

3R - 143

REPORTS

DATE:

1998



Certified Mail: #Z 211 324 121

March 31, 1999

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

RECEIVED
APR 05 1999
ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

RE: 1998 Pit Project Annual Groundwater Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for the 49 remaining groundwater impacted locations that were identified during our pit closure project of 1994 / 1995.

Of the 49 reports, EPFS hereby requests closure of 18 of these locations. The 18 sites EPFS is requesting closure on are presented in 4 separate binders entitled "Final Closure Report for Groundwater Sites with Four Consecutive Quarters Below Standards".

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".

If you have any questions concerning the enclosed reports or closure requests, please call me at (505) 599-2124.

Sincerely,

A handwritten signature in black ink, appearing to read 'Scott T. Pope'.

Scott T. Pope P.G.
Senior Environmental Scientist

xc: Mr. Denny Foust, NMOCD, Aztec - w / enclosures; **Certified Mail # Z 211 324 122**
Mr. Bill Liesse, BLM - w / enclosures; **Certified Mail # Z 211 324 123**
Ms. Charmaine Tso, Navajo EPA - w / enclosures; **Certified Mail # Z 211 324 120**

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services
Final Closure Report For Groundwater Sites With Four
Consecutive Quarters Below Standards

RECEIVED

APR 05 1999

December 1998

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520
Book 1



EPFS GROUNDWATER PITS 1998 CLOSURE REPORT

2C-22 #3 LINE DRIP
Meter/Line ID - LD104

RECEIVED

APR 05 1999

SITE DETAILS

Legals - Twn: 24N Rng: 6W Sec: 13 Unit: G
NMOCD Hazard Ranking: 60 Land Type: FEDERAL
Operator: EL PASO FIELD SERVICES

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

PREVIOUS ACTIVITIES

Site Assessment: Jul-94 Excavation: Sep-94 (160 cy) Re-Excavation: Oct-95 (1,164cy)
Soil Boring: Mar-97 Monitor Well: Mar-97

The pit was excavated to 12 feet beneath ground surface (bgs) and a composite soil sample was collected from the excavation bottom. Approximately 160 cubic yards of impacted soil were removed during excavation. The headspace soil reading from the excavation bottom was 423 ppm. Soil analytical were as follows; benzene - 4.90 mg/kg, total BTEX - 610 mg/kg, TPH (418.1) - 3840 mg/kg.

The pit was re-excavated to 21 feet bgs where groundwater was encountered. One composite soil sample was collected from the excavation. Approximately 1,164 cubic yards of contaminated soil were removed from the excavation. The final headspace reading from the excavation bottom was 425 ppm. Soil analytical were as follows; benzene - Non Detect, total BTEX - 77.1 mg/kg, and TPH TPH (418.1) - 862 mg/kg. A water sample was collected at 21 feet bgs. Water analytical were as follows: benzene - 75.5 ppb; toluene - 1510 ppb; ethyl benzene - 155 ppb; and, total xylenes - 4100 ppb. The water sample collected during the Phase II excavation was collected from water observed in the open pit. This water was contaminated by soil excavation activities and is not reflective of actual groundwater conditions since the water came into contact with known contaminated soils.

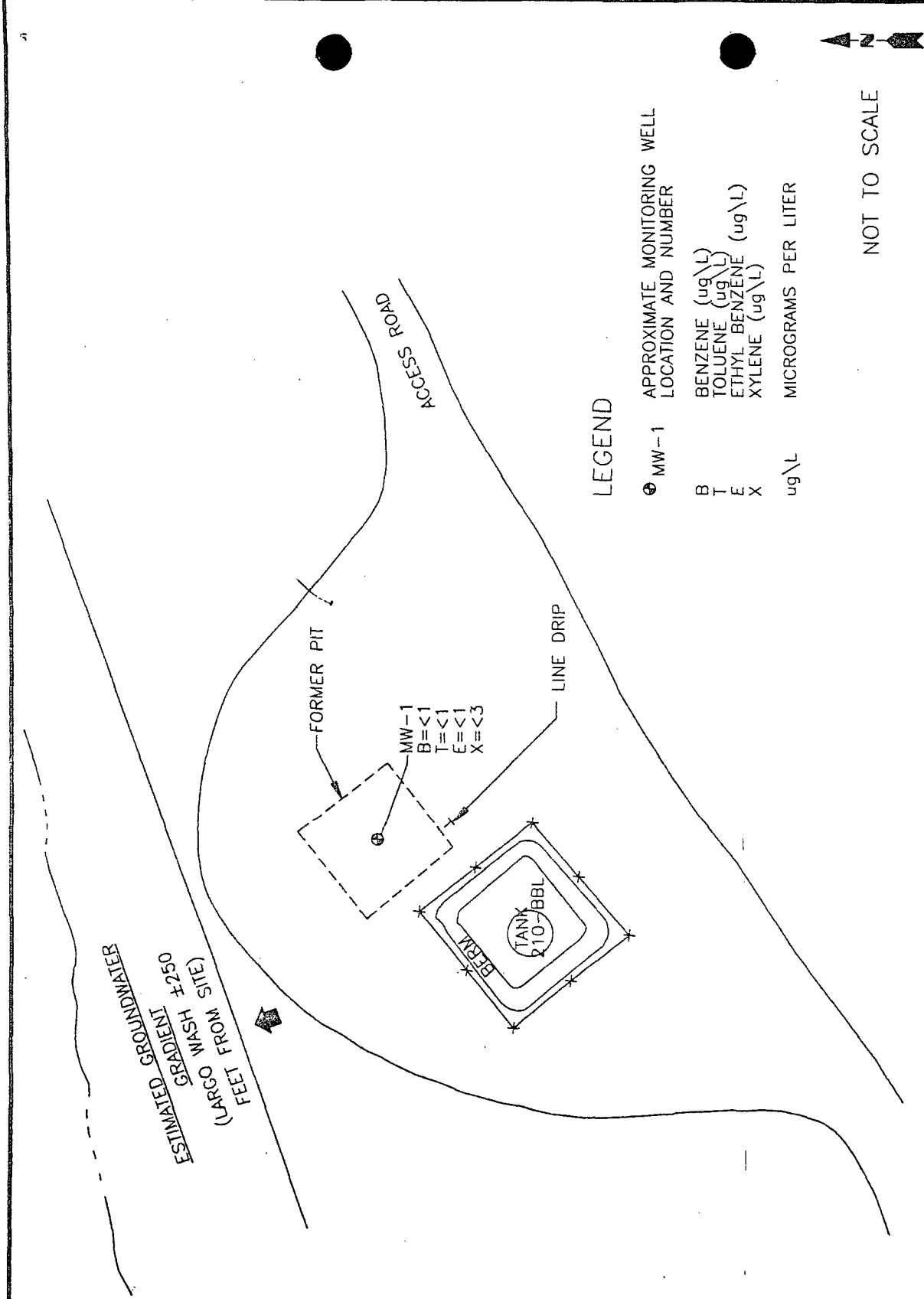
One soil boring was drilled in the center of the former pit and a monitoring well was installed. No soil samples were collected. Quarterly groundwater monitoring was initiated on 6/3/97 and continued through 3/17/98. Groundwater analytical data are presented in Table 1. Groundwater analytical data collected prior to 1998 has been previously submitted in the 1997 Annual Report.

CONCLUSIONS

Groundwater analytical data has been below standards for 4 consecutive quarters since quarterly sampling was initiated indicating minimal impact to groundwater.

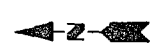
RECOMMENDATIONS

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



LEGEND

- ⊕ MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER
- B BENZENE (ug\L)
- T TOLUENE (ug\L)
- E ETHYL BENZENE (ug\L)
- X XYLENE (ug\L)
- ug\L MICROGRAMS PER LITER



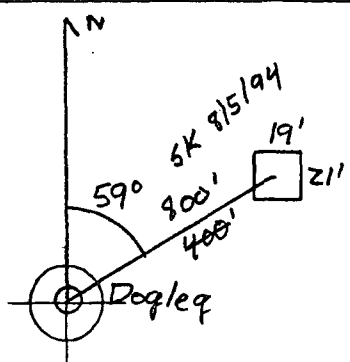
NOT TO SCALE

PHILIP SERVICES CORP.	TITLE: LATERAL 2C-22 NO. 3 LINE DRIP LD104		DWN: TMM	DES.: CC	PROJECT NO.: 17520
			CHKD: CC	APPD:	EPFS GW PITS
			DATE: 11/4/97	REV.: 0	FIGURE 1

LD104

FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>N/A</u> Location: <u>ZC-ZZ #3 Line Drip</u> Operator #: <u>N/A</u> Operator Name: <u>EPNG</u> P/L District: <u>Ballard</u> Coordinates: Letter: <u>G</u> Section <u>13</u> Township: <u>24</u> Range: <u>6</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator _____ Location Drip: _____ Line Drip: <u>X</u> Other: _____ Site Assessment Date: <u>7/29/94</u> Area: <u>07</u> Run: <u>61-01 & F1</u>	
SITE ASSESSMENT	NMOCD Zone: (From NMOCD Maps) Inside ☒ (1) Outside ☐ (2) Land Type: BLM ☒ (1) State ☐ (2) Fee ☐ (3) Indian _____ Depth to Groundwater Less Than 50 Feet (20 points) ☒ (1) 50 Ft to 99 Ft (10 points) ☐ (2) Greater Than 100 Ft (0 points) ☐ (3) Wellhead Protection Area : Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? ☒ (1) YES (20 points) ☐ (2) NO (0 points) Horizontal Distance to Surface Water Body Less Than 200 Ft (20 points) ☒ (1) 200 Ft to 1000 Ft (10 points) ☐ (2) Greater Than 1000 Ft (0 points) ☐ (3) Name of Surface Water Body <u>Large Wash</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>60</u> POINTS	
REMARKS	Remarks : <u>Redline Book - Outside Vulnerable Zone - Inside</u> <u>One pit, pit has liquid in it, will close one pit.</u>	

ORIGINAL PIT LOCATION	5K 7/2 Dogleg 800 Wellhead 400 ORIGINAL PIT LOCATION Original Pit : a) Degrees from North <u>59°</u> Footage from Wellhead <u>400</u> b) Length : <u>19'</u> Width : <u>21'</u> Depth : <u>4'</u> 
	REMARKS : <u>Pictures @ 1155 (1-3, Roll 1)</u> <u>Dump Truck</u> <u>Measurement and bearing taken from CL-85 Dogleg</u> <u>Footage to Dogleg is approximate.</u>
Completed By: <u>Sarah Kelly</u> Signature <u>7/29/94</u> Date	

PHASE I EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>N/A</u> Location: <u>2C-22#3 line Drip</u> Coordinates: Letter: <u>6</u> Section <u>13</u> Township: <u>24</u> Range: <u>6</u> Or Latitude _____ Longitude _____ Date Started : <u>9-2-94</u> Run: <u>07</u> <u>61-01+ F1</u> <u>9/6/94</u> <u>RL</u>
FIELD OBSERVATIONS	Sample Number(s): <u>NK 301</u> Sample Depth: <u>12'</u> Feet Final PID Reading <u>423</u> PID Reading Depth <u>12'</u> Feet Yes No Groundwater Encountered ☐ ☒ Approximate Depth _____ Feet
CLOSURE	Remediation Method : Excavation ☒ Approx. Cubic Yards <u>160</u> Onsite Bioremediation ☐ Backfill Pit Without Excavation ☐ Soil Disposition: Envirotech ☒ ☐ Tierra Other Facility ☐ Name: _____ Pit Closure Date: <u>9-2-94</u> Pit Closed By: <u>BEI</u>
REMARKS	Remarks : <u>PIT Had about 3' Feet of water in it</u> <u>Soil went from black to gray back to black again</u> <u>at sample depth</u>
	Signature of Specialist: <u>Morgan Killion</u>



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	MK301	946051
MTR CODE SITE NAME:	LD104	Lat 2C-22 #3 Line Drip
SAMPLE DATE TIME (Hrs):	09/02/94	1215
PROJECT:	Phase I	
DATE OF TPH EXT. ANAL.:	09/06/94	09/06/94
DATE OF BTEX EXT. ANAL.:	09/13/94	09/14/94
TYPE DESCRIPTION:	VC	Brown sand

Field Remarks: (split)

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	O	M(g)	V(ml)
BENZENE	4.90	MG/KG				
TOLUENE	196	MG/KG				
ETHYL BENZENE	32.3	MG/KG				
TOTAL XYLENES	377	MG/KG				
TOTAL BTEX	610	MG/KG	0.0377		0.53	20
TPH (418.1)	3840	MG/KG			2.20	28
HEADSPACE PID	423	PPM				
PERCENT SOLIDS	88.3	%				

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

The Surrogate Recovery was at 112 % for this sample All QA/QC was acceptable.
Positive:

Unformed analysis. Surrogate recovery was outside ATI QC limits due to matrix interference.

DF = Dilution Factor Used

Approved By:

John Funder

Date:

7/19/96

[illegible]



Analytical **Technologies**, Inc.

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

ATI I.D. 409322

September 15, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 09/07/94, 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.

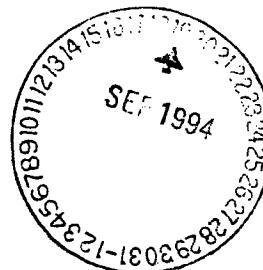
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jt

Enclosure





Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 409322
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	946046	NON-AQ	09/01/94	09/11/94	09/11/94	20
02	946047	NON-AQ	09/01/94	09/11/94	09/11/94	1
03	946051	NON-AQ	09/02/94	09/11/94	09/11/94	20
PARAMETER			UNITS	01	02	03
BENZENE			MG/KG	1.2	<0.025	0.52
TOLUENE			MG/KG	27	<0.025	140
ETHYLBENZENE			MG/KG	12	<0.025	20
TOTAL XYLENES			MG/KG	100	<0.025	260

SURROGATE:

BROMOFLUOROBENZENE (%) 76 97 60*

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

Split Sample



Analytical **Technologies**, Inc.

GENERAL CHEMISTRY RESULTS

CLIENT : EL PASO NATURAL GAS CO. ATI I.D. : 409322
PROJECT # : 24324 DATE RECEIVED : 09/07/94
PROJECT NAME : PIT CLOSURE DATE ANALYZED : 09/08/94

PARAMETER	UNITS	03
PETROLEUM HYDROCARBONS, IR	MG/KG	7300

EPNG Sample #946051
Split Sample

PHASE II EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

GENERAL

Meter: N/A Location: 2C-22^{#3} Line Drip
 Coordinates: Letter: G Section 13 Township: 24 Range: 06
 Or Latitude _____ Longitude _____
 Date Started : 10-31-95 Area: 07 Run: 61-014F1

LD OBSERVATIONS

Sample Number(s): 4P77 4P78
 Sample Depth: 21 Feet
 Final PID Reading 425 PID Reading Depth 21 Feet
 Yes No
 Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 16 Feet
 Final Dimensions: Length 49 Width 48 Depth 21

CLOSURE

Remediation Method :
 Excavation ☒ (1) Approx. Cubic Yards 1164 LT 11/3/95
 Onsite Bioremediation ☐ (2)
 Backfill Pit Without Excavation ☐ (3)
 Soil Disposition: Overburden Cubic Yards 59 LT 11/3/95
 Envirotech ☒ (1) ☐ (3) Tierra
 Other Facility ☐ (2) Name: _____
 Pit Closure Date: 11-1-95 Pit Closed By: Philip Env.

MARKS

Remarks : Dug to 21 ft. pulled bottom sample PID was 37 ppm
Encountered groundwater at 18 ft. Dug out pit Took Wall
PID's N wall 8 ppm S wall 400 ppm E wall 6 ppm W wall 32 ppm
Composite sample was 425 ppm called O&A. over ->

Signature of Specialist: James Y. [Signature]



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	947711
FIELD ID:	JP78
MTR CODE:	LD104
SAMPLE DATE:	10/31/95
SAMPLE TYPE:	W
SITE NAME:	Lat 2C-22 #3 Line Drip
PROJECT:	Phase III Excavation
DATE OF BTEX ANALYSIS:	11/01/95

FIELD COMMENTS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WQCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	Not Required		None
BENZENE (PPB)	75.5	D (10)	10
TOLUENE (PPB)	1510	D (10)	740
ETHYL BENZENE (PPB)	155	D (10)	750
TOTAL XYLENES (PPB)	4100	D (10)	620
SURROGATE % RECOVERY	88	Allowed Range 80 to 120 %	

Approved By:

John Linder

7/19/96



Page _____ of _____

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

PHASE III SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

Monroe Road
 Alton, New Mexico 87401
 (505) 326-2262 FAX (505) 326-2388

Borehole # BH-2
 Well # 1
 Page 1 of 1

Project Name EPFS GW PITS
 Project Number 17520 Phase 600277
 Project Location 2C-22 #3 LINE DRIP - L0104

Elevation _____
 Borehole Location T24 R6 - S13 - Ltr G
 GWL Depth 10' BGS
 Logged By D CESARK
 Drilled By K PADILLA
 Date/Time Started 3/27/97 - 0900
 Date/Time Completed " - 1000

Well Logged By D CESARK
 Personnel On-Site ~~D CESARK~~, C MAZ
 Contractors On-Site JAMES KIRBY
 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										
5				BACKFILL						
10				TO						
15				21'						
20				GWC 16' BGS						
25				HIGHLY CONTAM. SOIL						
30				TD = 27.5'						
35										
40										

Comments: ENCOUNTERED GW C 16' BGS. OVER-DRILLED + SET GW MW-1. HIGHLY
CONTAM. SOIL TO TD. NO SAMPLES COLLECTED. PLEASE REFER TO MW
INSTALLATION RECORD.

Geologist Signature

[Signature]

Philip Environmental Services, Inc.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # 2
Well # 1
Page 1 of 1

Project Name EPFS GW PITS
Project Number 17520 Phase 6005.77
Site Location 2C-22 #3 LINE DRIP- LD104

Elevation _____
Well Location T24N-R6W-S13-L 6'
GWL Depth 16' BGS
Installed By R PADILLA

On-Site Geologist D. CESARK
 Personnel On-Site ~~D. CESARK~~, C. MAIZ
 Contractors On-Site J. KIRBY
 Client Personnel On-Site _____

Date/Time Started 3/27/97 - 0000
Date/Time Completed - 1130

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	CEMENT	-2'
Bottom of Grout	"	-6'
Top of Well Riser	SCH 40 PVC	+3'
Bottom of Well Riser	"	-11'
Top of Well Screen	1010 SLOT	-11'
Bottom of Well Screen	"	-26'
Top of Peltonite Seal	ENVIROPLUG	-6'
Bottom of Peltonite Seal	"	-8'
Top of Gravel Pack	10-20 S. SAND	-8'
Bottom of Gravel Pack	"	-26'
Top of Natural Cave-In		-26'
Bottom of Natural Cave-In		-27.5'
Top of Groundwater		-16'
Total Depth of Borehole		-37.5'

Top of Protective Casing +3'

Top of Riser +3'

Ground Surface 0'

Top of Seal -6'

Top of Gravel Pack -8'

Top of Screen -11'

Bottom of Screen -26'

Bottom of Borehole -27.5'

Comments:

Well Development and Purging Data

~~Development~~
~~Purging~~

Well Number MW-1

Serial No. WDPD.

Page 1 of 1

Project Name

GW PITS

Project Manager

Project No. 17520

Client Company

EPFS

Phase.Task No. 6003, 77

Site Name 2C-22 #3 LINE DEEP - LD/04

LD104

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 26' BGS
Initial Depth to Water (feet) 12' BGS
Height of Water Column in Well (feet) 14'

Methods of Development

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

Instruments

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

Serial No. (If applicable)

Water Disposal

Water Removal Data

[illegible]

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

Comments FIRST 2 BAILERS CLEAR SLIGHTLY MUDDY THEREAFTER. LITTLE SILT / SAND REMOVED. DID NOT BAIL WELL DRY. NO EVIDENCE OF PETRO. HCS.

Developer's Signature(s)

Date: 4/10/97

Reviewer _____

Date _____

Date _____



Water Sampling Data

Location No. MW-1Serial No. WSD-Group List Number Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 4/10/97Project Name EPFS GW PITS Project No. 17520Project Manager C CHANCE Phase/Task No. 6003.77Site Name 2C-22 #3 LINE DRIP — LD104

Sampling Specifications

Requested Sampling
Depth Interval (feet)
Requested Wait Following
Development/Purging (hours)

Initial Measurements

Time Elapsed From Final Development/Purging (hours)
Initial Water Depth (feet)
Nonaqueous 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)	Final Water Depth (feet)	

Sample Containers

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

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No	
EPA 8020 BTEX	3	G/VV	40		X	Y	X		DRC 35 — MW-1
"	1	"	"				X		DRC 33 — TRIP BLANK

Water Type Chain-of-Custody Form Number Comments * PLEASE REFER TO WELL DEVELOPMENT + PURGING DATA FORM.Signature [Signature] Date 4/10/97 Reviewer Date



4-24-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC35	970268
MTR CODE SITE NAME:	LD104	2C-22 #3 Line Drip
SAMPLE DATE TIME (Hrs):	4/10/97	1350
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	4/11/97	4/11/97
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	3.78	PPB				
TOTAL BTEX	3.78	PPB				

The Surrogate Recovery was at 99.3 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

4/16/97

970268,4/16/97



PHASE II DRILLING - INITIUM - WATER SAMPLING

Page 3

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[illegible]

QUARTERLY MONITORING

6

for

Sample #	Meter/ Line #	Site Name	Sample Date	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	S7	Total BTEX PPB
970268 *	LD104	2C-22 #3 Line Drip	4/11/97	Phase II Drilling - Initial	<	1	<	1	<	1	=	3.78	=	4
970522 *	LD104	2C-22 #3 Line Drip	6/3/97	Sample 4 - 1st Qtr	<	1	<	1	<	1	<	3	<	6
971000 *	LD104	2C-22 #3 Line Drip	9/18/97	Sample 4 - 2nd Qtr	<	1	<	1	<	1	<	3	<	6
971296 *	LD104	2C-22 #3 Line Drip	12/11/97	Sample 4 - 3rd Qtr	<	1	<	1	<	1	<	3	<	6
980235	LD104	2C-22 #3 Line Drip	3/17/98	Sample 4 - 4th Qtr	<	1	<	1	<	1	<	3	<	6

* Analytical reports provided to NMOCD in prior annual report.

SAMPLE 4 4THGR



Elioso
Natural Gas Company

4-11-98 4-2-98 4-3-98
CPL 4-2-98 Pdb
CPL 4-3-98 Cdn.

A 2619

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Requested Analysis				Remarks							
Samplers: (Signature)		Type and No. of Sample Containers	Preservation Technique	Requested Analysis		Remarks							
Date	Time	Comp.	GRAB	Sample Number									
DATE 3-17-98	1403	X		980735	5-1 40C X	2C-72 #3 DRIP K-1 MW-1							
Relinquished by: (Signature)		Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)							
Dennis Bied		3-17-98 1648											
Relinquished by: (Signature)		Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)							
Relinquished by: (Signature)		Date/Time	Received for Laboratory by: (Signature)	Remarks:									
			Man E. Hopper	3/19/98 1315									
Carrier Co:	Carrier Phone No.		Date Results Reported / by: (Signature)										
Air Bill No.:													



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980235
MTR CODE SITE NAME:	LD104	2C-22 #3 Line Drip Y-1
SAMPLE DATE TIME (Hrs):	3/17/98	1403
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	3/23/98	3/23/98
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 104.0 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Latta

Date:

3/25/98

980235BTEXMW, 3/25/98



Well Number 9W-1
Meter Code LD104

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) 30.10
Initial Depth to Water (feet) 15.45
Height of Water Column in Well (feet) 14.65

Diameter (inches): Well _____ Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		9.7	29.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

K072 SEPARA70R

Water Removal Data

[illegible]

Comments

Developer's Signature

Jermis Bird

Date 3-11-98 Reviewer _____

John Foubler

Date _____

3/25/98



QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980232, 980234, 980235, 980240 to 980246

QA/QC for 3/23/98 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
ICV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	52.3	104.6	75 - 125 %	X
Toluene	Standard	50.0	53.3	107	75 - 125 %	X
Ethylbenzene	Standard	50.0	54.1	108	75 - 125 %	X
m & p - Xylene	Standard	100	108.9	108.9	75 - 125 %	X
o - Xylene	Standard	50.0	53.5	107	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	26.6	106.6	39 - 150	X
Toluene	Standard	25.0	27.2	109	46 - 148	X
Ethylbenzene	Standard	25.0	27.5	110	32 - 160	X
m & p - Xylene	Standard	50.0	55.9	112	Not Given	X
o - Xylene	Standard	25.0	27.2	109	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	52.3	104.7	75 - 125 %	X
Toluene	Standard	50.0	53.1	106.2	75 - 125 %	X
Ethylbenzene	Standard	50.0	54.4	108.8	75 - 125 %	X
m & p - Xylene	Standard	100	109.6	109.6	75 - 125 %	X
o - Xylene	Standard	50.0	53.3	107	75 - 125 %	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	52.2	104.4	75 - 125 %	X
Toluene	Standard	50.0	52.7	105.4	75 - 125 %	X
Ethylbenzene	Standard	50.0	53.8	107.6	75 - 125 %	X
m & p - Xylene	Standard	100	108.4	108.4	75 - 125 %	X
o - Xylene	Standard	50.0	52.8	105.7	75 - 125 %	X

Narrative: Acceptable.

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	51.9	103.9	75 - 125 %	X
Toluene	Standard	50.0	51.9	103.9	75 - 125 %	X
Ethylbenzene	Standard	50.0	52.1	104.1	75 - 125 %	X
m & p - Xylene	Standard	100	105.0	105.0	75 - 125 %	X
o - Xylene	Standard	50.0	51.9	103.8	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
					RANGE	
980232						
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 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 980232						
Benzene	50	<1	52.7	105.4	75 - 125 %	X
Toluene	50	<1	53.3	107	75 - 125 %	X
Ethylbenzene	50	<1	54.6	109	75 - 125 %	X
m & p - Xylene	100	<2	110.0	110.0	75 - 125 %	X
o - Xylene	50	<1	53.4	107	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (4 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 (none 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 (none 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	SOURCE	PPB (4 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: CFU

Approved By: John L. Linder

Date: 3/25/98