

3R - 198

REPORTS

DATE:

1997



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

February 27, 1998

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

RECEIVED

MAR 02 1998

Environmental Bureau
Oil Conservation Division

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

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

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

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

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

Sincerely,

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

Sandra D. Miller
Environmental Manager

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

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project
Pit Closure Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP
ENVIRONMENTAL

EPFS GROUNDWATER PITS

1997 ANNUAL GROUNDWATER REPORT

JOHN CHARLES #8
Meter/Line ID - 93126

SITE DETAILS

Legals - Twn: 27N	Rng: 9W	Sec: 13	Unit: B
NMOCD Hazard Ranking: 40			Land Type: NAVAJO
Operator: TEXACO			

PREVIOUS ACTIVITIES

Site Assessment: Jun-94	Excavation: Aug-94 (110 cy)	Re-Excavation: Nov-95 (272 cy)
Soil Boring: Feb-97	Monitor Well: Feb-97	

The pit was excavated to 12 feet below ground surface (bgs) and a soil sample was collected from the excavation bottom. The soil headspace reading from the excavation bottom was 422 ppm. Soil analytical were as follows: benzene - <0.25 mg/kg, total BTEX - 33 mg/kg, TPH - 1,680 mg/kg.

The pit was re-excavated to approximately 19 feet bgs, and a soil sample was collected from the excavation bottom. The soil headspace reading from the excavation bottom was 251 ppm. Soil analytical were as follows: benzene - <0.5 mg/kg, total BTEX - 129 mg/kg, TPH - 2,840 mg/kg.

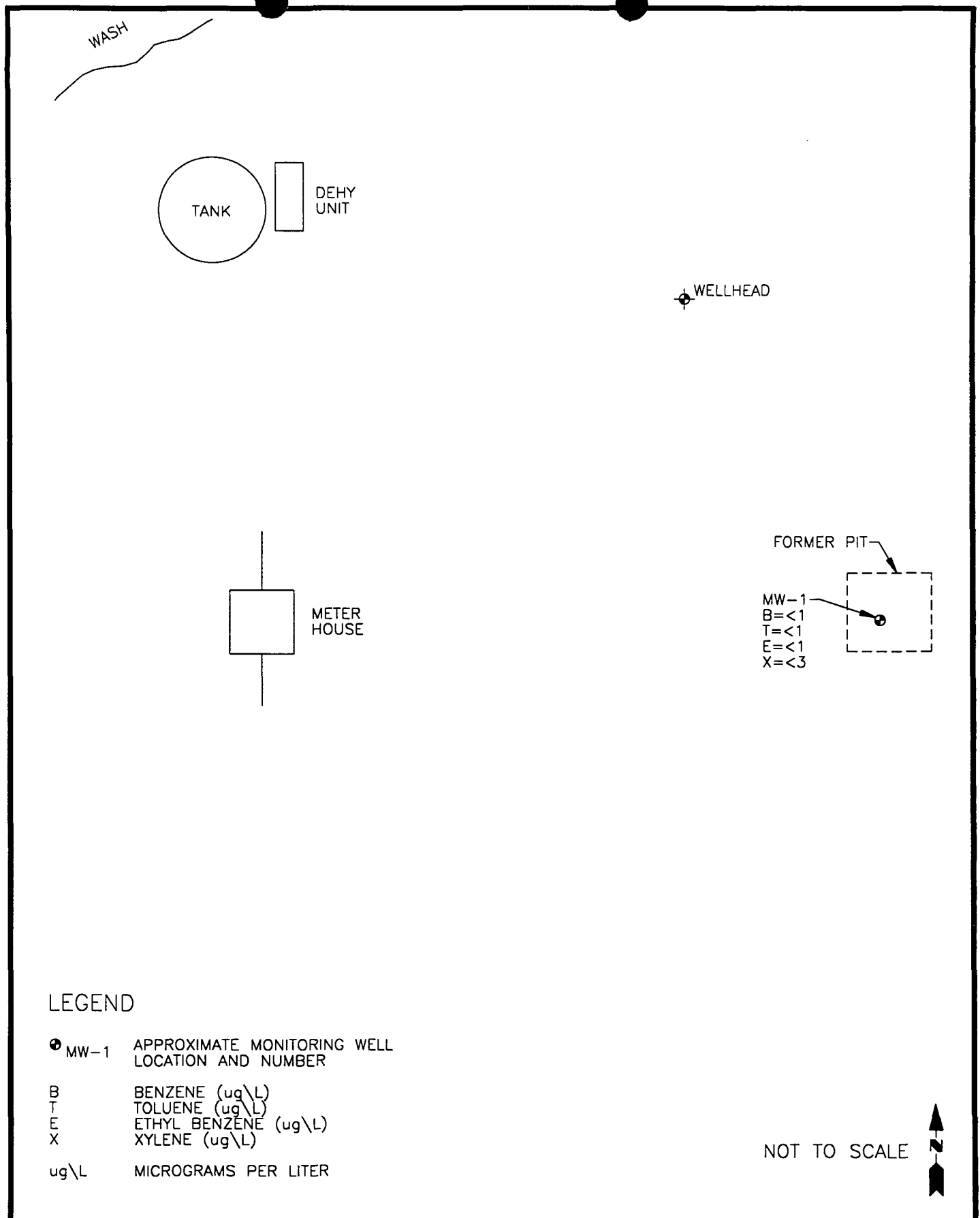
A soil boring was drilled in the center of the former pit, and a monitoring well was installed. Groundwater monitoring was initiated at MW-1, and samples were collected on a quarterly basis.

CONCLUSIONS

Groundwater samples have been below standards since quarterly sampling was initiated. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

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



COL. 17520AM-001



TITLE:

JOHN CHARLES #8

93126

DWN:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
1/14/98	0

PROJECT NO.:	17520
EPFS GW PITS	
FIGURE 1	

FIELD PIT SITE ASSESSMENT FORM

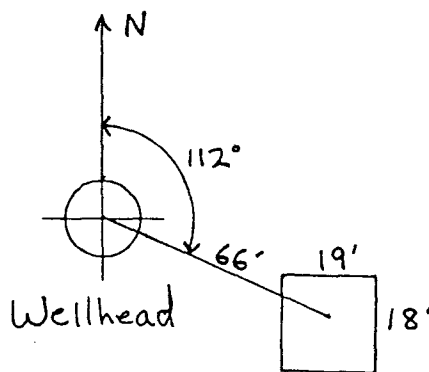
3

GENERAL	Meter: <u>93126</u> Location: <u>John Charles #8</u> Operator #: <u>0263</u> Operator Name: <u>Texaco</u> P/L District: <u>Ballard</u> Coordinates: Letter: <u>B</u> Section <u>13</u> Township: <u>27N</u> Range: <u>9W</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____ Site Assessment Date: <u>6-17-94</u> Area: <u>11</u> Run: <u>62</u>
SITE ASSESSMENT	NMOCD Zone: (From NMOCD Maps) Inside ☒ (1) Outside ☐ (2) Land Type: BLM ☐ (1) State ☐ (2) Fee ☐ (3) Indian <u>A Eastern Navajo Agency</u> 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>Blanco Wash</u> (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds) Distance to Nearest Ephemeral Stream ☒ (1) <u>KGW 6-17-94</u> < 100' (Navajo Pits Only) ☒ (2) > 100' TOTAL HAZARD RANKING SCORE: <u>40</u> POINTS
REMARKS	Remarks : <u>Two pits - one with tank. Dehy pit is dry</u> <u>Inside V.Z. on Redline & Topo</u>

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 112 Footage from Wellhead 66
b) Length : 19 Width : 18 Depth : 3



REMARKS

Remarks :

Photos 1118

Completed By:

A handwritten signature in black ink, appearing to read 'L. H. H.', is written over a horizontal line.

Signature

6-17-94

Date

EPFS Groundwater Pits
1997 Annual Groundwater Report

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970212	93126	John Charles #8	3/13/97	1	Phase II Drilling - Initial	< 1	= 13.3	= 2.8	= 54.3	= 71
970560	93126	John Charles #8	6/12/97	1	Sample 4 - 1st Qtr	< 1	< 1	= 1	= 4.01	= 4
971006	93126	John Charles #8	9/19/97	1	Sample 4 - 2nd Qtr	< 1	< 1	= 1	= 5.9	= 6
971274	93126	John Charles #8	12/5/97	1	Sample 4 - 3rd Qtr	< 1	< 1	= 1	= 3	= 6

PHASE I EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>93126</u> Location: <u>John Charles #8</u> Coordinates: Letter: <u>B</u> Section <u>13</u> Township: <u>27</u> Range: <u>9</u> Or Latitude _____ Longitude _____ Date Started : <u>8-4-94</u> Run: <u>11</u> <u>62</u>
FIELD OBSERVATIONS	Sample Number(s): <u>KP 168</u> Sample Depth: <u>12'</u> Feet Final PID Reading <u>422</u> PID Reading Depth <u>12'</u> Feet Yes No Groundwater Encountered ☐ ☒ Approximate Depth _____ Feet
CLOSURE	Remediation Method : Excavation ☒ Approx. Cubic Yards <u>110</u> Onsite Bioremediation ☐ Backfill Pit Without Excavation ☐ Soil Disposition: Envirotech ☒ ☐ Tierra Other Facility ☐ Name: _____ Pit Closure Date: <u>8-4-94</u> Pit Closed By: <u>B.E.I</u>
REMARKS	Remarks : <u>Some Line markers started Remediating to 12'</u> <u>Soil turned DARK gray with A smell. At 12' soil still the</u> <u>SAME DARK gray with bad smell. closed pit.</u>
	Signature of Specialist: <u>Kelly Padilla</u>

CHAIN OF CUSTODY RECORD

TEST NUMBER		PROJECT NAME		REQUESTED ANALYSIS		SAMPLE TYPE		TOTAL NUMBERS OF CONTAINERS		REMARKS	
357		Plt Closure Project # 24324		EPA 418.1 TPH		EPA 8020 BTEX		EPA 418.1 BTEX		EPA 8020 BTEX	
DATE		DATE		DATE		DATE		DATE		DATE	
8-4-94		8-4-94		8-4-94		8-4-94		8-4-94		8-4-94	
ID	DATE	TIME	MATRIX	SAMPLE NUMBER	SAMPLE TYPE	TPH	BTEX	EPA 8020	REMARKS		
8494	8-4-94	1120	soil	KP 151	VC	X	X	X	KP 8494		
8494	8-4-94	1525	soil	KP 167	VC	X	X	X			
8494	8-4-94	1525	soil	KP 168	VC	X	X	X			
TESTED TURNAROUND TIME: ☐ RUSH TESTED BY: (Signature) <u>[Signature]</u> DATE/TIME: 8494 1710 RECEIVED BY: (Signature) <u>[Signature]</u> DATE/TIME: 8494 1710 RECEIVED BY: (Signature) <u>[Signature]</u>											
TESTED TURNAROUND TIME: ☐ RUSH TESTED BY: (Signature) <u>[Signature]</u> DATE/TIME: 8494 1710 RECEIVED BY: (Signature) <u>[Signature]</u> DATE/TIME: 8494 1710 RECEIVED BY: (Signature) <u>[Signature]</u>											



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

Field ID

Lab ID

SAMPLE NUMBER:

KP 168

945836

MTR CODE | SITE NAME:

93126

N/A

SAMPLE DATE | TIME (Hrs):

8-4-94

1525

SAMPLED BY:

N/A

DATE OF TPH EXT. | ANAL.:

8/9/94

8/9/94

DATE OF BTEX EXT. | ANAL.:

8/11/94

8/11/94

TYPE | DESCRIPTION:

VC

Brown Grey Sand

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	0.25	MG/KG	10			
TOLUENE	0.25	MG/KG	10			
ETHYL BENZENE	1.2	MG/KG	10			
TOTAL XYLENES	31	MG/KG	10			
TOTAL BTEX	33	MG/KG				
TPH (418.1)	1680	MG/KG			2.05	28
HEADSPACE PID	422	PPM				
PERCENT SOLIDS	93.1	%				

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

Surrogate Recovery was at

112

% for this sample

All QA/QC was acceptable.

ative:

ATC results attached.

DF = Dilution Factor Used

Approved By:

T.P.

Date:

9/2/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 408339
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	945835	NON-AQ	08/04/94	08/11/94	08/11/94	10
02	945836	NON-AQ	08/04/94	08/11/94	08/11/94	10
03	945837	NON-AQ	08/04/94	08/11/94	08/11/94	10

PARAMETER	UNITS	01	02	03
BENZENE	MG/KG	0.38	<0.25	<0.25
TOLUENE	MG/KG	26	<0.25	<0.25
ETHYLBENZENE	MG/KG	<0.25	1.2	<0.25
TOTAL XYLENES	MG/KG	4.7	31	270

SURROGATE:

BROMOFLUOROBENZENE (%)	71	112	425*
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*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. 408339

August 25, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 08/10/94, 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.

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

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure

QUALITY CONTROL REPORT
PH by Modified 418.1 by Infrared

Date of Analysis: August 4, 1994

23 Samples

LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES NO
INITIAL CALIBRATION VERIF. "B" Heavy Oil (Lot MOR9480)	HORIBA	300	311	104	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES NO
945815	2nd Extract	395	445	11.9	X
945817	2nd Extract	888	861	3.09	X
945828	2 nd Extract	696	563	21.1	X

Narrative : Acceptable.

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SA)MG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES NO
945815	2790	395	3790	122	X
945817	2930	888	3470	88.1	X
945828	3230	696	4140	107	X

Narrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
ERA TPH STANDARD #1 LOT # 91026	ENVIRONMENTAL RESOURCE ASS.	1340	1610	804 - 1680	X
ERA TPH STANDARD #2 w/int LOT # 91026	ENVIRONMENTAL RESOURCE ASS.	2590	3160	1550 - 3240	X

Narrative: Acceptable.

LABORATORY REAGENT BLANK:

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

Narrative: Acceptable.

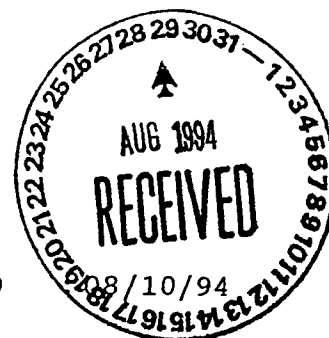
Approved By: 

Date: 6-Aug-94

Extracted: 8/04/94



Analytical Technologies, Inc.



CLIENT : EL PASO NATURAL GAS CO.

DATE RECEIVED

PROJECT # : 24324

PROJECT NAME : PIT CLOSURE

REPORT DATE : 08/25/94

ATI ID: 408339

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	945835	NON-AQ	08/04/94
02	945836	NON-AQ	08/04/94
03	945837	NON-AQ	08/04/94
04	945838	NON-AQ	08/04/94
05	945839	NON-AQ	08/04/94
06	945840	NON-AQ	08/04/94
07	945850	NON-AQ	08/05/94
08	945851	NON-AQ	08/05/94
09	945852	NON-AQ	08/05/94
10	945853	NON-AQ	08/05/94
11	945854	NON-AQ	08/05/94
12	945855	NON-AQ	08/05/94
13	945856	NON-AQ	08/05/94
14	945862	NON-AQ	08/08/94
15	945863	NON-AQ	08/08/94
16	945864	NON-AQ	08/08/94
17	945865	NON-AQ	08/08/94
18	945866	NON-AQ	08/08/94

---TOTALS---

MATRIX
NON-AQ

#SAMPLES
18

ATI STANDARD DISPOSAL PRACTICE

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



Analytical **Technologies**, Inc.

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



ATI I.D. 408339 /

August 25, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 08/10/94, 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.

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

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure



Analytical Technologies, Inc.

GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : EL PASO NATURAL GAS CO. ATI I.D. : 408339
PROJECT # : 24324 SAMPLE MATRIX : NON-AQ
PROJECT NAME : PIT CLOSURE UNITS : MG/KG

PARAMETER	ATI I.D.	SAMPLE RESULT	DUP. RESULT	RPD	SPIKED SAMPLE	SPIKE CONC.	% REC
PETROLEUM HYDROCARBONS	40833907	<20	<20	NA	170	150	113

Accepted.
8/29/94

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

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



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

REAGENT BLANK

TEST	: BTEX (EPA 8020)	ATI I.D.	: 408339
BLANK I.D.	: 081194	MATRIX	: NON-AQ
CLIENT	: EL PASO NATURAL GAS CO.	DATE EXTRACTED	: 08/11/94
PROJECT #	: 24324	DATE ANALYZED	: 08/12/94
PROJECT NAME	: PIT CLOSURE	DILUTION FACTOR	: 1

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

SURROGATE:

BROMOFLUOROBENZENE (%)	93
------------------------	----

Acceptable.
J
8/29/94



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

TEST : BTEX (EPA 8020)
MSMSD # : 40833906 ATI I.D. : 408339
CLIENT : EL PASO NATURAL GAS CO. DATE EXTRACTED : 08/11/94
PROJECT # : 24324 DATE ANALYZED : 08/11/94
PROJECT NAME : PIT CLOSURE SAMPLE MATRIX : NON-AQ
REF. I.D. : 40833906 UNITS : MG/KG

PARAMETER	SAMPLE RESULT	CONC SPIKE	SPIKED SAMPLE	% REC	DUP SPIKE	DUP % REC	RPD
BENZENE	<0.025	1.0	0.84	84	0.88	88	5
TOLUENE	<0.025	1.0	0.87	87	0.90	90	3
ETHYLBENZENE	<0.025	1.0	0.83	83	0.86	86	4
TOTAL XYLENES	<0.025	3.0	2.5	83	2.6	87	4

Acceptable
8/29/94

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

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

Analytical Technologies, Inc., Albuquerque, NM
San Diego ■ Phoenix ■ Seattle ■ Pensacola ■ Ft. Collins ■ Portland ■ Albuquerque

San Diego ■ Phoenix ■ Seattle ■ Pensacola ■ Ft. Collins ■ Portland ■ Albuquerque

ATILAB I.D.

DATE: 8/9/94 PAGE 1 OF 2

PROJECT MANAGER: JOHN LAMB DIN

COMPANY: EL PASO NATURAL GAS

ADDRESS: P.O. BOX 4990

FARMINGTON, NM 87499

PHONE: (505) 599-2144

FAX: (505) 599-7261

BILL TO: SAME AS ABOVE

COMPANY:

ADDRESS:

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
945835	8/4/94	1120	soil	01
945834	↑	1525	↑	02
945837	↓	1030		03
945838	↓	1215		04
945839	↓	1415		05
945840	8/4/94	1440		06
945850	8/5/94	0845		07
945851	8/5/94	0930		08
945852	8/5/94	1155	soil	09

[illegible]

PROJECT INFORMATION		SAMPLE RECEIPT	
PROJ. NO.: 24324		NO. CONTAINERS	9
PROJ. NAME: PIT CLOSURE		CUSTODY SEALS	DN/NA
P.O. NO.: 38822		RECEIVED INTACT	Y
SHIPPED VIA: FEDERAL EXPRESS		RECEIVED COLD	Y 20C

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☐ 72hr ☒ 1 WEEK (NORMAL) ☐ 2 WEEK

Comments: 72.0

CHARGE CODE: 50% 108-51570-24-0001-0012-31-2010
50% 108-52452-24-0001-0012-31-2010

COA/XC ON PROJECT SAMPLES

SAMPLED & RELINQUISHED BY: 1.		RELINQUISHED BY: 2.		RELINQUISHED BY: 3.	
Signature:	Time:	Signature:	Time:	Signature:	Time:
Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
Company:	Phone:	Company:		Company:	

RECEIVED BY: 1.		RECEIVED BY: 2.		RECEIVED BY: (LAB) 3.	
Signature:	Time:	Signature:	Time:	Signature:	Time:
Printed Name:	Date:	Printed Name:	Date:	Printed Name:	Date:
Company:		Company:		Company:	

- 1001 279 4004 - Portland 15071 501 00077 - Alhambra 15051 200 2777
 DISTRICTION - White Canyon - AT - Pink - OCEANATION

CHAIN OF CUSTODY

DATE: 8/19/94 PAGE 2 OF 2

ATILAB I.D. 408339

PROJECT MANAGER: JOHN LAMBDIN

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

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID
9458 53	8/5/94	1230	soil	10
9458 54	↑	1340	↑	11
9458 55	↓	1023	↓	12
9458 56	8/5/94	1233	↓	13
9458 62	8/8/94	0930	↓	14
9458 63	↑	1423	↓	15
9458 64	↓	0905	↓	16
9458 65	↓	1140	↓	17
9458 66	8/8/94	1510	soil	18

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

PROJECT INFORMATION

PROJ. NO.: 24324

PROJ. NAME: PIT CLOSURE

P.O. NO.: 38822

SHIPPED VIA: FEDERAL EXPRESS

PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS

(RUSH) ☐ 24hr ☐ 48hr ☒ 72hr (NORMAL) ☐ 2 WEEK

Comments: CHARGE CODE: 50% 108-51570-24-0001-0012-31-2010
50% 108-52452-24-0001-0012-31-2010

QA/QC ON PROJECT SAMPLES 7210

SAMPLED & RELINQUISHED BY:

1. RELINQUISHED BY: Signature: [Signature] Time: 11:05
Printed Name: Kim Kirby Date: 8/19/94
Company: EL PASO NATURAL GAS

2. RELINQUISHED BY: Signature: [Signature] Time: [Time]
Printed Name: [Name] Date: [Date]
Company: [Company]

3. RECEIVED BY: Signature: [Signature] Time: [Time]
Printed Name: [Name] Date: [Date]
Company: [Company]

RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

GENERAL

Meter: 93126 Location: John Charles #8

Coordinates: Letter: B Section 13 Township: 27N Range: 9W

Or Latitude _____ Longitude _____

Date Started : 11/14/95 Area: 11 Run: 62

FIELD OBSERVATIONS

Sample Number(s): JK 133

Sample Depth: 19' Feet

Final PID Reading 251.0 PID Reading Depth 19' Feet
Yes No

Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth _____ Feet

Final Dimensions: Length 20' Width 20' Depth 19'

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 272 ^{12/1/95} _{yr}

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Overburden Cubic Yards 90 _{yr}

Soil Disposition:

Envirotech ☒ (1) ☐ (3) Tierra

Other Facility ☐ (2) Name: _____

Pit Closure Date: 11-18-95 Pit Closed By: Philip

REMARKS

Remarks : Pit PID Readings (N-10.3) (E-3.2) (E-26.0) (W-2.5)
Less Than 100' From Ephemeral stream
No fence No EPN6 on site

Signature of Specialist: James K. Kelly



CHAIN OF CUSTODY RECORD

of

TO: **FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499**



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JK133	947776
MTR CODE SITE NAME:	93126	John Charles #8
SAMPLE DATE TIME (Hrs):	11-14-95	0913
PROJECT:	Phase I Navajo	
DATE OF TPH EXT. ANAL.:	11/15/95	
DATE OF BTEX EXT. ANAL.:	11/15/95	11/15/95
TYPE DESCRIPTION:	VG	Dark gray sand & clay

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	< 0.5	MG/KG				
TOLUENE	4.8	MG/KG				
ETHYL BENZENE	13.6	MG/KG				
TOTAL XYLENES	111	MG/KG	5	D		
TOTAL BTEX	129	MG/KG				
TPH (418.1)	2840	MG/KG			2.05	28
HEADSPACE PID	251	PPM				
PERCENT SOLIDS	91.7	%				

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

The Surrogate Recovery was at
arrative:

107%/94%

for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Approved By:

Date:

11/15/95

QUALITY CONTROL REPORT

TPH by Modified 418.1 by Infrared

Date of Analysis: November 15, 1995

6 Pit Samples

LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

SAMPLE ID	SOURCE	TRUE VALUE (PPM)	FOUND (MG/KG)	%R	ACCEPTABLE RANGE 75-125 %R YES NO
INITIAL CALIBRATION VERIF. "B" Heavy Oil (Lot M3G9616)	HORIBA	300	346	115	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT (S)MG/KG	DUPLICATE RESULT (D)MG/KG	RPD	ACCEPTABLE RANGE + / - 35% YES NO
947773	2nd Extract	128	166	25.85	X

Narrative : Acceptable.

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED (SA)MG/KG	SAMPLE RESULT (S)MG/KG	SPIKE SAMPLE RESULT (SR)MG/KG	%R	ACCEPTABLE RANGE 75-125 %R YES NO
947773	2450	128	2730	106	X

Narrative: Acceptable.

REFERENCE SOIL (Laboratory Control Sample):

SAMPLE ID	SOURCE	KNOWN VALUE (MG/KG)	SAMPLE RESULT FOUND (MG/KG)	MFG SPECIFIED RANGE	ACCEPTABLE YES NO
ERA TPH STANDARD #1 LOT # 91030	ENVIRONMENTAL RESOURCE ASS.	2920	3350	1900 - 3360	X
ERA TPH STANDARD #2 w/int LOT # 91030	ENVIRONMENTAL RESOURCE ASS.	1150	1170	750 - 1320	X

Narrative: Acceptable.

LABORATORY REAGENT BLANK:

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

Narrative: Acceptable.

Approved By:

[Signature]

Date: 16-Nov-95

Extracted: 11/15/95

EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 947772 thru 947777

QA/QC for 11/15/95 Sample Set

LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	XR	ACCEPTABLE	
					YES	NO
ICV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	49.0	98.0	75 - 125 %	X
Toluene	Standard	50.0	45.1	90.2	75 - 125 %	X
Ethyl benzene	Standard	50.0	44.4	88.8	75 - 125 %	X
m & p - Xylene	Standard	100	85.4	85.4	75 - 125 %	X
o - Xylene	Standard	50.0	42.9	85.8	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	25.1	100.4	39 - 150	X
Toluene	Standard	25.0	23.1	92.4	46 - 148	X
Ethyl benzene	Standard	25.0	21.9	87.6	32 - 160	X
m & p - Xylene	Standard	50.0	42.8	85.6	Not Given	X
o - Xylene	Standard	25.0	21.1	84.4	Not Given	X
CCV1 LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	47.0	94.0	75 - 125 %	X
Toluene	Standard	50.0	43.0	86.0	75 - 125 %	X
Ethyl benzene	Standard	50.0	42.1	84.2	75 - 125 %	X
m & p - Xylene	Standard	100	80.2	80.2	75 - 125 %	X
o - Xylene	Standard	50.0	40.7	81.4	75 - 125 %	X
CCV2 LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	46.4	92.8	75 - 125 %	X
Toluene	Standard	50.0	42.6	85.2	75 - 125 %	X
Ethyl benzene	Standard	50.0	41.9	83.8	75 - 125 %	X
m & p - Xylene	Standard	100	79.6	79.6	75 - 125 %	X
o - Xylene	Standard	50.0	40.6	81.2	75 - 125 %	X
CCV3 LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	48.4	96.8	75 - 125 %	X
Toluene	Standard	50.0	44.6	89.2	75 - 125 %	X
Ethyl benzene	Standard	50.0	43.6	87.2	75 - 125 %	X
m & p - Xylene	Standard	100	82.5	82.5	75 - 125 %	X
o - Xylene	Standard	50.0	41.8	83.6	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	ACCEPTABLE	
					YES	NO
947772					RANGE	
Benzene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X
Toluene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X
Ethyl benzene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X
m & p - Xylene	Extraction Dup	<5.0	<5.0	0	+/- 35 %	X
o - Xylene	Extraction Dup	<2.5	<2.5	0	+/- 35 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	ACCEPTABLE	
					YES	NO
NA					RANGE	
Benzene	Extraction Dup			0	+/- 35 %	NA
Toluene	Extraction Dup			0	+/- 35 %	NA
Ethyl benzene	Extraction Dup			0	+/- 35 %	NA
m & p - Xylene	Extraction Dup			0	+/- 35 %	NA
o - Xylene	Extraction Dup			0	+/- 35 %	NA

Narrative:

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	ACCEPTABLE	
					YES	NO
947772					RANGE	
Benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X
Toluene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X
Ethyl benzene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X
m & p - Xylene	Matrix Duplicate	<5.0	<5.0	0	+/- 35 %	X
o - Xylene	Matrix Duplicate	<2.5	<2.5	0	+/- 35 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE NUMBER	TYPE	SAMPLE RESULT PPM ug/L	DUPLICATE RESULT PPM ug/L	RPD	ACCEPTABLE	
					YES	NO
NA					RANGE	
Benzene	Matrix Duplicate			0	+/- 35 %	NA
Toluene	Matrix Duplicate			0	+/- 35 %	NA
Ethyl benzene	Matrix Duplicate			0	+/- 35 %	NA
m & p - Xylene	Matrix Duplicate			0	+/- 35 %	NA
o - Xylene	Matrix Duplicate			0	+/- 35 %	NA

Narrative:

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	XR	ACCEPTABLE	
					YES	NO
947772	50.00				RANGE	
Benzene	50.0	<2.5	46.6	93.2	75 - 125 %	X
Toluene	50.0	<2.5	43.0	86.0	75 - 125 %	X
Ethyl benzene	50.0	<2.5	42.1	84.2	75 - 125 %	X
m & p - Xylene	100.0	<5.0	80.4	80.4	75 - 125 %	X
o - Xylene	50.0	<2.5	40.7	81.4	75 - 125 %	X

LABORATORY SPIKES:

SAMPLE NUMBER	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%	ACCEPTABLE	
					YES	NO
NA	50.00				RANGE	
Benzene	50.0			0.0	75 - 125 %	NA
Toluene	50.0			0.0	75 - 125 %	NA
Ethyl benzene	50.0			0.0	75 - 125 %	NA
m & p - Xylene	100.0			0.0	75 - 125 %	NA
o - Xylene	50.0			0.0	75 - 125 %	NA

Narrative:

ADDITIONAL ANALYTICAL BLANKS:

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

Narrative: Acceptable.

SAMPLE ID SOIL VIAL BLANK	SOURCE Lot H12151, A2	PPB (Not analyzed with this batch)	STATUS
Benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Toluene	Vial + Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	Vial + Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID EXTRACTION BLANK	SOURCE 1115 Ext. Blk	PPB	STATUS
Benzene	Methanol	<2.5	ACCEPTABLE
Toluene	Methanol	<2.5	ACCEPTABLE
Ethyl benzene	Methanol	<2.5	ACCEPTABLE
Total Xylenes	Methanol	<7.5	ACCEPTABLE

Narrative: Acceptable.

SAMPLE ID Carryover contamination checks	SOURCE	NARRATIVE (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<2.5	NA
Toluene	Vial + Boiled Water	<2.5	NA
Ethyl benzene	Vial + Boiled Water	<2.5	NA
Total Xylenes	Vial + Boiled Water	<7.5	NA

Narrative: Acceptable.

SAMPLE ID METHANOL CHECK	SOURCE Lot # H18318	PPB (Not analyzed with this set)	STATUS
Benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Toluene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Ethyl benzene	MeOH/Boiled Water	<2.5	ACCEPTABLE
Total Xylenes	MeOH/Boiled Water	<7.5	ACCEPTABLE

Narrative: Acceptable.

Approved By:



Date: 16-Nov-95

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road

Farmington, New Mexico 87401

(505) 326-2262 FAX (505) 326-2388

Borehole # BH- 1

Well #

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6001.77

Project Location JOHN CHARLES #8-93126

Elevation

Borehole Location Ltr B-S13-T27 R 9

GWL Depth 31' BGS

Logged By D Cesark

Drilled By M Donohue

Date/Time Started 2-12-97 / 1400 / 230

Date/Time Completed / / 1400

Well Logged By D Cesark

Personnel On-Site D. Charley

Contractors On-Site

Client Personnel On-Site

Drilling Method 4 1/4" ID HSA

Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM			Drilling Conditions & Blow Counts
							BZ	BH	S	
0										< TIME 7
5										
10				BACKFILL						
15				TO						
19'										
20				SILTY SAND, SAND-SILT MIX, HC STAINING (DARK GRAY), STRONG HC ODOR. MED. DENSE.	SM					726/1147 2130S
25	1	23'-25'	24"							
30	2	28'-30'	18"	CLAYEY SAND, SAND-CLAY MIX HC STAINING (DARK GRAY), STRONG HC ODOR.	SC					330/1117 2131S
35				OVER-DRILLED 10' TO COMPLETE WELL.						
40				TD=41'						

Comments:

GW ENCOUNTERED @ 31' BGS. LAST SAMPLE COLLECTED @ 28'-30' BGS WAS HIGHLY CONTAMINATED. THEREFORE, NO LAB SAMPLE WAS SUBMITTED. BORING OVER-DRILLED 10' TO COMPLETE WELL TO SPECS. PLEASE REFER TO MW INSTALL RECORD.

Geologist Signature

[Signature]

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc.

4000 Monroe Rd.

Farmington, NM 87401

(505) 326-2262 FAX (505) 326-2388

Elevation

Well Location LTR B/S13/T27/R9

GWL Depth 31' BGS

Installed By M. DONOHUE

Date/Time Started 2-12-97 / +2301400

Date/Time Completed " / 1700

Borehole # 1

Well # 1

Page 1 of 1

Project Name

EPFS GW PITS

Project Number

17520

Phase 6002-77

Site Location

JOHN CHARLES #8

93126

On-Site Geologist

D. CESARK

Personnel On-Site

D. CHARLEY

Contractors On-Site

Client Personnel On-Site

Depths in Reference to Ground Surface

Item	Material	Depth (feet)
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		N/A
Bottom of Permanent Borehole Casing		N/A
Top of Concrete		
Bottom of Concrete		
Top of Grout		-0-
Bottom of Grout	Grout	-20'
Top of Well Riser	PVC	+3'
Bottom of Well Riser	PVC	-25'
Top of Well Screen	PVC	-25'
Bottom of Well Screen	PVC	-40'
Top of Peltonite Seal	BENTONITE	-20'
Bottom of Peltonite Seal	BENTONITE	-22'
Top of Gravel Pack	SAND	-22'
Bottom of Gravel Pack	SAND	-41'
Top of Natural Cave-In	SAND	-40'
Bottom of Natural Cave-In	SAND	-41'
Top of Groundwater		-31'
Total Depth of Borehole		-41'

Top of Protective Casing

Top of Riser

Ground Surface

+3'

-0-

Top of Seal

-20'

Top of Gravel Pack

-22'

Top of Screen

-25'

Bottom of Screen

-40'

Bottom of Borehole

-41'

Comments:

Geologist Signature

**1997 GROUNDWATER
ANALYTICAL**

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 3059

Project Name EPF3 GWPTS						Type of Analysis and Bottle		Total Number of Bottles	BTEX	Comments
Project Number 17520		Phase Task 6003 . 77								
Samplers J. Long		Name EPH								
Laboratory		Location Farmington NM								
Sample Number (and depth)	Date	Time	Matrix							
JAL T.RIPBLANK	3-10-97	1115	WATER	X					ONE VIA TOO OLD HEADSPACE PRESENT	
JAL 140' / 6.01	3-10-97	1245	WATER	X					TWO VIA TOO OLD HEADSPACE PRESENT	
JZL 08506'-01	3-10-97	1610	WATER	X						
JEL T.RIPBLANK	3-11-97	1000	WATER	X						
JZL-L0153'-01	3-11-97	1045	WATER	X						
JZL-95210.01	3-11-97 ⁹⁷	1325	WATER	X						
JAL 75220.01	3-11-97 ⁹⁷	1530	WATER	X						
JZL T.RIPBLANK	3-12-97	1150	WATER	X					AIR BUBBLE	
JAL 71676'-01	3-12-97	1155	WATER	X						
JZL T.RIPBLANK	3-13-97	1000	WATER	X						
JAL 77016.01	3-13-97	1010	WATER	X						

Relinquished by:

Received By:

[illegible]

Samples Iced: ☒ Yes ☐ No Preservatives (ONLY for Water Samples) ☐ Cyanide Sodium hydroxide (NaOH) ☒ Volatile Organic Analysis Hydrochloric acid (HCl) ☐ Metals Nitric acid (HNO ₃) ☐ TPH (418.1) Sulfuric acid (H ₂ SO ₄) ☐ Other (Specify) _____ ☐ Other (Specify) _____	Carrier: <i>Hand Delivered</i> Shipping and Lab Notes: <i>Rec'd - Cool and in -TET</i> <i>JK</i>	Airbill No.
---	--	-------------



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

(505) 326-2262 Phone
(505) 326-2388 FAX

COC Serial No. C 3060

Project Name <u>EPFS G.W. PITS</u>		Type of Analysis and Bottle		Comments
Project Number <u>17520</u> Phase Task <u>6003.77</u>		Total Number of Bottles		
Samplers <u>J. Long</u>	Laboratory <u>Name ELP250</u>	Location <u>Farmington</u>		
Sample Number (and depth)	Date	Time	Matrix	
<u>SAL 93.2601</u>	<u>3-13-97</u>	<u>1220</u>	<u>WATER</u>	
(B) 17520				

Relinquished by:

Received By:

Signature <u>[Signature]</u>	Date <u>3-13-97</u>	Time <u>1430</u>	Signature <u>[Signature]</u>	Date <u>3/13/97</u>	Time <u>1435</u>
------------------------------	---------------------	------------------	------------------------------	---------------------	------------------

Samples Iced: ☒ Yes ☐ No

Preservatives (ONLY for Water Samples)

- ☐ Cyanide Sodium hydroxide (NaOH)
☒ Volatile Organic Analysis Hydrochloric acid (HCl)
☐ Metals Nitric acid (HNO₃)
☐ TPH (418.1) Sulfuric acid (H₂SO₄)
☐ Other (Specify) _____
☐ Other (Specify) _____

Carrier:

Hand Delivered

Shipping and Lab Notes:

Reid - Cool and in TACT

Airbill No.



EL PASO FIELD SERVICES



5-22-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL 93126-01	970212
MTR CODE SITE NAME:	93126	John Charles #8
SAMPLE DATE TIME (Hrs):	3/13/97	1220
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	3/15/97	3/15/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	13.3	PPB				
ETHYL BENZENE	2.80	PPB				
TOTAL XYLENES	54.3	PPB				
TOTAL BTEX	70.4	PPB				

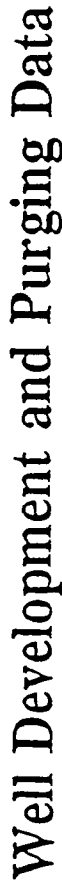
The Surrogate Recovery was at 98.7 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

4/5/97



☒ Development
☐ Purging

Page _____ of _____

Project No. 17520

Phase.Task No. 6003, 77

Water Volume Calculation

Initial Depth of Well (feet)

Mineral Deposit of Well (1980)

Initial Depth to Water (feet) 31.65

Diameter (inches):	Well	Gravel Pack
	4	4

Water Volume in Well	
----------------------	--

water volume in well	Gallons to be

Item	Cubic Feet	Gallons	Removed
------	------------	---------	---------

Well Casing	11/2	25
-------------	------	----

Water Disposal

Si + ifunogm
announced & dumped KITT Sept-27 ✓

[illegible]

Comments

Date 3.15.97

Reviewer

Date _____



Water Sampling Data

Location No. MW01Serial No. WSD-Group List Number Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 3-13-97Project Name RPPS Gw P105Project No. 17520Project Manager Cork ChancePhase/Task No. 0003 72Site Name John Charles #8 (93126)

Sampling Specifications

Requested Sampling

Depth Interval (feet) 0-3'

Requested Wait Following

Development/Purging (hours)

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 10Initial Water Depth (feet) 31.65Nonaqueous Liquids Present (Describe)

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/ cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	
See	well	Purging & Development				Sheet						

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)
Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; A = NaOH; O = Other (Specify); - = None

Sample Containers

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
Brea	2	G	40			H	X		JAL 9312601 T1220

Filter Type Chain-of-Custody Form Number C 3000Comments Signature Date 3-13-97Reviewer Date



A 2011

[illegible]



6-23-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970560
MTR CODE SITE NAME:	93126	John Charles #8 MW-1
SAMPLE DATE TIME (Hrs):	6/12/97	1324
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	6/13/97	6/13/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	4.01	PPB				
TOTAL BTEX	4.01	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.0 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Smith

Date:

6-23-97



6-23-97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970560
DATE SAMPLED:	06/12/97
TIME SAMPLED (Hrs):	1324
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	93126
SAMPLE SITE NAME:	John Charles #8
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.8	Units	06/13/97
Alkalinity as CO ₃	0.0	PPM	06/13/97
Alkalinity as HCO ₃	372	PPM	06/13/97
Calcium as Ca	255	PPM	06/13/97
Magnesium as Mg	20	PPM	06/13/97
Total Hardness as CaCO ₃	718	PPM	06/13/97
Chloride as Cl	50	PPM	06/13/97
Sulfate as SO ₄	1,660	PPM	06/13/97
Fluoride as F	1.5	PPM	06/13/97
Nitrate as NO ₃ -N	<0.3	PPM	06/13/97
Nitrite as NO ₂ -N	<0.3	PPM	06/13/97
Ammonium as NH ₄ ⁺	<0.1	PPM	06/13/97
Phosphate as PO ₄	<0.3	PPM	06/13/97
Potassium as K	1.9	PPM	06/13/97
Sodium as Na	658	PPM	06/13/97
Total Dissolved Solids	2,920	PPM	06/13/97
Conductivity	3,520	umhos/cm	06/13/97
Anion/Cation %	1.0%	%, < 5.0 Accepted	06/20/97

Lab Remarks:

Reported By:

Inda

Approved By:

John Larch

Date:

6-23-97



7-21-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970560
SAMPLE DATE:	06/12/97
SAMPLE TIME (Hrs):	1324
SAMPLED BY:	N/A
MATRIX:	Water
METER CODE:	93126
SAMPLE SITE NAME:	John Charles #8
SAMPLE POINT:	MW-1

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.029	0.100
BARIUM	0.18	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.011	0.050
LEAD	0.003	0.050
MERCURY	<0.0002	0.002
SELENIUM	<.005	0.050
SILVER	0.0011	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By:

mds

Approved By:

John F. Landon

Date:

7/17/97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970560
Date Reported: 07/16/97

LABORATORY CONTROL SAMPLE

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	96.6%
Barium	0.062	0.065	95.7%
Cadmium	0.0025	0.0024	104%
Chromium	0.0049	0.0048	103%
Lead	0.033	0.030	111%
Mercury	0.0043	0.0046	93.2%
Selenium	0.038	0.041	94.3%
Silver	0.0051	0.0043	118%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.181	0.183	1.1%
Cadmium	ND	ND	NA
Chromium	0.0166	0.0153	8.2%
Lead	0.0065	0.0069	6.2%
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	0.0003	0.0004	8.7%

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.001	0.126	0.100	118%
Barium	0.183	1.253	1.00	107%
Cadmium	ND	0.0103	0.010	103%
Chromium	0.017	0.065	0.050	97.0%
Lead	0.007	0.054	0.050	94.4%
Mercury	ND	0.0018	0.0020	90.0%
Selenium	ND	0.053	0.050	101%
Silver	0.0003	0.0539	0.050	107%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.027
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.002
Mercury	ND	0.0002
Selenium	ND	0.011
Silver	ND	0.0005

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: rmh

Approved By: John L. Ladd

Date: 7/17/97



EL PASO FIELD SERVICES

Well Development and Purging Data

Site Name JERRY CHARLES #8

☐ Development
☒ Purging

Well Number 11W-1

Meter Code 93126

Development Criteria

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

Methods of Development

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

☐ Other

Water Volume Calculation

Initial Depth of Well (feet) 42.80
Initial Depth to Water (feet) 31.81
Height of Water Column in Well (feet) 10.99

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>7.3</u>	<u>21.8</u>
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer			Increment	Cumulative	Increment	Cumulative					
6-12-97	1205									18.0	6.80	3610		
6-12-97	1212					5.0	5.0			17.1	7.13	3480		
6-12-97	1219					5.0	10.0			17.0	7.13	3470		
6-12-97	1226					5.0	15.0			17.3	7.20	3520		
6-12-97	1233					5.0	20.0			17.0	7.23	3440		
6-12-97	1241					5.0	25.0			16.9	7.18	3440		
6-12-97	1248					5.0	30.0			16.5	7.22	3430	1.5	

Comments

Developer's Signature Dennis Bird

Date 6-12-97

Reviewer

[Signature]

Date 6-23-97



SAMPLE 4 2ND QTR

A 2087

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Requested Analysis		Preservation Technique		Type and No. of Sample Containers	Remarks	
MC# 93126								
Date: 9-19-97								
Samplers: (Signature)	Dennis Bird							
Date	Time	Comp.	GRAB	Sample Number				
9/19/97	1313		X	971006	G-1 4°C	X	JOHN CHARLES #8 MW-1	
9/19/97	1313		X	971007 FD	G-1 4°C	X	JOHN CHARLES #8 MW-1	
[The following rows are crossed out with a diagonal line]								
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		
Dennis Bird		9/19/97 1536						
Relinquished by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Remarks:		
				Mason Hopper		9/22/97 b72.5		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)				



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971006
MTR CODE SITE NAME:	93126	John Charles #8
SAMPLE DATE TIME (Hrs):	9/19/97	1313
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	9/24/97	9/24/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	5.90	PPB				
TOTAL BTEX	6	PPB				

—BTEX is by EPA Method 8020 —

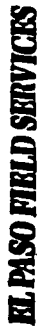
The Surrogate Recovery was at 91.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John Feller

Date: 9/29/97

971006BTEXMW,9/25/97



Well Development and Purging Data

Well Number MW-1

Meter Code 93126

Site Name JOHN CHARLES #8

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 Dennis Bird

Date: 9-19-97 Reviewer:

John Stella

Date 9/29/97

Water Volume Calculation

Initial Depth of Well (feet) 42.80
Initial Depth to Water (feet) 31.82
Height of Water Column in Well (feet) 11.18

Diameter (inches) Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		74	32.7
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

Water Disposal
K072 SEPARATOR



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971274
MTR CODE SITE NAME:	93126	John Charles #8
SAMPLE DATE TIME (Hrs):	12/5/97	1140
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	12/9/97	12/9/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	<6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 92.7 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

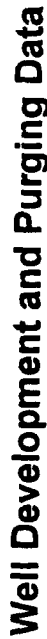
Approved By:

John Fuller

Date:

12/18/97

971274BTEXMW,12/10/97



☐	Development
☒	Purging

Well Number 11W-1
Meter Code 93/26

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 43.80
Initial Depth to Water (feet) 31.66
Height of Water Column in Well (feet) 11.14
Diameter (inches): Well 4 Gravel Pack

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other DO-C

Methods of Development

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

□

Water Removal Data

[illegible]

Comments

Developer's Signature Lennie Bied

Date 12-5-97 Reviewer _____

Lot - Twelve

Date 12/18/97