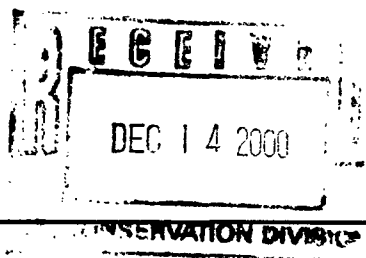


3R - 244

REPORTS

DATE:

1999



Certified Mail: # Z 213 707 369

December 13, 2000

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

**RE: Missing Information for Groundwater Sites Requested for Closure in the 1999
Pit Project Annual Groundwater Report**

Dear Mr. Olson:

El Paso Field Services Company (EPFS) hereby submits the missing information requested in our December 11, 2000 telephone conversation. You indicated the "Field Pit Assessment Form", "Field Pit Remediation / Closure Form" and supporting documentation where not included with the four non-Navajo and two Navajo pits requested for closure in the "1999 Pit Project Closure Report" submitted March 24, 2000.

Attached please find the above mentioned information for the following sites:

1. K-51 Line Drip T26N, R06W, Sec. 6, Unit A,
2. Mesa CPD T29N, R14W, Sec. 4, Unit E, Information included in 1998 Groundwater Report; copy provided.
3. Sheets Well No. 2 T31N, R9W, Sec. 28, Unit H
4. Turner A # 1 T31N, R11W, Sec. 34, Unit K, Pits 1 and 2
5. Charlie Pah # 2 T27N, R9W, Sec. 12, Unit B, (Navajo Jurisdiction)
6. John Charles # 8 Information not included. OCD approved site for closure July 8, 1998. Navajo EPA has not approved site for closure.

EPFS apologizes for omission of the attached information in the original closure request. If you have any questions or require any additional information, please contact me at (505) 599-2124.

Sincerely,

Scott T. Pope P.G.
Senior Environmental Scientist

Enclosures: as stated

xc: Mr. Denny Foust, NMOCD - Aztec - Certified Mail # Z 387 666 165

Turner A # 1
Pit 1

FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>71676</u> Location: <u>TURNER A #1</u> Operator #: _____ Operator Name: <u>MERIDIAN P/L</u> District: <u>KUTZ</u> Coordinates: Letter: <u>K</u> Section <u>34</u> Township: <u>31</u> Range: <u>11</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____ Site Assessment Date: <u>12-9-94</u> Area: <u>02</u> Run: <u>72</u>									
SITE ASSESSMENT	NMOCD Zone: (From NMOCD Maps)									
	Land Type: <table border="0"> <tr> <td>BLM</td> <td>☐ (1)</td> </tr> <tr> <td>State</td> <td>☐ (2)</td> </tr> <tr> <td>Fee</td> <td>☒ (3)</td> </tr> <tr> <td>Indian</td> <td>_____</td> </tr> </table>			BLM	☐ (1)	State	☐ (2)	Fee	☒ (3)	Indian
BLM	☐ (1)									
State	☐ (2)									
Fee	☒ (3)									
Indian	_____									
REMARKS	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 <u>ANIMAS RIVER</u> (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: <u>50</u> POINTS										
Remarks : <u>REDLINE & TOPO SHOW LOCATION INSIDE U.Z. TWO PITS ON LOCATION. ONE BELONGS TO MERIDIAN. WILL CLOSE EPNG'S DEHY PIT.</u>										

DIG & HAUL

ORIGINAL PIT LOCATION

A hand-drawn diagram of a wellhead. At the bottom is a square representing the base, with a vertical dimension of 16" on the left and a horizontal dimension of 14" at the bottom. A vertical line extends upwards from the center of the square. A horizontal line intersects this vertical line, and a circle is drawn at their intersection. The text "WELLHEAD" is written below the circle. A curved arrow indicates a rotation of 1950 degrees from the vertical line to a point on the circle. A vertical dimension of 20" is marked from the top of the square to the center of the circle. A north arrow points upwards from the top of the vertical line.

REMARKS

PHOTOS-1004

Completed By:


Signature

12-9-94
Date



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	946539
MTR CODE SITE NAME:	71676
SAMPLE DATE:	12/19/94
SAMPLE TIME (Hrs):	0845
SAMPLED BY:	ARS
DATE OF BTEX ANALYSIS:	12/28/94
SAMPLE TYPE:	Ground Water

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	<5.00		10
TOLUENE	<5.00		740
ETHYL BENZENE	<5.00		750
TOTAL XYLENES	<15.00		620
SURROGATE % RECOVERY	93.8	Allowed Range 80 to 120 %	

NOTES:

Approved By:

John Savin

1-6-95

Date

BTEX WATER SAMPLE WORKSHEET

File : 946539B
Water Volume (mL) : 2.500

Date Printed : 12/28/94
DF (Report) : 2.00

Analytical Values		Reported Values		Det. Limit
Benzene (ug/L) :	0.00	Benzene (ug/L) :	0.000	5.00
Toluene (ug/L) :	0.00	Toluene (ug/L) :	0.000	5.00
Ethylbenzene (ug/L) :	0.00	Ethylbenzene (ug/L) :	0.000	5.00
p & m-xylene (ug/L) :	1.70	p & m-xylene (ug/L) :	3.400	10.00
o-xylene (ug/L) :	0.70	o-xylene (ug/L) :	1.400	5.00
		Total xylenes (ug/L) :	4.800	60.00
		Total BTEX (ug/L) :	4.800	

EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM\946539B
 Method : C:\LABQUEST\METHODS\SOILS.MET
 Sample ID : 946539, 2500uL
 Acquired : Dec 28, 1994 16:54:03
 Printed : Dec 28, 1994 17:20:17
 User : Tony

Channel A Results

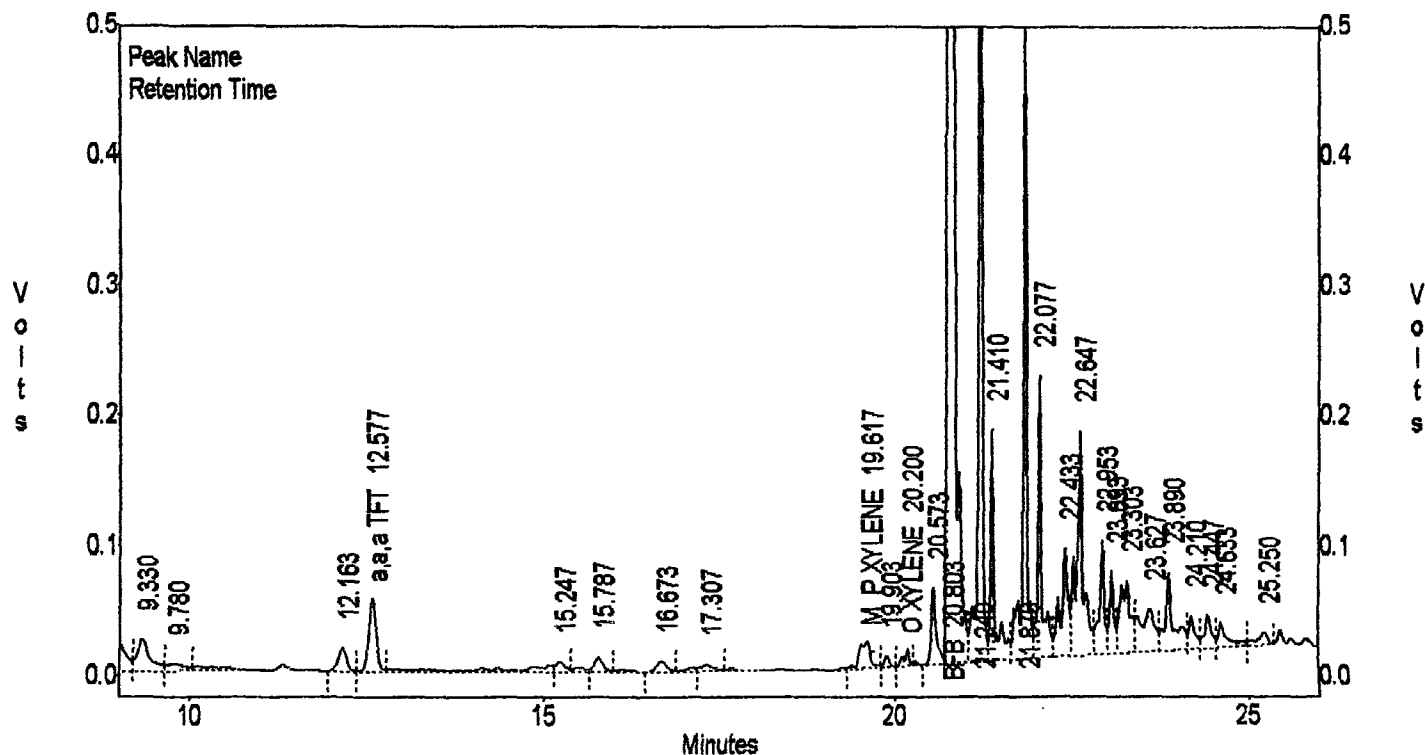
COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	10.160	0	0.00000	0.0000
a,a,a TFT	12.577	417821	6372.49561	56.6753
TOLUENE	15.110	0	0.00000	0.0000
ETHYLBENZENE	19.403	0	0.00000	0.0000
M & P XYLENE	19.617	229982	178734.17188	1.7322
O XYLENE	20.200	72751	127976.28906	0.6604
BFB	20.803	22058332	232900.28125	93.8145

Totals :

22778888

152.8824

C:\LABQUEST\CHROM\946539B - Channel A



EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM\946539B
 Method : C:\LABQUEST\METHODS\SOILS.MET
 Sample ID : 946539, 2500uL
 Acquired : Dec 28, 1994 16:54:03
 Printed : Dec 28, 1994 17:20:22
 User : Tony

Channel B Results

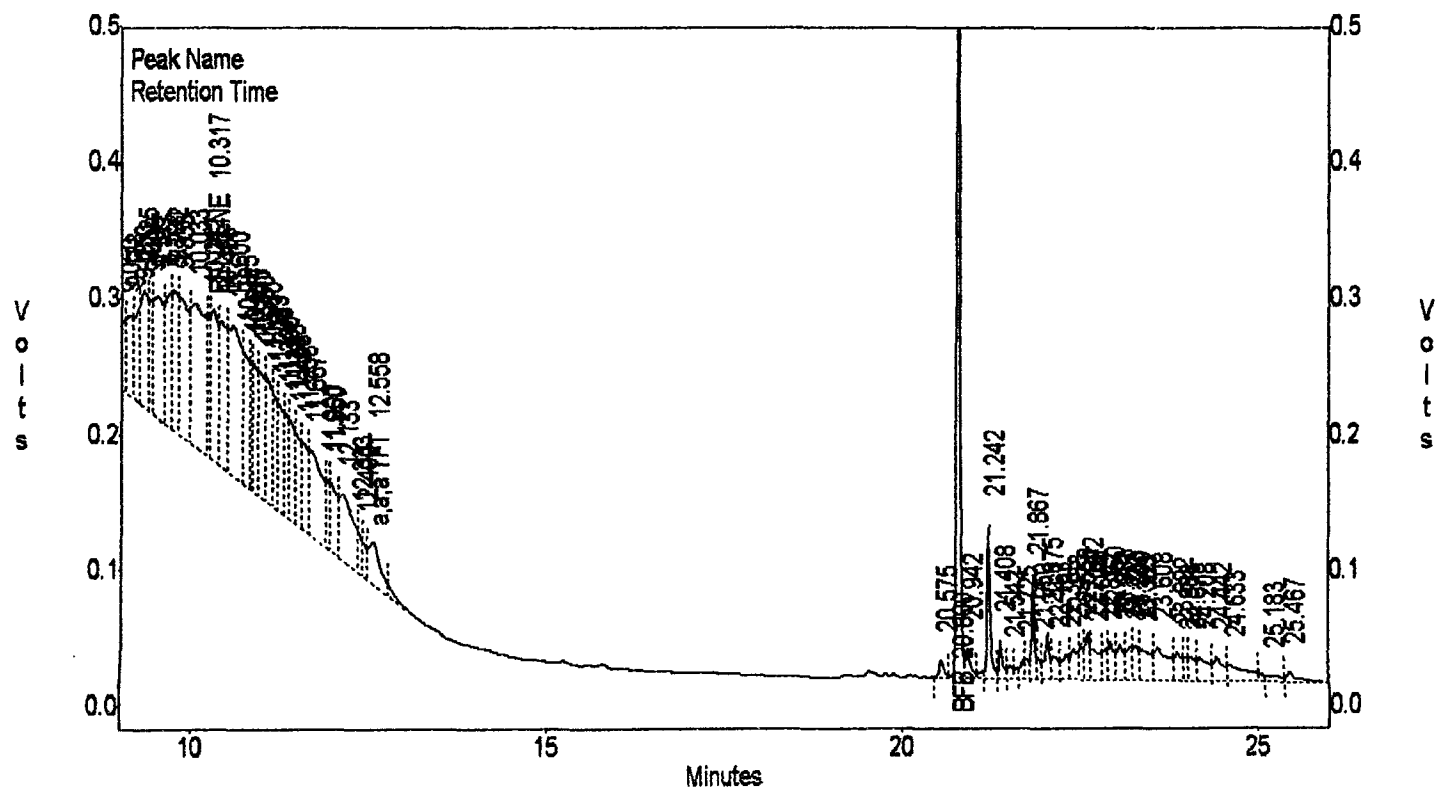
COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	10.317	802329	20735.91406	39.5794
a,a,a TFT	12.558	358356	1914.54138	177.6625
TOLUENE	15.108	0	0.00000	0.0000
ETHYLBENZENE	19.400	0	0.00000	0.0000
M & P XYLENE	19.625	0	0.00000	0.0000
O XYLENE	20.192	0	0.00000	0.0000
BFB	20.800	1878258	25983.21484	71.3932

Totals :

3038944

288.6352

C:\LABQUEST\CHROM\946539B - Channel B



PRELIMINARY GROUNDWATER ASSESSMENT CHECKLIST

1. Groundwater/Hydrology:

- a. What material is the pit in?
 loose: ☒ gravel ☐ sand ☐ silt ☐ clay
 hard: ☐ sandstone ☐ shale
- b. How far below ground surface did you first see water? 5 (feet)
- c. What material was the water in?
 loose: ☒ gravel ☐ sand ☐ silt ☐ clay
 hard: ☐ sandstone ☐ shale
- d. How much water did you see in this layer?
☐ rapid flow ☐ moderate flow ☒ seep
- e. Did you find a confining layer below the water? ☐ Yes ☒ No
 If so, how deep _____ (feet)
- f. What was the consistency of this confining layer?
 loose: ☒ gravel ☐ sand ☐ silt ☐ clay
 hard: ☐ sandstone ☐ shale
- g. How close is the pit to an arroyo/stream:
 Vertically _____ (feet) Horizontally 1/2 mile (feet)
- h. Attach a sketch of the area with the pit, any arroyos, streams or cliffs. Draw an arrow pointing North. Draw an arrow showing surface drainage away from the pit. Give approximate distances.

REMARKS: PRINT ON BACK OF SHEET

2. Contaminant Migration:

- a. How far below grade does soil staining start? _____ (feet)
- b. Is there free oil on the water? ☐ Yes ☒ No
 If so, how much ☐ sheen ☐ drops ☐ layers
- c. What other sources of contamination are close to the pit?

REMARKS: 2 - Drip tank and pits

3. Potential risk: (Use approximate distances)

- a. How close is nearest dwelling? 500 (feet/miles)
- b. How close is nearest water well? N/A (feet/miles)
- c. How close is nearest surface water body? (ditch, pond, stream, etc.)
1/2 (feet/miles)
- d. How close is nearest spring? N/A (feet/miles)

REMARKS: _____

Turner A-1

mt # 71676

2/34/31/11

FM-08-0565A (Rev. 03-94)

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 71676 Location: Turner #1A
 Coordinates: Letter: K Section 34 Township: 31 Range: 11
 Or Latitude _____ Longitude _____
 Date Started : 4-26-94 Area: 02 Run: 72

FIELD OBSERVATIONS

Sample Number(s): ⁹⁴⁵⁰¹⁰KD33
 Sample Depth: 6' Feet
 Final PID Reading 341 ppm PID Reading Depth 6' Feet
 Yes No
 Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 6ft Feet

CLOSURE

Remediation Method :
 Excavation ☒ (1) Approx. Cubic Yards 40
 Onsite Bioremediation ☐ (2)
 Backfill Pit Without Excavation ☐ (3)
 Soil Disposition:
 Envirotech ☐ (1) ☒ (3) Tierra
 Other Facility ☐ (2) Name: _____
 Pit Closure Date: _____ Pit Closed By: _____

MARKS

Remarks : At 6' Ran into Ground water, Notified EPN6 Inspector Alton James.
Sample Taken At water level. OCD Inspector wanted to Dig Around Pit to
Edge of Contamination, He uncovered an unknown Pipe stop excavation, Left Pit open.

Signature of Specialist: Kenny Deaver

CHAIN OF CUSTODY RECORD

PROJECT NUMBER		PROJECT NAME		Pit Closure Project # 24324		DATE: 4-26-94		SAMPLERS: (Signature) <i>Kenny Weaver</i>	
LABID	DATE	TIME	MATRIX	SAMPLE NUMBER	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	REQUESTED ANALYSIS
74	5008	4-26-94	0805	Soil	1	VC	X	X	27
74	5009	4-26-94	1050	Soil	1	VC	X	X	28
74	5010	4-26-94	1340	Soil	1	VC	X	X	29
74	5011	4-26-94	1515	Soil	1	VC	X		30
74	5012	4-26-94	1710	Soil	1	VC	X	X	31
RELINQUISHED BY: (Signature) <i>Kenny Weaver</i> DATE/TIME 3:30 PM RECEIVED BY: (Signature) <i>Just T. Pope</i> 3:40 PM RELINQUISHED BY: (Signature) <i>Just T. Pope</i> DATE/TIME 4-26-94 1825 RECEIVED BY: (Signature) <i>Just T. Pope</i> DATE/TIME 4-27-94 1608 RELINQUISHED BY: (Signature) <i>Just T. Pope</i> DATE/TIME 4-27-94 1608 RECEIVED BY: (Signature) <i>Just T. Pope</i>									
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH CARRIER CO. _____ CHARGE CODE _____ RESULTS & INVOICES TO: FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P.O. BOX 4990 FARMINGTON, NEW MEXICO 87499									

Mr 71676 ID: 945028
water
945010
SOIL

PRELIMINARY GROUNDWATER ASSESSMENT CHECKLIST

1. Groundwater/Hydrology:

- a. What material is the pit in?
loose: ☒ gravel ☐ sand ☐ silt ☐ clay
hard: ☐ sandstone ☐ shale
- b. How far below ground surface did you first see water? 5.6 (feet)
- c. What material was the water in?
loose: ☒ gravel ☐ sand ☐ silt ☐ clay
hard: ☐ sandstone ☐ shale
- d. How much water did you see in this layer?
☐ rapid flow ☒ moderate flow ☐ seep
- e. Did you find a confining layer below the water? ☐ Yes ☒ No
If so, how deep _____ (feet)
- f. What was the consistency of this confining layer?
loose: ☐ gravel ☐ sand ☐ silt ☐ clay
hard: ☐ sandstone ☐ shale
- g. How close is the pit to an arroyo/stream:
Vertically _____ (feet) Horizontally approx. 600 (feet)
- h. Attach a sketch of the area with the pit, any arroyos, streams or cliffs. Draw an arrow pointing North. Draw an arrow showing surface drainage away from the pit. Give approximate distances.

REMARKS: _____

2. Contaminant Migration:

- a. How far below grade does soil staining start? 3 (feet)
- b. Is there free oil on the water? ☒ Yes ☐ No
If so, how much ☐ sheen ☐ drops ☒ layers
- c. What other sources of contamination are close to the pit?

REMARKS: _____

3. Potential risk: (Use approximate distances)

- a. How close is nearest dwelling? 500 ft. (feet/miles)
- b. How close is nearest water well? _____ (feet/miles)
- c. How close is nearest surface water body? (ditch, pond, stream, etc.)
600 ft (feet/miles)
- d. How close is nearest spring? _____ (feet/miles)

REMARKS: Based on conversation with Artes Water Dept.
most of homes in this area may have water wells.

Turner 1-A

Sec. 34, T31N, R11W

soil taken at water table of 5.6 ft below grade

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	KD 33	945010
MTR CODE SITE NAME:	71676	N/A
SAMPLE DATE TIME (Hrs):	4/26/94	1340
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	4/28/94	4/28/94
DATE OF BTEX EXT. ANAL.:	5/9/94	5/10/94
TYPE DESCRIPTION:	VC	Brown Clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	4.1	MG/KG		X10		
TOLUENE	88	MG/KG		X10		
ETHYL BENZENE	32	MG/KG		X10		
TOTAL XYLENES	380	MG/KG		X10		
TOTAL BTEX	504	MG/KG				
TPH (418.1)	5220 5217	MG/KG			1.99	28
HEADSPACE PID	341	PPM				
PERCENT SOLIDS	83	%				

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

The Surrogate Recovery was at 187 % for this sample All QA/QC was acceptable.

Narrative:

ATI results attached - Surrogate ^{recovery} outside ATI
 QC Limits due to matrix interference.

DF = Dilution Factor Used

Approved By:

John Larch

Date:

5/21/94

Test Method for
Oil and Grease and Petroleum Hydrocarbons
in Water and Soil
Perkin-Elmer Model 1600 FT-IR
Analysis Report

94/04/28 14:52

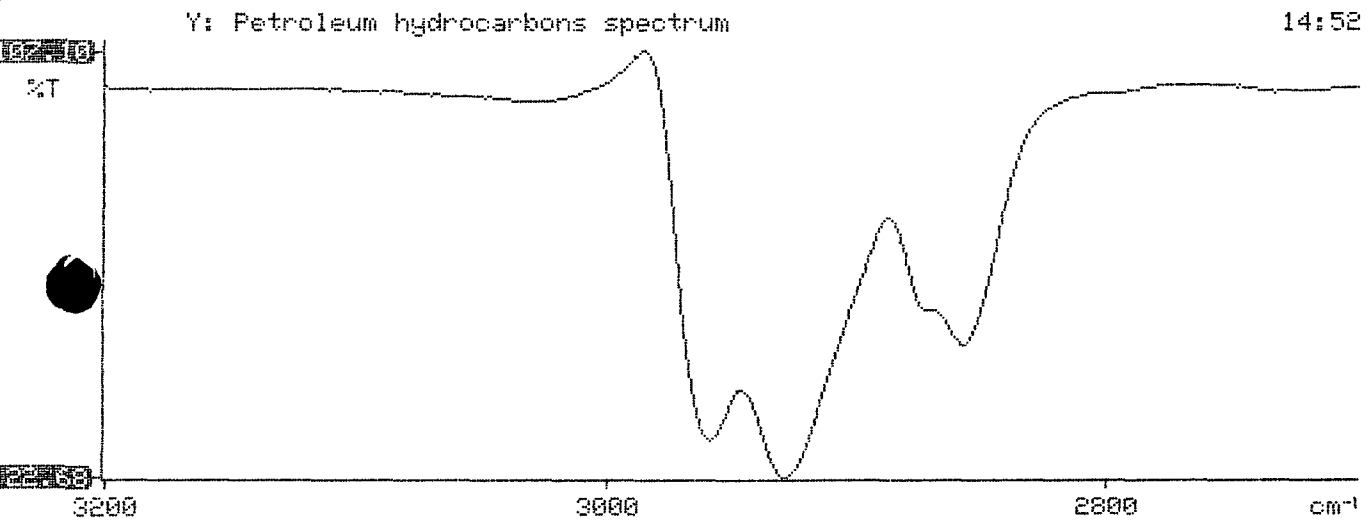
Sample identification
945010

Initial mass of sample, g
1.990

Volume of sample after extraction, ml
28.000

Petroleum hydrocarbons, ppm
5216.512

Net absorbance of hydrocarbons (2930 cm⁻¹)
0.643



GAS CHROMATOGRAPHY RESULTS

TEST : BTEX, MTBE (EPA 8020)
 CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 405313
 PROJECT # : 24324
 PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	945008	NON-AQ	04/26/94	05/09/94	05/10/94	1
02	945009	NON-AQ	04/26/94	05/09/94	05/10/94	20
03	945010	NON-AQ	04/26/94	05/09/94	05/10/94	20
PARAMETER	UNITS		01	02	EPN6	03
BENZENE	MG/KG		<0.025	<0.50	NR	4.1
TOLUENE	MG/KG		<0.025	3.6	NL	88
ETHYLBENZENE	MG/KG		0.14	3.7	NL	32
TOTAL XYLENES	MG/KG		3.9	58	NL	380
METHYL-t-BUTYL ETHER	MG/KG		<0.12	<2.4	NL	2.5

SURROGATE:

BROMOFLUOROBENZENE (%) 170* 84 187*

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE



Analytical **Technologies**, Inc.

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

ATI I.D. 405313

May 13, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 05/03/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **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.

EPA Method 8015 analysis was added on 05/05/94 for sample 945008 per Stacy Sendler.

The matrix spike/spike duplicate data from the samples extracted on 05/05/94 is reported twice reflecting quantification using both the internal standard and external standard protocols. Both protocols were employed to quantify the samples submitted for this project.

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

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure





Analytical Technologies, Inc.

COPY

ORIGINAL
INVOICE

Albuquerque Office: 2709-D Pan American Fwy., NE
Albuquerque, NM 87107
(505) 344-3777

Remit To:
Analytical Technologies, Inc.
P. O. Box 840436
Dallas, Texas 75284-0436

AL 72053

Billed to: EL PASO NATURAL GAS COMPANY
P.O. BOX 4990
FARMINGTON, NM 87499
Accession No.: 9405-313
Date: 05/13/94
Client No.: 850-020
810

Attention: ACCOUNTS PAYABLE
Telephone: 505-325-2841
Authorized by: JOHN LAMBDIN
P.O. Number: 38822
Samples: 39 NON-AQ
Project: PIT CLOSURE
Project No.: 24324

EPA SAMPLE # 945008
to
945027
945032, 945033, 945035 to 945039, 945041
to 945050, 945034 and 945040
received 05/03/94

TEST DESCRIPTION	QUANTITY	PRICE	TOTAL
EPA METHOD 8015M/8020	-10 % 1	125.00	112.50
BTEX/MTBE (8020)	-10 % 38	80.00	2736.00
NM GROSS RECEIPTS TAX	1	165.57	165.57
***** Amount due: 3014.07 *****			
5/17/94 APPROVED FOR PAYMENT DATE <u>5/17/94</u> CHARGE <u>50% 105-52452-24-0001-0012-SI-2010</u> <u>50% 108-51570-24-0001-0012-SI-2010</u> SIGNATURE <u>David H. V.</u> 541-3531			

TERMS: Net 30 Days - 1 1/2% Finance Charge on Balance Due over 30 days.

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 71676 Location: TURNER A.1
 Coordinates: Letter: K Section 34 Township: 31 Range: 11
 Or Latitude _____ Longitude _____
 Date Started : 12-19-94 Run: 02 72

FIELD OBSERVATIONS

Sample Number(s): KP 365
 Sample Depth: 5 Feet
 Final PID Reading 812 PID Reading Depth 5' Feet
 Yes No
 Groundwater Encountered ☒ ☐ Approximate Depth 5' Feet

CLOSURE

Remediation Method :
 Excavation ☐ Approx. Cubic Yards _____
 Onsite Bioremediation ☐
 Backfill Pit Without Excavation ☒
 Soil Disposition:
 Envirotech ☐ Tierra ☐
 Other Facility ☐ Name: _____
 Pit Closure Date: 12-19-94 Pit Closed By: B.E.I

REMARKS

Remarks : ON THIS Pit it has already been Excavated
All we did was sample and Back Fill. As per
Denny Fautz. Hit lots of Rocks

Signature of Specialist: Kelly Padilla



Page _____ of _____

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



SPLIT

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

KP 365

Lab ID

946538

MTR CODE | SITE NAME:

71476

N/A

SAMPLE DATE | TIME (Hrs):

12-19-94

0845

SAMPLED BY:

N/A

DATE OF TPH EXT. | ANAL.:

12-21-94

12-21-94

DATE OF BTEX EXT. | ANAL.:

12/21/94

12/28/94

TYPE | DESCRIPTION:

VL

Brown fine sand

REMARKS: BTEX results from ATI and EPNG

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS				ATI Results
			DF	Q	M(g)	V(ml)	
BENZENE	40.980	MG/KG	0.19608		2.55	20	40.5
TOLUENE	2.99	MG/KG	1		1	1	40.5
ETHYL BENZENE	8.77	MG/KG	1		1	1	5.6
TOTAL XYLENES	72.0	MG/KG	1		1	1	42
TOTAL BTEX	83.7	MG/KG					48.6
TPH (418.1)	4480	MG/KG			2.04	28	—
HEADSPACE PID	812	PPM					Surrogate % 108
PERCENT SOLIDS	91.2	%					Dilution Factor 20

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

The Surrogate Recovery was at 158.7% for this samp All QA/QC was acceptable.

Name:

BFB coeluted

ATI results attached

O-xylene estimated - Low

DF = Dilution Factor Used

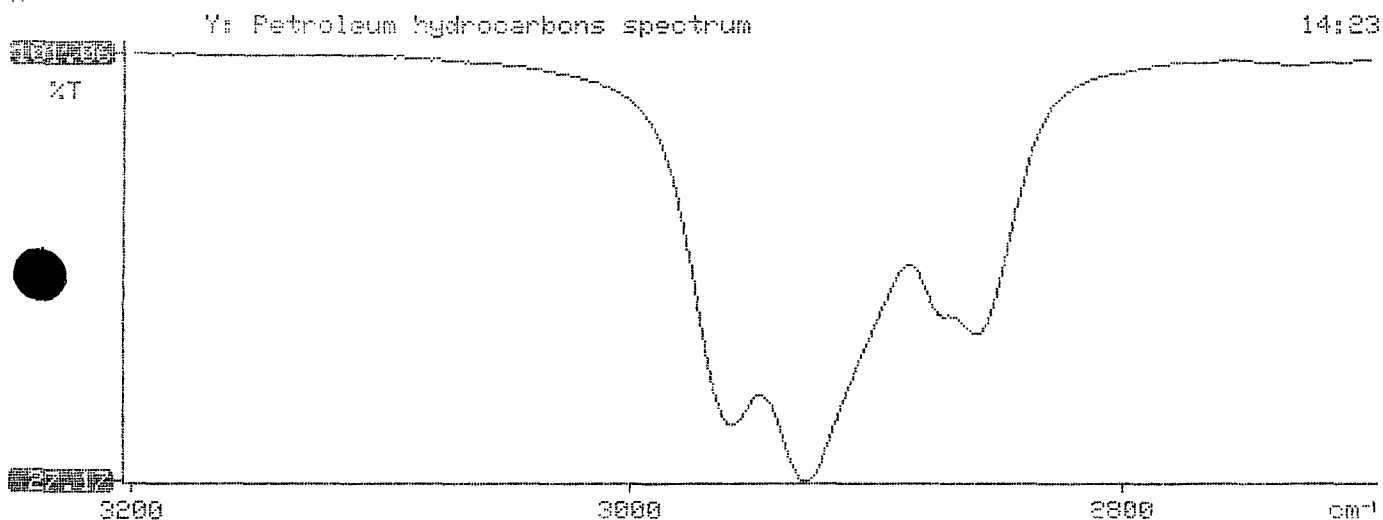
Approved By:

Date:

2-22-95

 * Test Method for
 * Oil and Grease and Petroleum Hydrocarbons *
 * in Water and Soil *
 *
 * Perkin-Elmer Model 1600 FT-IR *
 * Analysis Report *

* 94/12/21 11:23
 *
 * Sample Identification
 * 946536
 *
 * Initial mass of sample, g
 * 2.040
 *
 * Volume of sample after extraction, ml
 * 28.000
 *
 * Petroleum hydrocarbons, ppm
 * 4476.045
 * Net absorbance of hydrocarbons (2930 cm⁻¹)
 * 0.567
 *
 *
 *



BTEX SOIL SAMPLE WORKSHEET

File	:	946538A	Date Printed	:	12/26/94
Soil Mass (g)	:	2.55	Multiplier (L/g)	:	0.00196
Extraction vol. (mL)	:	20	DF (Analytical)	:	266.667
Shot Volume (uL)	:	75	DF (Report)	:	0.52288

			Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg): 0.000 2.614
Toluene (ug/L)	:	4.28	Toluene (mg/Kg): 2.238 2.614
Ethylbenzene (ug/L)	:	14.38	Ethylbenzene (mg/Kg): 7.519 2.614
p & m-xylene (ug/L)	:	93.93	p & m-xylene (mg/Kg): 49.114 5.229
o-xylene (ug/L)	:	57.34	o-xylene (mg/Kg): 29.982 2.614
			Total xylenes (mg/Kg): 79.095 7.843
			Total BTEX (mg/Kg): 88.852

EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM\946538A
 Method : C:\LABQUEST\METHODS\SOILS.MET
 Sample ID : 946538,2.55G/75uL
 Acquired : Dec 23, 1994 16:49:39
 Printed : Dec 23, 1994 17:15:56
 User : Tony

Channel A Results

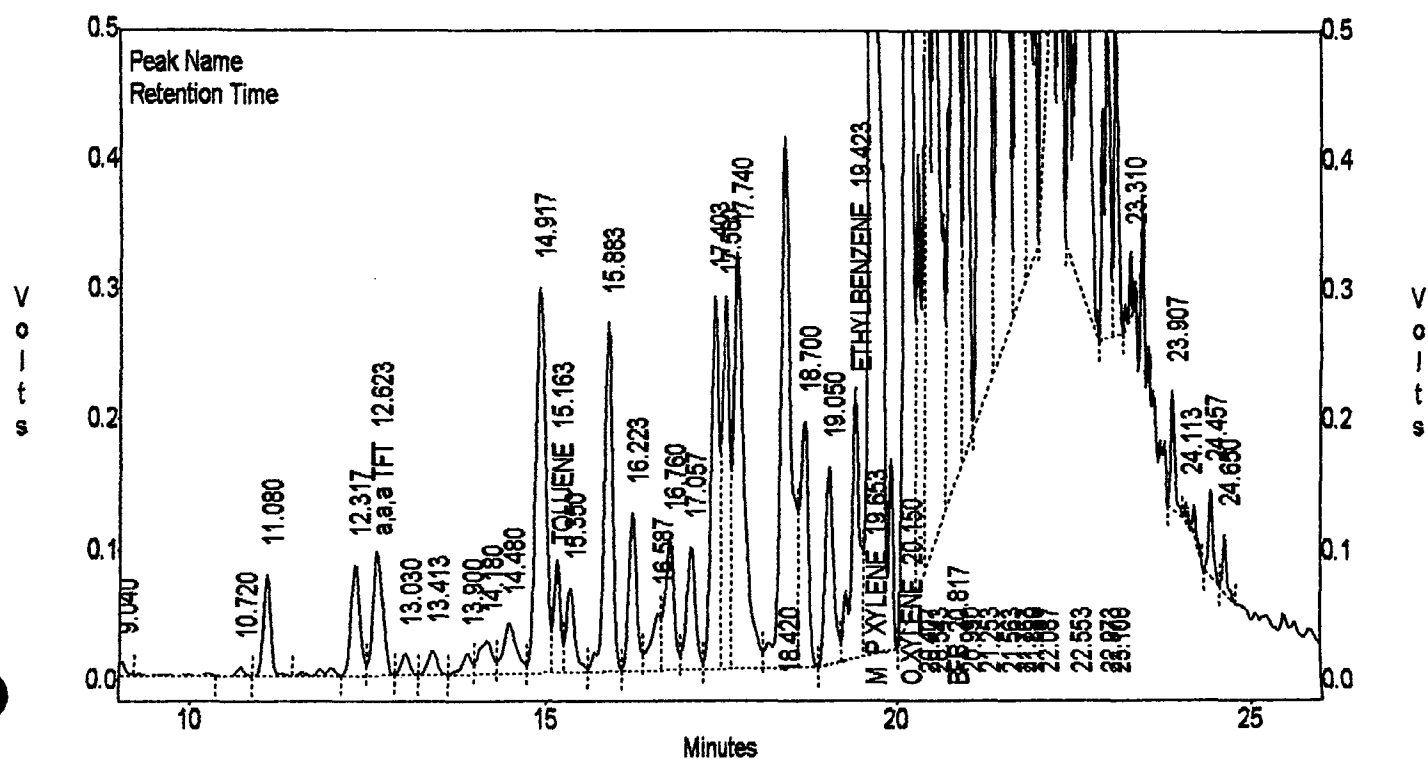
COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	10.260	0	0.00000	0.0000
a,a,a TFT	12.623	920004	8403.01855	102.6048
TOLUENE	15.163	574293	148815.51563	4.2849
ETHYLBENZENE	19.423	1726620	132895.85938	14.3806
M & P XYLENE	19.653	12192080	193528.29688	93.9311
O XYLENE	20.150	6832514	142564.65625	57.3449
BFB	20.817	22563868	199747.54688	110.6490

Totals :

44809380

383.1953

C:\LABQUEST\CHROM\946538A - Channel A



BTEX SOIL SAMPLE WORKSHEET

File	:	946538B	Date Printed	:	12/29/94
Soil Mass (g)	:	2.55	Multiplier (L/g)	:	0.00196
Extraction vol. (mL)	:	20	DF (Analytical)	:	100
Shot Volume (uL)	:	200	DF (Report)	:	0.19608

			Det. Limit
Benzene (ug/L)	:	0.00	Benzene (mg/Kg): 0.000 0.980
Toluene (ug/L)	:	15.23	Toluene (mg/Kg): 2.986 0.980
Ethylbenzene (ug/L)	:	44.70	Ethylbenzene (mg/Kg): 8.765 0.980
p & m-xylene (ug/L)	:	314.15	p & m-xylene (mg/Kg): 61.598 1.961
o-xylene (ug/L)	:	53.00	o-xylene (mg/Kg): 10.392 0.980
			Total xylenes (mg/Kg): 71.990 2.941
			Total BTEX (mg/Kg): 83.741

EL PASO NATURAL GAS

EPA METHOD 8020 - BTEX SOILS

File : C:\LABQUEST\CHROM\946538B
 Method : C:\LABQUEST\METHODS\SOILS.MET
 Sample ID : 946538,2.55g/200uL
 Acquired : Dec 28, 1994 22:54:16
 Printed : Dec 28, 1994 23:20:30
 User : Tony

Channel A Results

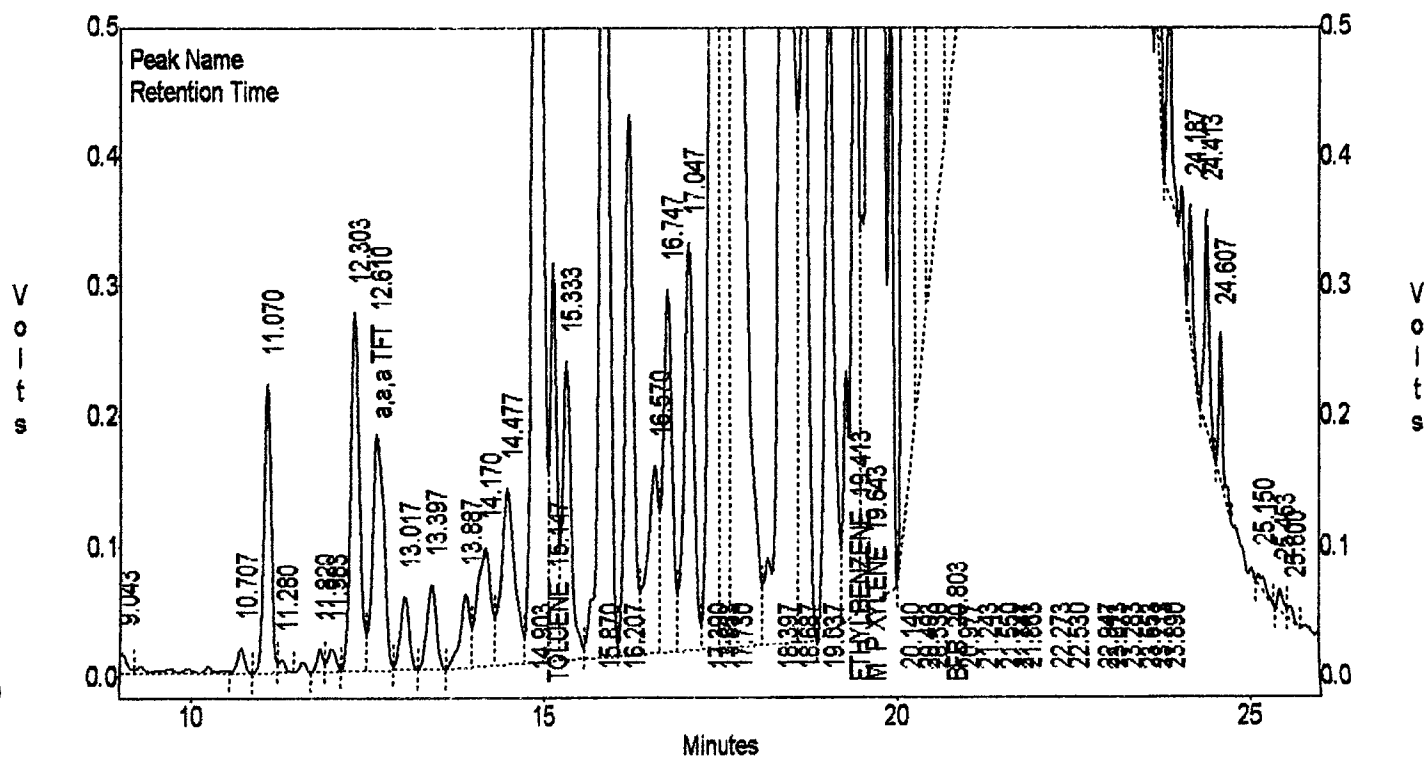
COMPONENT	RET TIME	AREA	AVG RF	CONC (ug/L)
BENZENE	10.250	0	0.00000	0.0000
a,a,a TFT	12.610	2008687	6372.49561	272.4680
TOLUENE	15.147	2032623	169100.54688	15.2300
ETHYLBENZENE	19.413	5272786	129068.31250	44.7005
M & P XYLENE	19.643	41709456	178734.17188	314.1460
O XYLENE	20.200	0	0.00000	0.0000
BFB	20.803	37309360	232900.28125	158.6774

Totals :

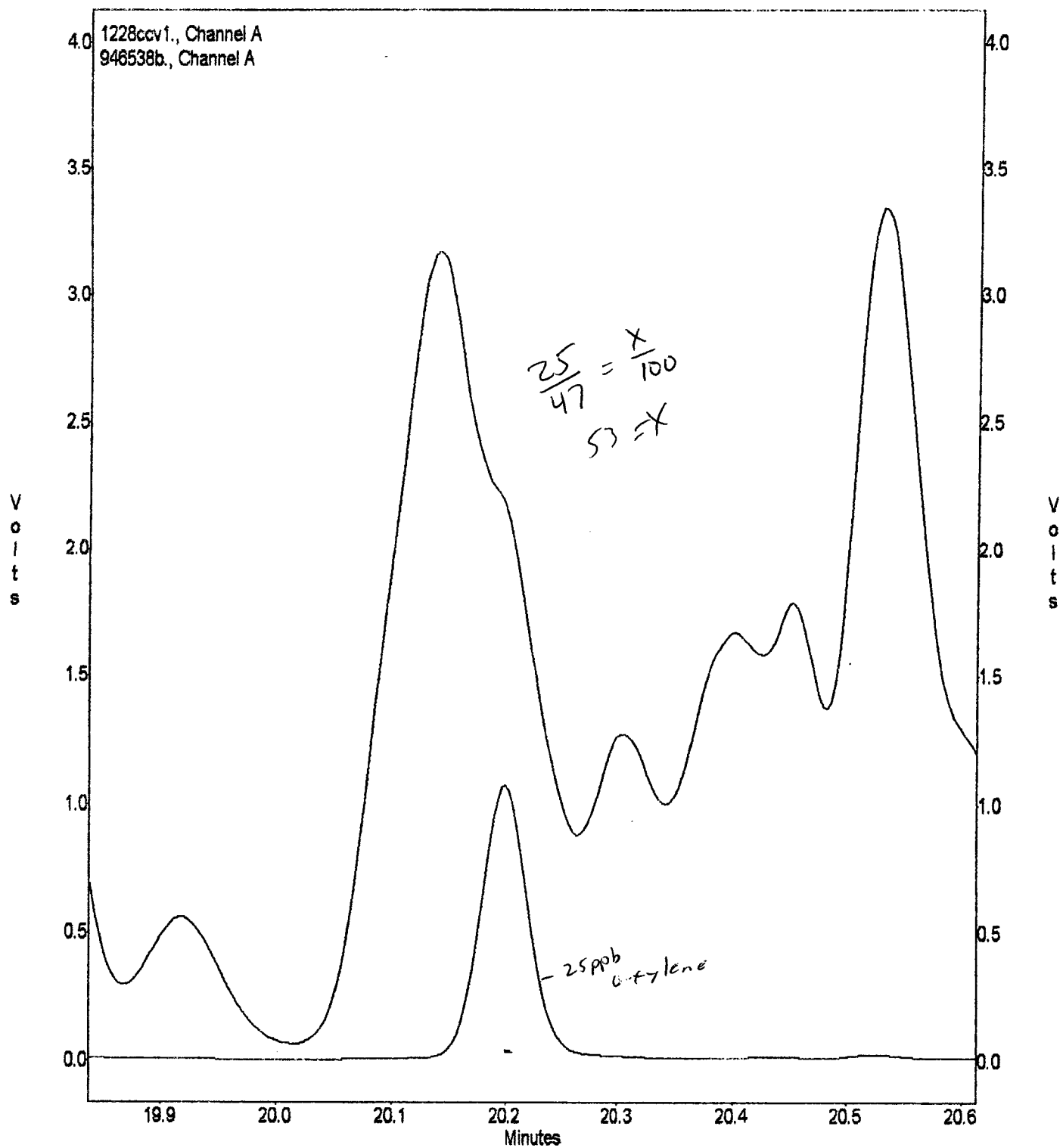
88332912

805.2218

C:\LABQUEST\CHROM\946538B - Channel A



Overlaid Traces





Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO ATI I.D.: 412409
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
06	946538	NON-AQ	12/19/94	12/27/94	12/30/94	20
07	946540	NON-AQ	12/19/94	12/27/94	12/30/94	1
08	946541	NON-AQ	12/19/94	12/27/94	01/30/95	1
PARAMETER			UNITS	06	07	08
BENZENE			MG/KG	<0.5	<0.025	0.036
TOLUENE			MG/KG	<0.5	4.9	0.032
ETHYLBENZENE			MG/KG	5.6	0.24	<0.025
TOTAL XYLENES			MG/KG	42	3.6	0.10

SURROGATE:

BROMOFLUOROBENZENE (%)	108	87	96
------------------------	-----	----	----



Analytical**Technologies**, Inc.

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

ATI I.D. 412409

January 5, 1995

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 12/22/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **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.

Sample 946534 was analyzed within EPA recommended hold time (2A). However, after further examination of the continuing standard, it was determined that xylenes exceeded criteria (117 vs. 115). The sample was then analyzed outside of hold time (2B) to confirm the earlier result and satisfy calibration criteria. Both sets of data are reported.

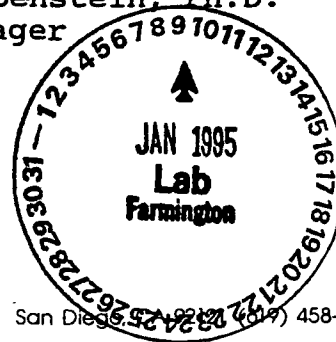
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager





Certified Mail: #Z 213 707 666 (Box 1 of 2)
#Z 213 707 664 (Box 2 of 2)

March 24, 2000

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

RECEIVED

MAR 23 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 1999 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for the 32 remaining groundwater impacted locations that were identified during our pit closure project of 1994 / 1995.

Of the 32 reports, EPFS hereby requests closure of 4 of these locations. The 4 sites EPFS is requesting closure on are presented in one separate binder entitled "San Juan Basin Pit Closures, El Paso Field Services, Pit Closure Reports".

The Jaquez Com. C #1 and Jaquez Com. E #1 site is included in a separate report which is entitled "Jaquez Com. C #1 and Jaquez Com. E #1 Annual Report for Soil and Groundwater Remediation".

EPFS has also included for your information five Navajo sites in a separate binder and a separate report for the Bisti Flare Pit #1.

If you have any questions concerning the enclosed reports or closure requests, 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 # Z 213 707 667**
Mr. Bill Liesse, BLM - w / enclosures; **Certified Mail # Z 213 707 668**
Mr. John Jaquez, - w / Jaquez enclosures; **Certified Mail # Z 213 707 669**
Ms. Charmaine Tso, Navajo EPA - w / enclosures; **Certified Mail # Z 213 707 670**

bc: J. A. Lambdin w / enclosures

Philip Services Corp. – Cecil Irby, w / o enclosures

B. B. McDaniel / 24321 – NMOCD Regulatory w / o

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services
Pit Closure Reports

RECEIVED

MAR 20 2000

March 2000

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 62800158



EPFS GROUNDWATER PITS 1999 CLOSURE REPORT

TURNER A #1 PM (PIT #1 & #2)
Meter/Line ID - 71676

SITE DETAILS

Legals - Twn: 31N Rng: 11W Sec: 34 Unit: K
NMOCD Hazard Ranking: 40 Land Type: STATE
Operator: BURLINGTON RESOURCES

PREVIOUS ACTIVITIES

Site Assessment: Apr-94 Excavation: Apr-94 (40 cy-pit 1) Excavation: Dec-95 (700 cy-pit 2)
Soil Boring: Mar-97 Monitor Well #1: Mar-97 Monitor Well #2: Dec-98
(pit 2)
Quarterly Sampling Initiated (Pit #1): August-97
Quarterly Sampling Initiated (Pit #2): December-98

All supporting documentation for activities prior to 1999 can be found in the Annual Report for the year the activity occurred.

1999 ACTIVITIES

Quarterly Groundwater Monitoring- Quarterly groundwater monitoring of MW-1 and MW-2 continued through 1999.

Provided Operator with Site Data - EPFS has provided operator with all pertinent site data generated to date.

SUMMARY TABLES

Historical groundwater analytical data and groundwater analytical data from 1999 are presented in Table 1. Copies of the 1999 laboratory data sheets and associated quality assurance/quality control data are presented in Attachment 1.

SITE MAP

A site map is presented as Figure 1.

GEOLOGIC LOGS AND WELL COMPLETION DIAGRAMS

There were no drilling activities at this site in 1999.

DISPOSITION OF GENERATED WASTES

There were no generated wastes at this site in 1999.

ISOCONCENTRATION MAPS

BTEX parameters were below regulatory standards and isoconcentration maps were not generated.

CONCLUSIONS

Analytical results of groundwater samples collected from MW-1 (Pit #1) show that BTEX constituents were below New Mexico Water Quality Standards for groundwater for 5 consecutive quarters. Analytical results of groundwater samples collected from MW-2 (Pit #2) show that BTEX

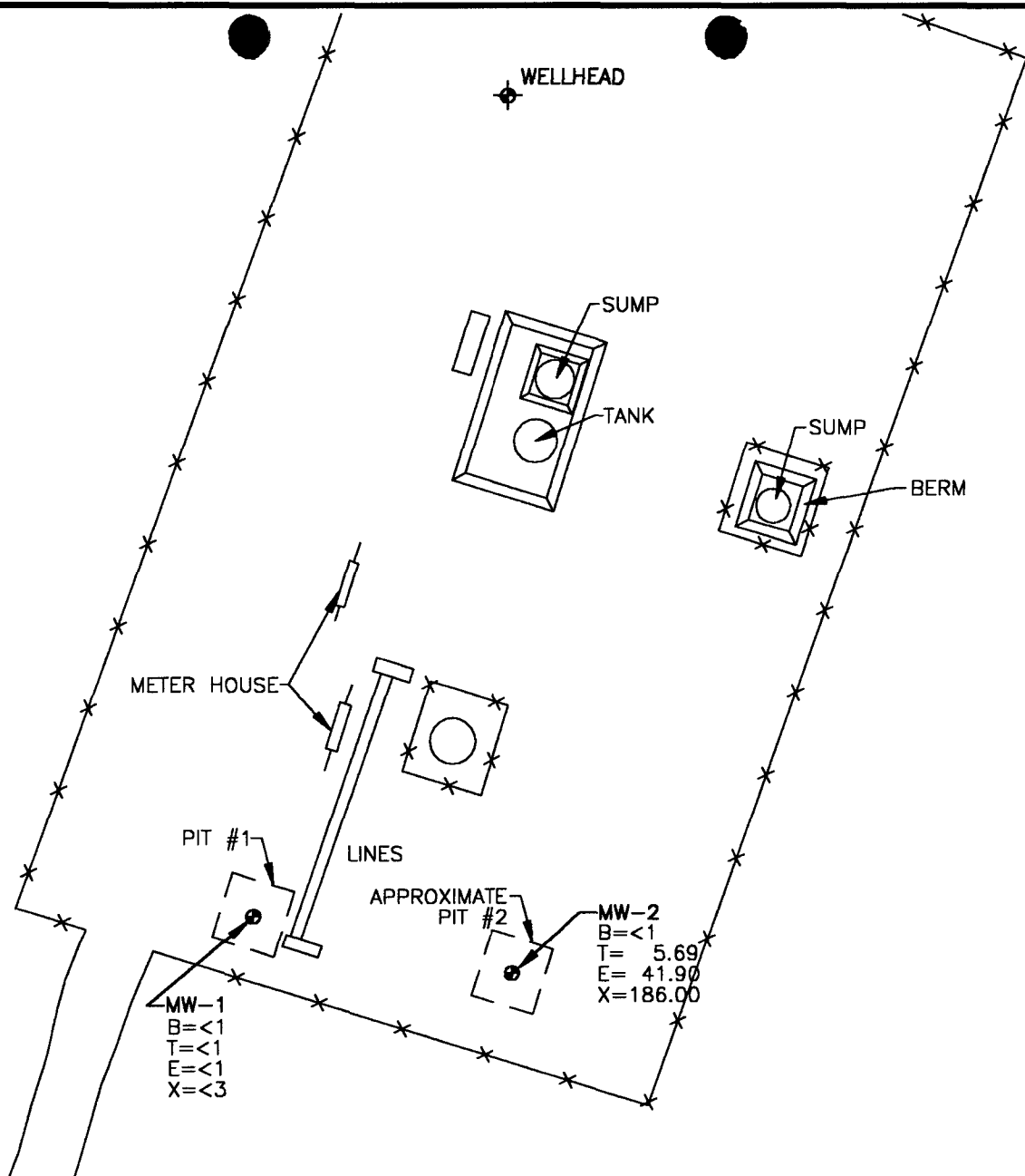
EPFS GROUNDWATER PITS 1999 CLOSURE REPORT

constituents were below New Mexico Water Quality Standards for groundwater for 4 consecutive quarters.

Pertinent data from past groundwater reports include the following: A groundwater gradient map generated for the 1997 groundwater report that included data collected from temporary wellpoints shows that the groundwater gradient is to the west at this site. Based on the sampling results from four consecutive quarters, EPFS has demonstrated that groundwater is below NMWQCC Standards for the monitoring wells at this site. Therefore, EPFS requests closure of this site.

RECOMMENDATIONS

- EPFS requests closure of this site.
- Following OCD approval for closure, MW-1 and MW-2 will be abandoned in accordance with the Monitoring Well Abandonment Plan.



LEGEND

● MW-1 MONITORING WELL NUMBER AND APPROXIMATE LOCATION

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 17520P-003



TITLE:
TURNER A1
METER 71676
OCTOBER 3, 1999

DWN:
CJG
CHKD:
CI
DATE:
02/10/00

DES.:
CI
APPD:
REV.:
0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

TABLE 1
Pit #1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
980146	71676	Turner A #1	02/06/98	1	Sample 4 - 3rd Quarter	= 12.70	= 9.99	= 8.95	= 10.9	= 43.00
980384	71676	Turner A #1	05/08/98	1	Sample 4 - 4th Quarter	= 26.50	< 1.00	= 11.00	= 17.8	= 55.00
980548	71676	Turner A #1	08/06/98	1	Sample 4 - 5th Quarter	= 7.13	= 3.39	< 1.00	< 3.0	= 11.00
980792	71676	Turner A #1	11/03/98	1	Sample 4 - 6th Quarter	= 1.49	= 0.98	= 1.05	< 3.0	= 3.51
990038	71676	Turner A #1	02/16/99	1	Sample 4 - 7th Quarter	= 4.78	< 1.00	= 2.65	= 12.4	= 20.00
990207	71676	Turner A #1	05/04/99	1	Sample 4 - 8th Quarter	= 3.03	< 1.00	= 1.07	= 7.1	= 11.00
990334	71676	Turner A #1	08/03/99	1	Sample 4 - 9th Quarter	< 1.00	< 1.00	< 1.00	< 3.0	< 6.00

Pit #2

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
980864	71676	Turner A #1(Pit #2)	12/15/98	2	Sample 4 - Initial	= 23	= 98	= 110	= 820	= 1051
990039	71676	Turner A #1(Pit #2)	02/16/99	2	Sample 4 - 1st Quarter	< 1	= 26.8	= 59.9	= 422	= 509
990208	71676	Turner A #1(Pit #2)	05/04/99	2	Sample 4 - 2nd Quarter	< 2.57	= 16	= 38.1	= 272	= 329
990336	71676	Turner A #1(Pit #2)	08/03/99	2	Sample 4 - 3rd Quarter	< 1	= 5.69	= 41.9	= 186	= 234
990444	71676	Turner A #1(Pit #2)	11/10/99	2	Sample 4 - 4th Quarter	< 3.3	= 7.8	= 13.0	= 61	= 85

ATTACHMENT 1
1999 GROUNDWATER ANALYTICAL

CHAIN OF CUSTODY RECORD

San Juan rapra Form 71-55 A



SAMPLE 4 / STGTR

A 2432

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Requested Analysis		Remarks	
Samplers: (Signature)		Date: 2-16-99		Type and No. of Sample Containers			
Date	Time	Comp.	GRAB	Sample Number	Preservation Technique	Requested Analysis	Remarks
WATER 3-15-99	1303		X	990039	GL 38°F X	TURNER A #1 (PIT #2) MW-2	
[Diagonal line across the table]							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
Dennis Bied		2/16/99 1528					
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Remarks:	
				John J. [Signature]		2/18/99 0915	
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)			



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990039
MTR CODE SITE NAME:	71676	Turner A#1
SAMPLE DATE TIME (Hrs):	2/16/99	1303
PROJECT:	Sample 4 1st Quarter	
DATE OF BTEX EXT. ANAL.:	NA	2/24/99
TYPE DESCRIPTION:	MW-2	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1.0	PPB	1			
TOLUENE	26.8	PPB	1			
ETHYL BENZENE	59.9	PPB	1			
TOTAL XYLENES	422	PPB	1			
TOTAL BTEX	509	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 112 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

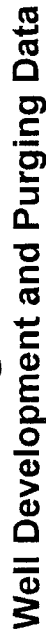
Narrative:

Approved By:

John L. Landa

Date:

3/11/99



☐	Development
☒	Purging

Well Number MW-1

Meter Code 71616

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 14.65
Initial Depth to Water (feet) 7.68
Height of Water Column in Well (feet) 6.97

Diameter (inches): Well

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.6	13.8
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- | | |
|-------------------------------------|----------------------|
| ☒ | pH Meter |
| ☐ | DO Monitor |
| ☒ | Conductivity Meter |
| ☒ | Temperature Meter |
| ☒ | Other <u>D.O. CR</u> |

Water Disposal

KUTZ SEP 1970 P

Water Removal Data

[illegible]

Comments

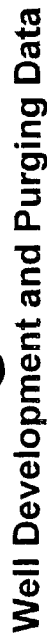
Developer's Signature Tennis Bied

Date 2-16-99

Reviewer

John F. Smith

Date 3/11/99



Well Number NW-2
Meter Code 71676

☐	Development
☒	Purging

Site Name TURNER A#1

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 13.45
Initial Depth to Water (feet) 7.45
Height of Water Column in Well (feet) 6.00

4 Diameter (inches): Well

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.0	11.9
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 Dennis Bird

Date 2-16-99

Date 3/11/99



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990038
MTR CODE SITE NAME:	71676	Turner A#1
SAMPLE DATE TIME (Hrs):	2/16/99	1125
PROJECT:	Sample 4 7th Quarter	
DATE OF BTEX EXT. ANAL.:	NA	2/24/99
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	4.78	PPB	1			
TOLUENE	<1.0	PPB	1			
ETHYL BENZENE	2.65	PPB	1			
TOTAL XYLENES	12.4	PPB	1			
TOTAL BTEX	20	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Lavelle

Date:

3/11/99

PINNACLE
LABORATORIES



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

PL I.D. 902064

March 2, 1999

El Paso Field Service
614 Reilly Avenue
Farmington, NM 87401

Project Name/Number: TURNER A#1 MW-2 (990039)

Attention: John Lambdin

On 02/19/99, Pinnacle Laboratories Inc., (ADHS License No. AZ0592), 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.

All analyses were performed by Severn Trent Laboratories Inc., Pensacola, FL.

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

Kimberly D. McNeill
Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.
General Manager

Reviewed & Accepted
J. Sanchez
3/8/99

PINNACLE
LABORATORIES

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

CLIENT : EL PASO FIELD SERVICE DATE RECEIVED : 02/19/99
PROJECT # : (NONE)
PROJECT NAME : TURNER A#1 MW-2 REPORT DATE : 03/02/99

PL ID: 902064

	PINNACLE ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	902064-01	990039	AQUEOUS	02/16/99

--TOTALS--

MATRIX
AQUEOUS

#SAMPLES
1



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	990039
DATE SAMPLED:	02/16/99
TIME SAMPLED (Hrs):	1303
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	71676
SAMPLE SITE NAME:	Turner A#1
SAMPLE POINT:	MW-2

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.39	Units	02/25/99
Alkalinity as CO ₃	0.0	PPM	02/25/99
Alkalinity as HCO ₃	471	PPM	02/25/99
Calcium as Ca	197	PPM	02/25/99
Magnesium as Mg	73.2	PPM	02/25/99
Total Hardness as CaCO ₃	793	PPM	02/25/99
Chloride as Cl	33.1	PPM	02/25/99
Sulfate as SO ₄	668	PPM	02/25/99
Fluoride as F	0.75	PPM	02/25/99
Nitrate as NO ₃ -N	<0.1	PPM	02/25/99
Nitrite as NO ₂ -N	<0.1	PPM	02/25/99
Ammonium as NH ₄ ⁺	<0.3	PPM	02/25/99
Phosphate as PO ₄	<0.6	PPM	02/25/99
Potassium as K	4.9	PPM	02/25/99
Sodium as Na	149	PPM	02/25/99
Total Dissolved Solids	1,424	PPM	02/25/99
Conductivity	1,820	umhos/cm	02/25/99
Anion/Cation %	0.3%	%, <5.0 Accepted	03/08/99

Lab Remarks:

Reported By: J. J.

Approved By: John Jordan

Date: 3/8/99

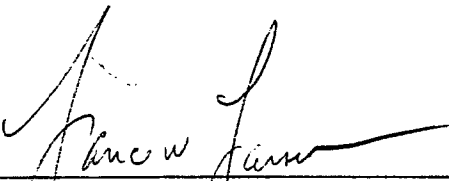


Severn Trent Laboratories
11 East Olive Road
Pensacola FL 32514

SIGNATURE PAGE

Tel: (850) 474-1001
Fax: (850) 478-2671

Reviewed by:



STL Project Manager

Client: PINNACLE LABORATORIES
ALBUQUERQUE, NEW MEXICO

Project Name: EPFS
Project Number: 902064
Project Location: TURNER A #1 MW-2
Accession Number: 902492

Project Manager: KIMBERLY D. MCNEILL
Sampled By: N/S

Other Laboratory Locations:

- 149 Rangeway Road, North Billerica MA 01862
- 16203 Park Flow, Suite 110, Houston TX 77064
- 200 Monroe Turnpike, Monroe CT 06468
- 55 South Park Drive, Colchester VT 05446
- 315 Fullerton Avenue, Newburgh NY 12550
- Westfield Executive Park, 53 Southampton Road, Westfield MA 01085
- 628 Route 10, Whippany NY 07981
- 77 New Durham Road, Edison NJ 08817

a part of

Severn Trent Laboratories



SEVERN TRENT LABORATORIES, INC. – PENSACOLA, FLORIDA
STATE CERTIFICATIONS

Alabama Department of Environmental Management, Laboratory ID No. 40150 (Drinking Water by Reciprocity with FL)

Arizona Department of Health Services, Lab ID No. AZ0589 (Hazardous Waste & Wastewater)

Arkansas Department of Pollution Control and Ecology, (No Laboratory ID No. assigned by state) (Environmental)

State of California, Department of Health Services, Laboratory ID No. I-2338 (Hazardous Waste and Wastewater)

State of Connecticut, Department of Health Services, Connecticut Lab Approval No. PH-0697 (Drinking Water, Hazardous Waste and Wastewater)

Delaware Health & Social Services, Division of Public Health, Laboratory ID No. FL094 (Drinking Water by Reciprocity with FL)

Florida DOH Laboratory ID No. 81142 (Drinking Water), Laboratory ID No. E81010 (Hazardous Waste and Wastewater)

Florida, Radioactive Materials License No. G0733-1

Foreign Soil Permit, Permit No. S-37599

Kansas Department of Health & Environment, Laboratory ID No. E10253 (Wastewater and Hazardous Waste)

Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Laboratory ID No. 90043 (Drinking Water)

State of Louisiana, DHH, Office of Public Health Division of Laboratories, Laboratory ID No. 98-25 (Drinking Water)

State of Maryland, DH&MH Laboratory ID No. 233 (Drinking Water by Reciprocity with Florida)

Commonwealth of Massachusetts, DEP, Laboratory ID No. M-FL094 (Hazardous Waste and Wastewater)

State of Michigan, Bureau of E&OccH (No Laboratory ID No. assigned by state) (Drinking Water by Reciprocity with Florida)

New Hampshire DES, Laboratory ID No. 250598-A (Wastewater)

State of New Jersey, Department of Environmental Protection & Energy, Laboratory ID No. 49006 (Wastewater)

New York State, Department of Health, Laboratory ID No. 11503 (Wastewater and Solids/Hazardous Waste)

North Carolina Department of Environment, Health, & Natural Resources, Laboratory ID No. 314 (Hazardous Waste and Wastewater)

North Dakota DH&Consol Labs, Laboratory ID No. R-108 (Hazardous Waste and Wastewater by Reciprocity with California)

State of Oklahoma, Oklahoma Department of Environmental Quality, Laboratory ID No. 9810 (Hazardous Waste and Wastewater)

Commonwealth of Pennsylvania, Department of Environmental Resources, Laboratory ID No. 68-467 (Drinking Water)

South Carolina DH&EC, Laboratory ID No. 96026 (Wastewater by Reciprocity with FL and Solids/Hazardous Waste by Reciprocity with CA)

Tennessee Department of Health & Environment, Laboratory ID No. 02907 (Drinking Water)

Tennessee Division of Underground Storage Tanks Approved Laboratory

Virginia Department of General Services, Laboratory ID No. 00008 (Drinking Water by Reciprocity with FL)

State of Washington, Department of Ecology, Laboratory ID No. C282 (Hazardous Waste and Wastewater)

West Virginia Division of Environmental Protection, Office of Water Resources, Laboratory ID No. 136 (Hazardous Waste and Wastewater by Reciprocity with FL)

American Industrial Hygiene Association (AIHA) Accredited Laboratory, Laboratory ID No. 9133

SEVERN TRENT LABORATORIES

11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Analysis Report

Analysis: RCRA METALS - OPTIMA

Accession:	902492
Client:	PINNACLE LABORATORIES
Project Number:	902064
Project Name:	EPFS
Project Location:	TURNER A #1 MW-2
Department:	METALS

[0] Page 1
Date 01-Mar-99

"FINAL REPORT FORMAT - SINGLE"

Accession: 902492
Client: PINNACLE LABORATORIES
Project Number: 902064
Project Name: EPFS
Project Location: TURNER A #1 MW-2
Test: RCRA METALS - OPTIMA
Matrix: WATER
QC Level: II

Lab Id: 001
Client Sample Id: 902064-01

Sample Date/Time: 16-FEB-99 1303
Received Date: 22-FEB-99

Parameters:	Units:	Results:	Rpt Lmts:	Q:	Batch:	Analyst:
SILVER (6010B)	MG/L	ND	0.005		AYW043	GSP
ARSENIC (6010B)	MG/L	ND	0.005		RYW043	GSP
BARIUM (6010B)	MG/L	0.17	0.002		BYW043	GSP
CADMIUM (6010B)	MG/L	ND	0.002		CYW043	GSP
CHROMIUM (6010B)	MG/L	0.007	0.005		HYW043	GSP
MERCURY (7470A)	MG/L	ND	0.0002		M7W016	JL
LEAD (6010B)	MG/L	0.006	0.003		PYW043	GSP
SELENIUM (6010B)	MG/L	ND	0.005		SYW043	GSP

Comments:

"Method Report Summary"

Accession Number: 902492
Client: PINNACLE LABORATORIES
Project Number: 902064
Project Name: EPFS
Project Location: TURNER A #1 MW-2
Test: RCRA METALS - OPTIMA

Client Sample Id:	Parameter:	Unit:	Result:
902064-01	BARIUM (6010B)	MG/L	0.17
	CHROMIUM (6010B)	MG/L	0.007
	LEAD (6010B)	MG/L	0.006

Data Qualifiers for Final Report

STL-Pensacola Inorganic/Organic and AFCEE Projects (under QAPP)

J4	(For positive results)	Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$)
J5	(TICs)	The reported value is quantitated as a TIC; therefore, it is estimated
J6	(For positive results)	LCS or Surrogate %R is $>$ upper control limit (UCL) or $<$ lower control limit (LCL)
J7	(For positive results)	The reported value is $>$ the laboratory MDL and $<$ lowest calibration standards; therefore, the quantitation is an estimation.
J (AFCEE description)	The analyte was positively identified, the quantitation is an estimation	
R1	(For nondetects)	Temperature limits exceeded ($\leq 2^{\circ}\text{C}$ or $\geq 6^{\circ}\text{C}$)
R2	Improper preservation, no preservative present in sample upon receipt	
R3	Improper preservation, incorrect preservative present in sample upon receipt	
R4	Holding time exceeded	
R5	Collection requirements not met, improper container used for sample	
R6	LCS or surrogate %R is $<$ LCL and analyte is not detected or surrogate %R is $<$ 10% for detects/nondetects	
R7	Internal standard area outside -50% to +100% of initial calibration midpoint standard.	
R8	Second source calibration verification exceeds acceptance criteria.	
R (AFCEE description)	The data are unusable due to deficiencies in the ability to analyze the sample and meet QC criteria	
F	$<$ laboratory or AFCEE RL and $>$ laboratory MDL	
F (AFCEE description)	The analyte was positively identified but the associated numerical value is below the AFCEE or lab RL	
U2	$<$ Laboratory MDL (value for result will be the MDL, never below the MDL)	
U (AFCEE description)	The analyte was analyzed for but not detected. The associated numerical value is at or below the MDL	
B (AFCEE description)	The analyte was found in the associated blank, as well as in the sample	
@	Adjusted reporting limit due to sample matrix (dilution prior to digestion and/or analysis)	
+	Elevated reporting limit due to dilution into calibration range	
-	Elevated reporting limit due to matrix interference (dilution prior to digestion and/or analysis)	
#	Elevated reporting limit due to insufficient sample size	
D	Diluted out	
M	A matrix effect was present (sample was analyzed twice to confirm or chromatogram had interfering peaks)	
S	Incorrect sample amount was submitted to the laboratory for analysis	

D = Not Detected at or above the STL-Pensacola reporting limit (RL)

N/S = Not Submitted

N/A = Not Applicable

MDL = Laboratory Instrument Detection Limit

MDL = Laboratory Method Detection Limit

RL = Reporting Limit (AFCEE RLs are listed in the AFCEE QAPP)

Any time a sample arrives at the laboratory improperly preserved (at improper pH or temperature) or after holding time has expired or prepared or analyzed after holding time, client must be notified in writing (i.e. case narrative)

Florida Projects Inorganic/Organic

Y1	Improper preservation, no preservative present in sample upon receipt
Y2	Improper preservation, incorrect preservative present in sample upon receipt
Y3	Improper preservation, sample temperature exceeded EPA temperature limits of $2-6^{\circ}\text{C}$ upon receipt
Y (FL description)	The analysis was from an unpreserved or improperly preserved sample. Data may not be accurate
Q	Sample held beyond the accepted holding time
I	The reported value is $<$ Laboratory RL and $>$ laboratory MDL
U1	The reported value is $\leq$ Laboratory MDL (value for sample result is reported as the MDL)
U (FL description)	Indicates the compound was analyzed for but not detected
T	The reported value is $<$ Laboratory MDL (value shall not be used for statistical analysis)
V	The analyte was detected in both the sample and the associated method blank
J1	Surrogate recovery limits have been exceeded
J2	The sample matrix interfered with the ability to make any accurate determinations
J3	The reported value failed to meet the established quality control criteria for either precision or accuracy
J (FL description)	Estimated value; not accurate

ICR Projects Inorganic/Organic

A1 Acceptable

R6

Rejected

Examples: ICR Flags

R6 = Laboratory extracted the sample but the refrigerator malfunctioned so the extract became warm and client was notified

R6 = Sample arrived in laboratory in good condition; however, the laboratory did not analyze it within EPA's established holding time limit

P and CLP-like Projects: Refer to referenced CLP Statement of Work (SOW) for explanation of data qualifiers

SEVERN TRENT LABORATORIES

11 East Olive Road Pensacola, Florida 32514 (850) 474-1001

Quality Control Report

Analysis: RCRA METALS - OPTIMA

Accession:	902492
Client:	PINNACLE LABORATORIES
Project Number:	902064
Project Name:	EPFS
Project Location:	TURNER A #1 MW-2
Department:	METALS

[0] Page 1
Date 01-Mar-99

"Metals Quality Control Report"

Parameter:	SILVER	ARSENIC	BARIUM	CADMIUM	CHROMIUM	MERCURY
Batch Id:	AYW043	RYW043	BYW043	CYW043	HYW043	M7W016
Blank Result:	<0.005	<0.005	<0.002	<0.002	<0.005	<0.0002
Anal. Method:	6010B	6010B	6010B	6010B	6010B	7470A
Prep. Method:	3010A	3010A	3010A	3010A	3010A	7470A
Analysis Date:	25-FEB-99	25-FEB-99	25-FEB-99	25-FEB-99	25-FEB-99	25-FEB-99
Prep. Date:	24-FEB-99	24-FEB-99	24-FEB-99	24-FEB-99	24-FEB-99	25-FEB-99

Sample Duplication

Sample Dup:	902353-3	902353-3	902353-3	902353-3	902353-3	902417-1
Rept Limit:	<0.005	<0.005	<0.002	<0.002	<0.005	<0.0002
Sample Result:	0.50	1.0	1.0	0.49	1.0	0.0050
Dup Result:	0.49	0.98	1.0	0.48	0.99	0.0047
Sample RPD:	2	2	0	2	1	6
Max RPD:	20	20	20	20	20	20
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

Matrix Spike

Sample Spiked:	902353-3	902353-3	902353-3	902353-3	902353-3	902417-1
Rept Limit:	<0.005	<0.005	<0.002	<0.002	<0.005	<0.0002
Sample Result:	<0.005	<0.005	0.021	<0.002	0.007	<0.0002
Spiked Result:	0.50	1.0	1.0	0.49	1.0	0.0050
Spike Added:	0.5	1.0	1.0	0.5	1.0	0.0050
% Recovery:	100	100	98	98	99	100
% Rec Limits:	75-125	75-125	75-125	75-125	75-125	75-125
Dry Weight%	N/A	N/A	N/A	N/A	N/A	N/A

ICV

ICV Result:	0.49	1.0	1.0	0.51	1.0	0.0039
True Result:	0.5	1.0	1.0	0.5	1.0	0.0040
% Recovery:	98	100	100	102	100	98
% Rec Limits:	95-105	95-105	95-105	95-105	95-105	90-110

LCS

LCS Result:	0.49	0.98	1.0	0.50	1.0	0.0047
True Result:	0.5	1.0	1.0	0.5	1.0	0.0050
% Recovery:	98	98	100	100	100	94
% Rec Limits:	80-120	80-120	80-120	80-120	80-120	85-115

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Date 01-Mar-99

"Metals Quality Control Report"

Parameter:	LEAD	SELENIUM
Batch Id:	PYW043	SYW043
Blank Result:	<0.003	<0.005
Anal. Method:	6010B	6010B
Prep. Method:	3010A	3010A
Analysis Date:	25-FEB-99	25-FEB-99
Prep. Date:	24-FEB-99	24-FEB-99

Sample Duplication

Sample Dup:	902353-3	902353-3
Rept Limit:	<0.003	<0.005

Sample Result:	1.0	0.78
Dup Result:	0.98	0.77
Sample RPD:	2	1
Max RPD:	20	20
Dry Weight%	N/A	N/A

Matrix Spike

Sample Spiked:	902353-3	902353-3
Rept Limit:	<0.003	<0.005

Sample Result:	0.005	<0.005
Spiked Result:	1.0	0.78
Spike Added:	1.0	1.0
% Recovery:	100	78
% Rec Limits:	75-125	75-125
Dry Weight%	N/A	N/A

ICV

ICV Result:	0.99	1.0
True Result:	1.0	1.0
% Recovery:	99	100
% Rec Limits:	95-105	95-105

LCS

LCS Result:	0.98	0.91
True Result:	1.0	1.0
% Recovery:	98	91
% Rec Limits:	80-120	80-120

--- Data Qualifiers for Metals QC Report ---

N/A = NOT APPLICABLE.
N/S = NOT SUBMITTED.
N/C = SAMPLE AND DUPLICATE RESULTS ARE AT OR BELOW THE REPORTING LIMIT;
THEREFORE, THE RPD IS "NOT CALCULABLE" AND NO CONTROL LIMITS APPLY.
N/D = NOT DETECTED AT OR ABOVE THE STL-PENSACOLA REPORTING LIMIT (RL).
DISS. OR D = DISSOLVED
T & D = TOTAL AND DISSOLVED
R = REACTIVE
T = TOTAL
G = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X THE REPORTING LIMIT AND
THE ABSOLUTE DIFFERENCE BETWEEN THE SAMPLE AND DUPLICATE RESULT IS AT
OR BELOW STL REPORTING LIMIT; THEREFORE, THE RESULTS ARE "IN CONTROL".
Q = THE ANALYTICAL (POST-DIGESTION) SPIKE IS REPORTED DUE TO PERCENT RECOVERY
BEING OUTSIDE ACCEPTANCE LIMITS ON THE MATRIX (PRE-DIGESTION) SPIKE.
= ELEVATED REPORTING LIMIT DUE TO INSUFFICIENT SAMPLE.
+ = ELEVATED REPORTING LIMIT DUE TO DILUTION INTO CALIBRATION RANGE.
* = ELEVATED REPORTING LIMIT DUE TO MATRIX INTERFERENCE. (DILUTION PRIOR
TO ANALYSIS)
@ = ADJUSTED REPORTING LIMIT DUE TO SAMPLE MATRIX. (DILUTION PRIOR TO
DIGESTION)
P = ANALYTICAL (POST DIGESTION) SPIKE.
I = DUPLICATE INJECTION.
& = AUTOMATED
F = SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
N/C+ = NOT CALCULABLE
N/C* = NOT CALCULABLE; SAMPLE SPIKED > 4 X SPIKE CONCENTRATION.
H = SAMPLE AND/OR DUPLICATE RESULT IS BELOW 5 X STL REPORTING LIMIT AND THE
ABSOLUTE DIFFERENCE BETWEEN THE RESULTS EXCEEDS THE STL REPORTING
LIMIT; THEREFORE, THE RESULTS ARE "OUT OF CONTROL".
A = SAMPLE AND DUPLICATE RESULTS ARE "OUT OF CONTROL".
Z = THE SAMPLE RESULT FOR THE SPIKE IS BELOW THE STL REPORTING LIMIT. HOWEVER,
THIS RESULT IS REPORTED FOR ACCURATE QC CALCULATIONS.
NH= THE RELATIVE PERCENT DIFFERENCE (RPD) EXCEEDS THE STL CONTROL LIMIT
AND IS "OUT OF CONTROL; DUE TO A NON-HOMOGENEOUS SAMPLE MATRIX.
J = (FLORIDA DEP 'J' FLAG) - MATRIX SPIKE AND POST SPIKE RECOVERY IS OUT OF
THE ACCEPTABLE RANGE. SEE OUT OF CONTROL EVENTS FORM.
U = (FLORIDA DEP 'U' FLAG) - THE COMPOUND WAS ANALYZED FOR, BUT NOT DETECTED.
S = METHOD OF STANDARD ADDITIONS (MSA) WAS PERFORMED ON THIS SAMPLE.
M = A MATRIX EFFECT WAS PRESENT (SAMPLE WAS ANALYZED TWICE TO CONFIRM OR CHROMATOGRAM
HAD INTERFERING PEAKS).

FROM QUALITY CONTROL REPORT:

RPD= RELATIVE PERCENT DEVIATION.

REPT LIMIT= REPORTING LIMIT BASED ON METHOD DETECTION LIMIT STUDIES.

NOTE: ALL RESULTS REPORTED UNDER 'SAMPLE DUPLICATION' ARE THE MS/MSD.

NOTE: THE UNITS REPORTED ON THE QUALITY CONTROL REPORT ARE REPORTED ON AN AS
RUN BASIS. (NOT ADJUSTED FOR DRY WEIGHT).

SW-846, 3rd Edition.

EPA 600/4-79-020, Revised March 1983.

NIOSH Manual of Analytical Methods, 4th Edition.

Standard Methods For the Examination of Water and Wastewater, 18th Edition, 1992.

Methods For the Determination of Metals in Environmental Samples - Supplement I,

EPA 600/R-94-111, May 1994.

GSP = GARY ST PERE

LT = LISA TORRES

MPE = MARTY EDWARDS

CH = CHRIS HIGH

JL = JANET LECLEAR

KN = KAREN NALL

HC = HOLLY CHANCE

Severn Trent Laboratories of Florida
PROJECT SAMPLE INSPECTION FORM

Accession #: 902492

Date Received: 20-Feb-99

- | | |
|---|---|
| <p>1. Was there a Chain of Custody? ☒ Yes No*</p> <p>2. Was Chain of Custody properly filled out and relinquished? ☒ Yes No*</p> <p>3. Were samples received cold? ☒ Yes No* N/A
(Criteria: 2° - 6°C: STL-SOP 1055)</p> <p>4. Were all samples properly labeled and identified? ☒ Yes No*</p> <p>5. Did samples require splitting? Yes* ☒ No
Req By: PM Client Other*</p> <p>6. Were samples received in proper containers for analysis requested? ☒ Yes No*</p> <p>7. Were all sample containers received intact? ☒ Yes No*</p> | <p>8. Were samples checked for preservative? ☒ Yes No* N/A
(Check pH of all H₂O requiring preservative (STL-PN SOP 917) except VOA vials that require zero headspace)*</p> <p>9. Is there sufficient volume for analysis requested? ☒ Yes No* N/A (Can)</p> <p>10. Were samples received within Holding Time? ☒ Yes No* (REFER TO STL-SOP 1040)</p> <p>11. Is Headspace visible > 1/4" in diameter in VOA vials? If any headspace is evident, comment in out-of-control section. Yes* No ☒ N/A</p> <p>12. If sent, were matrix spike bottles returned? Yes No* ☒ N/A</p> <p>13. Was Project Manager notified of problems? (initials: _____) Yes No* ☒ N/A</p> |
|---|---|

Airbill Number(s): _____

Shipped By: _____

cooler Number(s): _____

Shipping Charges: N/A

Cooler Weight(s): _____

Cooler Temp(s) (°C): _____

(LIST THERMOMETER NUMBER(S) FOR VERIFICATION)

Out of Control Events and Inspection Comments:

COC received on 2/22/99.

(USE BACK OF PSIF FOR ADDITIONAL NOTES AND COMMENTS)

Inspected By: SKM

Date: 22-Feb-99

Logged By: SKM

Date: 22-Feb-99

Note all Out-of-Control and/or questionable events on Comment Section of this form.

Note who requested the splitting of samples on the Comment Section of this form.

* All preservatives for the State of North Carolina, the State of New York, and other requested samples are to be recorded on the sheet provided to record pH results (STL-SOP 938).

* According to EPA, 1/4" of headspace is allowed in 40 ml vials requiring volatile analysis, however, STL makes it policy to record any headspace as out-of-control (STL-SOP 938).

Pinnacle Laboratories, Inc.

Interlab Chain of Custody

Date: 2/22/99 Page: 1 of 1

Network Project Manager: Kimberly D. McNeill

Pinnacle Laboratories, Inc.

2709-D Pan American Freeway, NE

Albuquerque, New Mexico 87107

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

ANALYSIS REQUEST

Metals (8) RCRA

RCRA TCLP METALS

Metals-13 PP List

Metals-TAL

TOX

TOC

Gen Chemistry

Oil and Grease

Volatile Organics GC/MS (8260)

BOD

COD

PESTICIDES/PCB (608/8080)

8270 BY GC/MS

PNA (8310)

8240 (TCLP 1311) ZHE

Herbicides (815/8150)

Base/Neutral Acid Compounds GC/MS
(625/8270)

URANIUM

RADIUM 226+228

Gross Alpha/Beta

TO-14

NUMBER OF CONTAINERS

SAMPLE ID

DATE

TIME

MATRIX

LAB ID

902004-01

2/16

1303

AQ

X

PROJECT INFORMATION

PROJECT #: 902004

PROJ. NAME: EPTS

OC LEVEL: STD IV

QC REQUIRED: MS MSD BLANK

TAT: STANDARD RUSH!!

DUE DATE: 3/5

RUSH SURCHARGE: -

CLIENT DISCOUNT: -

SPECIAL CERTIFICATION

REQUIRE: NO

SAMPLE RECEIPT

Total Number of Containers

Chain of Custody Seals

Received In tact?

Received Good Cond./Cold

LAB NUMBER:

SAMPLES SENT TO:

PENSACOLA - STL-FL

PORTLAND - ESL-OR

STL - CT

STL - NEW JERSEY

N. CREEK

BARRINGER

SEQUOIA

RELINQUISHED BY:

Signature: [Signature]

Printed Name: [Name]

Date: [Date]

Time: [Time]

Company: [Company]

RECEIVED BY:

Signature: [Signature]

Printed Name: [Name]

Date: [Date]

Time: [Time]

Company: [Company]

RELINQUISHED BY:

Signature: [Signature]

Printed Name: [Name]

Date: [Date]

Time: [Time]

Company: [Company]

RECEIVED BY:

Signature: [Signature]

Printed Name: [Name]

Date: [Date]

Time: [Time]

Company: [Company]



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990038, 39 and 990044 to 990049

QA/QC for 02/24/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
ICV LA-52589					YES	NO
50 PPB					RANGE	
Benzene	Standard	50.0	51.8	103.7	75 - 125 %	X
Toluene	Standard	50.0	51.6	103.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.6	103.2	75 - 125 %	X
m & p - Xylene	Standard	100	103.9	103.9	75 - 125 %	X
o - Xylene	Standard	50.0	51.8	103.6	75 - 125 %	X

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
LCS LA-45476					YES	NO
25 PPB					RANGE	
Benzene	Standard	25.0	24.9	100	39 - 150	X
Toluene	Standard	25.0	24.9	100	46 - 148	X
Ethylbenzene	Standard	25.0	25.1	100	32 - 160	X
m & p - Xylene	Standard	50.0	50.2	100	Not Given	X
o - Xylene	Standard	25.0	25.2	101	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
990045					YES	NO
					RANGE	
Benzene	Matrix Duplicate	4.4	4.4	1.46	+/- 20 %	X
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	7.8	7.7	1.67	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
2nd Analysis 990045					YES	NO
					RANGE	
Benzene	25	4.4	24.0	78	75 - 125 %	X
Toluene	25	<1	19.0	76	75 - 125 %	X
Ethylbenzene	25	7.8	27.2	77	75 - 125 %	X
m & p - Xylene	50	<2	39.2	78	75 - 125 %	X
o - Xylene	25	<1	19.5	78	75 - 125 %	X

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (one analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK 021699 & 022399	SOURCE	PPB (two analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J. L.

Approved By: John L. L.

Date: 2/26/99

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990038, 39 and 990044 to 990049

QA/QC for 02/24/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
ICV LA-52589 50 PPB						
Benzene	Standard	50.0	51.8	103.7	75 - 125 %	X
Toluene	Standard	50.0	51.6	103.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.6	103.2	75 - 125 %	X
m & p - Xylene	Standard	100	103.9	103.9	75 - 125 %	X
o - Xylene	Standard	50.0	51.8	103.6	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
LCS LA-45476 25 PPB						
Benzene	Standard	25.0	24.9	100	39 - 150	X
Toluene	Standard	25.0	24.9	100	46 - 148	X
Ethylbenzene	Standard	25.0	25.1	100	32 - 160	X
m & p - Xylene	Standard	50.0	50.2	100	Not Given	X
o - Xylene	Standard	25.0	25.2	101	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE YES NO RANGE	
990045						
Benzene	Matrix Duplicate	4.4	4.4	1.46	+/- 20 %	X
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	7.8	7.7	1.67	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE YES NO RANGE	
2nd Analysis 990045						
Benzene	25	4.4	24.0	78	75 - 125 %	X
Toluene	25	<1	19.0	76	75 - 125 %	X
Ethylbenzene	25	7.8	27.2	77	75 - 125 %	X
m & p - Xylene	50	<2	39.2	78	75 - 125 %	X
o - Xylene	25	<1	19.5	78	75 - 125 %	X

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (one analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK 021699 & 022399	SOURCE	PPB (two analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J. L.

Approved By: John Larden

Date: 2/26/99



Natural Gas Company

A 2450

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Requested Analysis		Remarks	
Samplers: (Signature)		Date: 5-4-99		Type and No. of Sample Containers		Preservation Technique	
Date	Time	Comp.	GRAB	Sample Number			
WATER	1118	X	X	990207	G-2 34F	X	TURNER A#1 MW-1
WATER	5-4-99	X	X		G-1 34F	X	TRIP BLANK
[The following rows are crossed out with a diagonal line]							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
Dennis Bird		5-4-99 1625					
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Remarks: Cad & Intact	
				John Staud		5/4/99 0700	
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)			
Air Bill No.:							



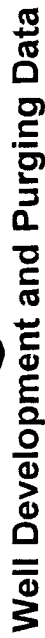
Natural Gas Company

SAMPLE 4 2/10/99

CHAIN OF CUSTODY RECORD

Page 1 of 1

Project Number		Project Name		Contract Laboratory P.O. Number	
Samplers: (Signature)		Date		Requested Analysis	
Lab ID	Date	Time	Matrix	Sample Number	Remarks
54991221	5-4-99	12:21	WATER	990208	TURNER A #1 (CPT #2) MW-2
Blank grid area for analysis results					
Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
Requested Turnaround Time:		Date/Time		Received for Laboratory by: (Signature)	
☐ Routine ☐ Rush		5-4-99 16:08		5/4/99 0700	
Carrier Co.		Sample Receipt Remarks		Results & Invoices to:	
Bill No.:		Chad + In fact		North Region Laboratory El Paso Natural Gas Company P. O. Box 4990 Farmington, New Mexico 87499	
				505-599-2144 FAX: 505-599-2261	



Well Number MW-3
Meter Code 71676

☐	Development
☒	Purging

Site Name TURNER A"1

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 |

Water Volume Calculation

Initial Depth of Well (feet) 13.45
Initial Depth to Water (feet) 7.24
Height of Water Column in Well (feet) 6.21

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.1	12.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- | | |
|-------------------------------------|--------------------|
| ☒ | pH Meter |
| ☐ | DO Monitor |
| ☒ | Conductivity Meter |
| ☒ | Temperature Meter |
| ☒ | Other <u>DO</u> |

Water Disposal

KUTZ SEPARATOR

Water Removal Data

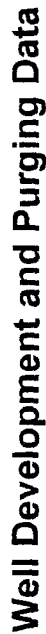
[illegible]

Comments

Developer's Signature *Tennis Bird*

Date 5-4-99 Reviewer: _____

Joh. Luch Date 5/14/99



☐	Development
☒	Purging

Well Number MW-1

Meter Code 71676

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 |

Water Volume Calculation

Initial Depth of Well (feet) 14.65

Initial Depth to Water (feet) 7.43

Height of Water Column in Well (feet)
7.33

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.8	14.3
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

K072 SEP ARA TOP

Water Removal Data

[illegible]

Comments

Developer's Signature

Date 5-4-99

Reviewer

Date _____

6/4/99



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	NA	990207
MTR CODE SITE NAME:	71676	Turner A#1
SAMPLE DATE TIME (Hrs):	5/4/99	1118
PROJECT:	Sample 4 - 8th Quarter	
DATE OF BTEX EXT. ANAL:	NA	5/7/99
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3.03	PPB				
TOLUENE	<1.0	PPB				
ETHYL BENZENE	1.07	PPB				
TOTAL XYLENES	7.13	PPB				
TOTAL BTEX	11	PPB				

--BTEX is by EPA Method 8021 --

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

Narrative:

Approved By:

John Larch

Date:

5/21/99



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	NA	990208
MTR CODE SITE NAME:	71676	Turner A#1 (Pit #2)
SAMPLE DATE TIME (Hrs):	5/4/99	1221
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	NA	5/7/99
TYPE DESCRIPTION:	MW-2	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.57	PPB				
TOLUENE	16.0	PPB				
ETHYL BENZENE	38.1	PPB				
TOTAL XYLENES	272	PPB	5	D		
TOTAL BTEX	329	PPB				

—BTEX is by EPA Method 8021 —

The Surrogate Recovery was at 98.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indicates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Larkin Date: 5/21/99



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990206 to 990209

QA/QC for 05/07/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-52589 25 PPB					RANGE	
Benzene	Standard	25.0	23.8	95.2	75 - 125 %	X
Toluene	Standard	25.0	23.7	94.7	75 - 125 %	X
Ethylbenzene	Standard	25.0	23.8	95.3	75 - 125 %	X
m & p - Xylene	Standard	50.0	47.8	95.6	75 - 125 %	X
o - Xylene	Standard	25.0	23.9	95.5	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	22.8	91.3	39 - 150	X
Toluene	Standard	25.0	22.7	91.0	46 - 148	X
Ethylbenzene	Standard	25.0	23.1	92.4	32 - 160	X
m & p - Xylene	Standard	50.0	46.2	92.4	Not Given	X
o - Xylene	Standard	25.0	23.0	91.8	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
990206					RANGE	
Benzene	Matrix Duplicate	56.4	57.3	1.47	+/- 20 %	X
Toluene	Matrix Duplicate	94.8	96.56	1.79	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	64.7	61.82	4.62	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	637.9	638.2	0.04	+/- 20 %	X
o - Xylene	Matrix Duplicate	156.5	159.6	1.95	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 990206					RANGE	
Benzene	25	56.4	73.4	68	75 - 125 %	X
Toluene	25	94.8	112.6	71	75 - 125 %	X
Ethylbenzene	25	64.7	78.2	54	75 - 125 %	X
m & p - Xylene	50	637.9	658.1	40	75 - 125 %	X
o - Xylene	25	156.5	174.3	71	75 - 125 %	X

Narrative: See Spike Dup.

SPIKE DUPLICATE:

SAMPLE ID 2nd Analysis 990206	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					RANGE	YES NO
Benzene	25	56.4	68.9	50	75 - 125 %	X
Toluene	25	94.8	100.4	22	75 - 125 %	X
Ethylbenzene	25	64.7	71.3	26	75 - 125 %	X
m & p - Xylene	50	637.9	583.7	-108	75 - 125 %	X
o - Xylene	25	156.5	155.7	-3	75 - 125 %	X

Narrative: Matrix interference confirmed. The sample had a strong odor of Hydrogen Sulfide.

LABORATORY BLANKS:

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLK 05/03, 05/0499	SOURCE	PPB (two analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J.L. Approved By: John Lardner Date: 5/10/99



QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 990206 to 990209

QA/QC for 05/07/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-52589 25 PPB					RANGE	
Benzene	Standard	25.0	23.8	95.2	75 - 125 %	X
Toluene	Standard	25.0	23.7	94.7	75 - 125 %	X
Ethylbenzene	Standard	25.0	23.8	95.3	75 - 125 %	X
m & p - Xylene	Standard	50.0	47.8	95.6	75 - 125 %	X
o - Xylene	Standard	25.0	23.9	95.5	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	22.8	91.3	39 - 150	X
Toluene	Standard	25.0	22.7	91.0	46 - 148	X
Ethylbenzene	Standard	25.0	23.1	92.4	32 - 160	X
m & p - Xylene	Standard	50.0	46.2	92.4	Not Given	X
o - Xylene	Standard	25.0	23.0	91.8	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
990206					RANGE	
Benzene	Matrix Duplicate	56.4	57.3	1.47	+/- 20 %	X
Toluene	Matrix Duplicate	94.8	96.56	1.79	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	64.7	61.82	4.62	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	637.9	638.2	0.04	+/- 20 %	X
o - Xylene	Matrix Duplicate	156.5	159.6	1.95	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 990206					RANGE	
Benzene	25	56.4	73.4	68	75 - 125 %	X
Toluene	25	94.8	112.6	71	75 - 125 %	X
Ethylbenzene	25	64.7	78.2	54	75 - 125 %	X
m & p - Xylene	50	637.9	658.1	40	75 - 125 %	X
o - Xylene	25	156.5	174.3	71	75 - 125 %	X

Narrative: See Spike Dup.

SPIKE DUPLICATE:

SAMPLE ID 2nd Analysis 990206	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	25	56.4	68.9	50	75 - 125 %	X
Toluene	25	94.8	100.4	22	75 - 125 %	X
Ethylbenzene	25	64.7	71.3	26	75 - 125 %	X
m & p - Xylene	50	637.9	583.7	-108	75 - 125 %	X
o - Xylene	25	156.5	155.7	-3	75 - 125 %	X

Narrative: Matrix interference confirmed. The sample had a strong odor of Hydrogen Sulfide.

LABORATORY BLANKS:

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLK 05/03, 05/0499	SOURCE	PPB (two analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J.L.

Approved By: John L. Lardner

Date: 5/10/99

PLEASE FILL THIS FORM IN COMPLETELY.

SHADED AREAS ARE FOR LAB USE ONLY.

PROJECT MANAGER: John Lampdin		ANALYSIS REQUEST	
COMPANY: El Paso Field Services		Petroroleum Hydrocarbons (418.1) TRPH	
ADDRESS: 770 West Navajo		(MOD.8015) Diesel/Direct Inject	
PHONE: Farmington, NM 87400		(M8015) Gas/Purge & Trap	
FAX: (505) 844-2144		8021 (BTEX)/8015 (Gasoline)	
BILL TO: (505) 544-7261		8021 (BTEX) ☐ MTBE ☐ TMB ☐ PCE	
COMPANY: (Same as above)		8021 (TCL)	
ADDRESS:		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)	
		Herbicides (615/8151)	
		Base/Neutral/Acid Compounds GC/MS (625/8270)	
		Polynuclear Aromatics (610/8310)	
		General Chemistry:	
		Priority Pollutant Metals (13)	
		Target Analyte List Metals (23)	
		RCRA Metals (8)	
		RCRA Metals by TCLP (Method 1311)	
		Metals:	
		NUMBER OF CONTAINERS	
		2	
PROJECT INFORMATION		PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	
PROJ. NO.: N/A	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒		
PROJ. NAME: Turner A #1 MW-1	CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER		
P.O. NO.: N/A	METHANOL PRESERVATION ☐		
SHIPPED VIA: Fed-X	COMMENTS: FIXED FEE ☐		
SAMPLE RECEIPT			
NO. CONTAINERS: 2			
CUSTODY SEALS: YES/NA			
RECEIVED INTACT: YES			
BLIND: 17.50L			
RELINQUISHED BY:		RELINQUISHED BY:	
Signature: John Lampdin	Time: 1410	Signature:	Time:
Printed Name: John Lampdin	Date: 8/9/99	Printed Name:	Date:
Company: El Paso Field Svs.		Company:	
RECEIVED BY:		RECEIVED BY (LAB):	
Signature:	Time:	Signature:	Time:
Printed Name:	Date:	Printed Name:	Date:
Company:		Company:	
Signature: [Signature]	Time: 1415	Signature:	Time:
Printed Name: [Name]	Date: 8/10/99	Printed Name:	Date:
Company: American Environmental Network (NM), Inc.		Company:	

Project Number		Project Name		Contract Laboratory P.O. Number	
Samplers: (Signature)		Date		Requested Analysis	
Lab ID	Date	Time	Matrix	Sample Number	Remarks
8399	8-3-99	1305	WATER	990334	TURNER A #1 MW-1
8399	8-3-99	---	WATER	---	TRIP BLANK
Relinquished by: (Signature) Relinquished by: (Signature) Received by: (Signature) Received by: (Signature) Date/Time Date/Time					
Relinquished by: (Signature) Relinquished by: (Signature) Received by: (Signature) Received by: (Signature) Date/Time Date/Time					
Requested Turnaround Time: ☐ Routine ☐ Rush Carrier Co. North Region Laboratory El Paso Natural Gas Company P. O. Box 4990 Farmington, New Mexico 87499					
Bill No.: 505-599-2144 FAX: 505-599-2261					

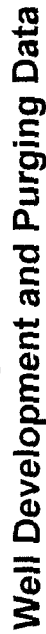


SAMPLE 4 3 RDQTR

CHAIN OF CUSTODY RECORD

Page _____ of _____

Project Number		Project Name		Contract Laboratory P.O. Number							
Samplers: (Signature) <i>Dennis Bied</i>		MC #71676									
Date: 8-3-99											
Lab ID	Date	Time	Matrix	Sample Number	Remarks						
	8-3-99	1437	WATER	990336	TURNER A #1 NW-2						
X											
Relinquished by: (Signature) <i>Dennis Bied</i>		Date/Time		Received by: (Signature)							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)							
Requested Turnaround Time:		Date/Time		Received for Laboratory by: (Signature)							
☐ Routine ☐ Rush		8-3-99 1545		8-4-99 1200							
Carrier Co.		Sample Receipt Remarks		Results & Invoices to:							
Bill No.:		COOL & CONTACT 340		North Region Laboratory El Paso Natural Gas Company P. O. Box 4990 Farmington, New Mexico 87499							
		Charge Code		505-599-2144 FAX: 505-599-2261							



Well Number MW-1
Meter Code 71676

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

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

Initial Depth of Well (feet) 14.65
Initial Depth to Water (feet) 9.14
Height of Water Column in Well (feet) 5.51

Instruments

☒ pH Meter

☐ DO Monitor☒ Conductivity Meter☒ Temperature Meter☒ Other *D.O.G.*

10110

Water Disposal

KUTZ SEPARATOR

[illegible]

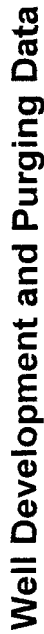
Developer's Signature Ennio Bied

Reviewer

Date 8-3-99

Der Autor:

Date 8/18/99



Well Number MW-3
Meter Code 71676

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

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

Initial Depth of Well (feet) 13.45
Initial Depth to Water (feet) 8.99
Height of Water Column in Well (feet) 4.46

☒	pH Meter
☐	DO Monitor
☒	Conductivity Meter
☒	Temperature Meter
☒	Other <u>D.O. Controller</u>

Water Disposal

Water Disposal
K072 SEP 99 A70P

[illegible]

Comments THE WELL BAILED DRYO 4.0 GALLONS.

Developer's Signature
Lennie Bied

Date 8-3-99 Reviewer

John Fuchs Date 8/18/99



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990334
MTR CODE SITE NAME:	71676	Turner A#1
SAMPLE DATE TIME (Hrs):	08/03/1999	1305
PROJECT:	Sample 4 9th Quarter	
DATE OF BTEX EXT. ANAL.:	NA	08/10/1999
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1.0	PPB				
TOLUENE	<1.0	PPB				
ETHYL BENZENE	<1.0	PPB				
TOTAL XYLENES	<3.0	PPB				
TOTAL BTEX	<6.0	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 107.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Lander

Date: 9-1-99



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	990336
MTR CODE SITE NAME:	71676	Turner A#1
SAMPLE DATE TIME (Hrs):	08/03/1999	1437
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	NA	08/10/1999
TYPE DESCRIPTION:	MW-2	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1.0	PPB				
TOLUENE	5.69	PPB				
ETHYL BENZENE	41.9	PPB				
TOTAL XYLENES	186	PPB				
TOTAL BTEX	234	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 107.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Linder

Date:

9/1/99

PINNACLE
LABORATORIES

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

Pinnacle Lab ID number 908042
August 11, 1999



EL PASO FIELD SERVICES
770 WEST NAVAJO
FARMINGTON, NM 87401

Project Name TURNER A #1 MW-1
Project Number (none)

Attention: JOHN LAMBDIN

On 8/10/99 Pinnacle Laboratories, Inc. 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.

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph. D.
General Manager

MR: mt

Enclosure

Reviewed + Accepted
J. Jander
8/17/99

PINNACLE
LABORATORIES

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

CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : TURNER A #1 MW-1

PINNACLE ID : 908042
DATE RECEIVED : 8/10/99
REPORT DATE : 8/11/99

PIN	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	990335	AQUEOUS	8/3/99



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

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : TURNER A #1 MW-1

PINNACLE I.D.: 908042

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	990335	AQUEOUS	8/3/99	NA	8/10/99	1

PARAMETER	DET. LIMIT	UNITS	990335
BENZENE	0.5	UG/L	< 0.5
TOLUENE	0.5	UG/L	0.5
ETHYLBENZENE	0.5	UG/L	1.0
TOTAL XYLENES	0.5	UG/L	3.4
METHYL-t-BUTYL ETHER	2.5	UG/L	< 2.5

SURROGATE:

BROMOFLUOROBENZENE (%)

108

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A



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

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 908042
BLANK I. D.	: 081099	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 8/10/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: TURNER A #1 MW-1		

PARAMETER	UNITS	
BENZENE	UG/L	<0.5
TOLUENE	UG/L	<0.5
ETHYLBENZENE	UG/L	<0.5
TOTAL XYLENES	UG/L	<0.5
METHYL-t-BUTYL ETHER	UG/L	<2.5

SURROGATE:
BROMOFLUOROBENZENE (%) 100
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A



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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST : EPA 8021 MODIFIED
MSMSD # : 908033-01
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : TURNER A #1 MW-1

PINNACLE I.D. : 908042
DATE EXTRACTED : NA
DATE ANALYZED : 8/10/99
SAMPLE MATRIX : AQUEOUS
UNITS : UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	21.2	106	22.7	114	7	(80 - 120)	20
TOLUENE	<0.5	20.0	22.9	115	20.6	103	11	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	23.2	116	22.5	113	3	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	66.5	111	63.2	105	5	(80 - 120)	20
METHYL-t-BUTYL ETHER	<2.5	20.0	23.3	117	20.8	104	11	(70 - 133)	20

CHEMIST NOTES:
N/A

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

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



QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990334 to 990340 and 990349 to 990354

QA/QC for 08/10/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-67475 50 PPB					RANGE	
Benzene	Standard	50.0	46.5	93.0	75 - 125 %	X
Toluene	Standard	50.0	47.5	94.9	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.1	94.1	75 - 125 %	X
m & p - Xylene	Standard	100	95.8	95.8	75 - 125 %	X
o - Xylene	Standard	50.0	47.8	95.6	75 - 125 %	X
LCS LA-53560 25 PPB					RANGE	
Benzene	Standard	25.0	21.3	85	39 - 150	X
Toluene	Standard	25.0	22.5	90	46 - 148	X
Ethylbenzene	Standard	25.0	23.0	92	32 - 160	X
m & p - Xylene	Standard	50.0	46.3	93	Not Given	X
o - Xylene	Standard	25.0	23.0	92	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
990349					RANGE	
Benzene	Matrix Duplicate	<1.0	<2.5	NA	+/- 20 %	X
Toluene	Matrix Duplicate	2.66	<2.5	NA	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	72.0	63.5	12.45	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	249	224.4	10.37	+/- 20 %	X
o - Xylene	Matrix Duplicate	55.0	49.3	10.84	+/- 20 %	X

Narrative: Dilution Error on Benzene and Toluene. Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 990349					RANGE	
Benzene	25	<1.0	20.4	82	75 - 125 %	X
Toluene	25	2.66	23.4	83	75 - 125 %	X
Ethylbenzene	25	72.0	95.6	94	75 - 125 %	X
m & p - Xylene	50	249	291.2	85	75 - 125 %	X
o - Xylene	25	55.0	76.0	84	75 - 125 %	X

Narrative: Acceptable.

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					RANGE	YES NO
990334						
Benzene	Matrix Duplicate	<1.0	<1.0	NA	+/- 20 %	X
Toluene	Matrix Duplicate	<1.0	<1.0	NA	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2.0	<2.0	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					RANGE	YES NO
2nd Analysis 990334						
Benzene	25	<1.0	22.1	88	75 - 125 %	X
Toluene	25	<1.0	22.4	89	75 - 125 %	X
Ethylbenzene	25	<1.0	21.7	87	75 - 125 %	X
m & p - Xylene	50	<2.0	45.1	90	75 - 125 %	X
o - Xylene	25	<1.0	22.5	90	75 - 125 %	X

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK(s) 8/3, 8/4, 8/5	SOURCE	PPB (three analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J.L.

Approved By: John Lambert

Date: 8/24/99



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 990334 to 990340 and 990349 to 990354

QA/QC for 08/10/99 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-67475 50 PPB					RANGE	
Benzene	Standard	50.0	46.5	93.0	75 - 125 %	X
Toluene	Standard	50.0	47.5	94.9	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.1	94.1	75 - 125 %	X
m & p - Xylene	Standard	100	95.8	95.8	75 - 125 %	X
o - Xylene	Standard	50.0	47.8	95.6	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
LCS LA-53560 25 PPB					RANGE	
Benzene	Standard	25.0	21.3	85	39 - 150	X
Toluene	Standard	25.0	22.5	90	46 - 148	X
Ethylbenzene	Standard	25.0	23.0	92	32 - 160	X
m & p - Xylene	Standard	50.0	46.3	93	Not Given	X
o - Xylene	Standard	25.0	23.0	92	Not Given	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
990349					RANGE	
Benzene	Matrix Duplicate	<1.0	<2.5	NA	+/- 20 %	X
Toluene	Matrix Duplicate	2.66	<2.5	NA	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	72.0	63.5	12.45	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	249	224.4	10.37	+/- 20 %	X
o - Xylene	Matrix Duplicate	55.0	49.3	10.84	+/- 20 %	X

Narrative: Dilution Error on Benzene and Toluene. Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
2nd Analysis 990349					RANGE	
Benzene	25	<1.0	20.4	82	75 - 125 %	X
Toluene	25	2.66	23.4	83	75 - 125 %	X
Ethylbenzene	25	72.0	95.6	94	75 - 125 %	X
m & p - Xylene	50	249	291.2	85	75 - 125 %	X
o - Xylene	25	55.0	76.0	84	75 - 125 %	X

Narrative: Acceptable.

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					RANGE	YES NO
990334						
Benzene	Matrix Duplicate	<1.0	<1.0	NA	+/- 20 %	X
Toluene	Matrix Duplicate	<1.0	<1.0	NA	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X
m & p - Xylene	Matrix Duplicate	<2.0	<2.0	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1.0	<1.0	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					RANGE	YES NO
2nd Analysis 990334						
Benzene	25	<1.0	22.1	88	75 - 125 %	X
Toluene	25	<1.0	22.4	89	75 - 125 %	X
Ethylbenzene	25	<1.0	21.7	87	75 - 125 %	X
m & p - Xylene	50	<2.0	45.1	90	75 - 125 %	X
o - Xylene	25	<1.0	22.5	90	75 - 125 %	X

Narrative: Acceptable.

AUTO BLANK	SOURCE	PPB (1 analyzed with set)	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (one analyzed with set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (one analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

TRIP BLANK(s) 8/3, 8/4, 8/5	SOURCE	PPB (three analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: J.L.

Approved By: John Lambert

Date: 8/24/99

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Date		Sample Number		Type and No. of Sample Containers	Preservation Technique	Requested Analysis	Remarks
Sample 4 6747P		MC # 71676		Date: 11-8-98		980092		6-1	X	TURNER #1, 2, 3, 4	
SAMPLERS (Signature)		J.P. ...		11-8-98		980092		6-1	X	TRIP ...	
Date		Time		Comp.		GRAB					
11-8-98		10:30				X					
11-8-98		—				X					
/											
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time	
J.P. ...		11-8-98 1415									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time	
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Date/Time		Remarks:			
				M. ...		11/ 6/98 1530					
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)							
Air Bill No.:											

SHADED AREAS ARE FOR LAB USE ONLY.

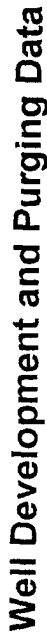
PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: JOHN LAMBDA		ANALYSIS REQUEST	
COMPANY: EL PASO FIELD SERVICES	PROJECT INFORMATION	PRIORITY AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS	
ADDRESS: 700 WEST NAVARRO	PROJ. NO.:	(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☐ 1 WEEK (NORMAL) ☒	
FARMINGTON NM	PROJ. NAME: PIT MOUNTAIN WELLS	CERTIFICATION REQUIRED: ☐ NM ☐ SOWA ☐ OTHER	
PHONE: (505) 599-2144	P.O. NO.:	METHANOL PRESERVATION ☐	
FAX: (505) 599-2001	SHIPPED VIA: FED-X	COMMENTS: FIXED FEE ☐	
BILL TO: SAME AS ABOVE	SAMPLE RECEIPT		
COMPANY:	NO. CONTAINERS: 1		
ADDRESS:	CUSTODY SEALS: Y/N (NA)		
	RECEIVED INTACT: YES		
	BLUE: 50		

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
990444	11-10-99	1025	WATER	01
990445	11-10-99	1025	WATER	02
990446	11-10-99	1402	WATER	03
TRIP BLANK	11-10-99		WATER	04

ANALYSIS REQUEST	NUMBERS	CONTAINERS
Petroleum Hydrocarbons (418.1) TRPH		
(MOD.8015) Diesel/Direct Inject		
(M8015) Gas/Purge & Trap		
8021 (BTX)/8015 (Gasoline) MTBE		
8021 (BTX) ☐ MTBE ☐ TMB ☐ PCE		
8021 (TCL)		
8021 (EDX)		
8021 (HALO)		
8021 (CUST)		
504.1 EDB ☐ / DBCP ☐		
8260 (TCL) Volatile Organics		
8260 (Full) Volatile Organics		
8260 (CUST) Volatile Organics		
8260 (Landfill) Volatile Organics		
Pesticides / PCB (608/8081/8082)		
Herbicides (615/8151)		
Base/Neutral/Acid Compounds GC/MS (625/8270)		
Polynuclear Aromatics (610/8310/8270-SIMS)		
General Chemistry:		
Priority Pollutant Metals (13)		
Target Analyte List Metals (23)		
RCRA Metals (8)		
RCRA Metals by TCLP (Method 1311)		
Metals:		

RELINQUISHED BY:	RELINQUISHED BY:	RELINQUISHED BY:
Signature: <i>Dennis Bird</i>	Signature: <i>Dennis Bird</i>	Signature: <i>Dennis Bird</i>
Printed Name: DENNIS BIRD	Printed Name: DENNIS BIRD	Printed Name: DENNIS BIRD
Date: 11-10-99	Date: 11-10-99	Date: 11-10-99
Company: EL PASO FIELD SERVICES	Company: EL PASO FIELD SERVICES	Company: EL PASO FIELD SERVICES
See reverse side (Forc Magure)	See reverse side (Forc Magure)	See reverse side (Forc Magure)
RECEIVED BY: (LAB)	RECEIVED BY: (LAB)	RECEIVED BY: (LAB)
Signature: <i>Dennis Bird</i>	Signature: <i>Dennis Bird</i>	Signature: <i>Dennis Bird</i>
Printed Name: DENNIS BIRD	Printed Name: DENNIS BIRD	Printed Name: DENNIS BIRD
Date: 11-10-99	Date: 11-10-99	Date: 11-10-99
Company: EL PASO FIELD SERVICES	Company: EL PASO FIELD SERVICES	Company: EL PASO FIELD SERVICES



Well Number MW-1
Meter Code 71676

☐	Development
☒	Purging

Site Name TOPIVER A #1

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) 14.65
Initial Depth to Water (feet) 2.83
Height of Water Column in Well (feet) 5.82

Diameter (inches): Well 4 Gravel Pack

item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.8	11.5
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- | | |
|-------------------------------------|--------------------|
| ☒ | pH Meter |
| ☐ | DO Monitor |
| ☒ | Conductivity Meter |
| ☒ | Temperature Meter |
| ☒ | Other <u>DO-C</u> |

Water Disposal

KOTZ SEPARATOR

Water Removal Data

[illegible]

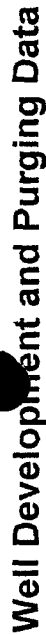
Comments THE WELL BAILED DRY @ 10.0 GALLONS.

Developer's Signature Kennia Bird

Date 11-6-98 Reviewer _____

John Fadden

Date 11/16/98



Site Name TURVER A #1

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 Removal Data

[illegible]

Comments

Developer's Signature *James Bied*

Date 11-10-99 Reviewer _____

John Lubin

Date 11/30/99

Water Volume Calculation

Initial Depth of Well (feet) 13.45
Initial Depth to Water (feet) 8.07
Height of Water Column in Well (feet) 5.38

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		3.6	10.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒	pH Meter
☐	DO Monitor
☒	Conductivity Meter
☒	Temperature Meter
☒	Other <u>D.O. CR</u>

Water Disposal

NOT SEPARATE



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980792
MTR CODE SITE NAME:	71676	Turner A #1
SAMPLE DATE TIME (Hrs):	11/6/98	1032
PROJECT:	Sample 4 6th Quarter	
DATE OF BTEX EXT. ANAL.:	11/9/98	11/9/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.49	PPB				
TOLUENE	0.98	PPB				
ETHYL BENZENE	1.05	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	3.51	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.0 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Jardi

Date:

11/16/98

980792BTEXMW, 11/15/98

Pinnacle Lab ID number **911052**
November 19, 1999

EL PASO FIELD SERVICES
770 WEST NAVAJO
FARMINGTON, NM 87401

Project Name PIT MONITOR WELLS
Project Number (none)

Attention: JOHN LAMBDIN

On 11/16/99 Pinnacle Laboratories, Inc. 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.



Kimberly D. McNeill
Project Manager



H. Mitchell Rubenstein, Ph. D.
General Manager

MR: jt

Enclosure

CLIENT	: EL PASO FIELD SERVICES	PINNACLE ID	: 911052
PROJECT #	: (none)	DATE RECEIVED	: 11/16/99
PROJECT NAME	: PIT MONITOR WELLS	REPORT DATE	: 11/19/99

PIN ID. #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	990444	AQUEOUS	11/10/99
02	990445	AQUEOUS	11/10/99
03	990446	AQUEOUS	11/10/99
04	TRIP BLANK	AQUEOUS	11/10/99

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : PIT MONITOR WELLS

PINNACLE I.D.: 911052

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
01	990444	AQUEOUS	11/10/99	NA	11/17/99	1
02	990445	AQUEOUS	11/10/99	NA	11/17/99	1
03	990446	AQUEOUS	11/10/99	NA	11/16/99	20

PARAMETER	DET. LIMIT	UNITS	990444	990445	990446
BENZENE	0.5	UG/L	3.3	3.3	39
TOLUENE	0.5	UG/L	7.8	7.7	95
ETHYLBENZENE	0.5	UG/L	13	13	56
TOTAL XYLENES	0.5	UG/L	61	60	390

SURROGATE:

BROMOFLUOROBENZENE (%)

89

87

90

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8021 MODIFIED
CLIENT : EL PASO FIELD SERVICES
PROJECT # : (none)
PROJECT NAME : PIT MONITOR WELLS

PINNACLE I.D.: 911052

SAMPLE			DATE	DATE	DATE	DIL.
ID. #	CLIENT I.D.	MATRIX	SAMPLED	EXTRACTED	ANALYZED	FACTOR
04	TRIP BLANK	AQUEOUS	11/10/99	NA	11/16/99	1
PARAMETER		DET. LIMIT	UNITS	TRIP BLANK		
BENZENE		0.5	UG/L	< 0.5		
TOLUENE		0.5	UG/L	< 0.5		
ETHYLBENZENE		0.5	UG/L	< 0.5		
TOTAL XYLENES		0.5	UG/L	< 0.5		

SURROGATE:

BROMOFLUOROBENZENE (%)

101

SURROGATE LIMITS (80 - 120)

CHEMIST NOTES:

N/A

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911052
CLANK I. D.	: 111699	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/16/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PIT MONITOR WELLS		

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

SURROGATE:
BROMOFLUOROBENZENE (%) 100
SURROGATE LIMITS: (80 - 120)
CHEMIST NOTES:
N/A

GAS CHROMATOGRAPHY RESULTS
REAGENT BLANK

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911052
CLANK I. D.	: 111799	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/17/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PIT MONITOR WELLS		

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

GAS CHROMATOGRAPHY QUALITY CONTROL
MSMSD

TEST	: EPA 8021 MODIFIED	PINNACLE I.D.	: 911052
MSMSD #	: 111699	DATE EXTRACTED	: NA
CLIENT	: EL PASO FIELD SERVICES	DATE ANALYZED	: 11/17/99
PROJECT #	: (none)	SAMPLE MATRIX	: AQUEOUS
PROJECT NAME	: PIT MONITOR WELLS	UNITS	: UG/L

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD	REC LIMITS	RPD LIMITS
BENZENE	<0.5	20.0	17.5	88	17.4	87	1	(80 - 120)	20
TOLUENE	<0.5	20.0	18.9	95	18.5	93	2	(80 - 120)	20
ETHYLBENZENE	<0.5	20.0	19.6	98	19.5	98	1	(80 - 120)	20
TOTAL XYLENES	<0.5	60.0	59.6	99	59.1	99	1	(80 - 120)	20

CHEMIST NOTES:

NA

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

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