluene difference due to different integrations.

LABORATORY SPIKES:

SAMPLE NUMBER 2nd Portion	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	XR	ACCEPTABLE	
					YES	NO
Benzene	40.0	N/A	N/A	0	75 - 125 %	X
Toluene	40.0	N/A	N/A	0	75 - 125 %	X
Ethyl benzene	40.0	N/A	N/A	0	75 - 125 %	X
Total Xylenes	120.0	N/A	N/A	0	75 - 125 %	X

Narrative: Acceptable.

ADDITIONAL ANALYTICAL BLANKS:

SAMPLE ID AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable

SAMPLE ID SOIL VIAL BLANK	SOURCE	PPB	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID EXTRACTION BLANK	SOURCE	PPB (In 200 uL shot)	STATUS
Benzene	Methanol	Not Available	ACCEPTABLE
Toluene	Methanol	Not Available	ACCEPTABLE
Ethyl benzene	Methanol	Not Available	ACCEPTABLE
Total Xylenes	Methanol	Not Available	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID Carryover contamination checks	SOURCE	NARRATIVE	STATUS
3/10	Vial + Boiled Water	Not Available	ACCEPTABLE
5/10	Vial + Boiled Water	Not Available	ACCEPTABLE
7/10	Vial + Boiled Water	Not Available	ACCEPTABLE
9/10	Vial + Boiled Water	Not Available	ACCEPTABLE

Narrative: Acceptable.

REAGENT BLANKS:

SAMPLE ID BOILED WATER CHECK	SOURCE 2/3/95	PPB	STATUS
Benzene	Boiled Water	<2.5	ACCEPTABLE
Toluene	Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable

SAMPLE ID METHANOL CHECK	SOURCE 2/9/95	PPB	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable

Approved By: John JordanDate: 20-Feb-95

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