

Denny E. Faust
**EPFS GROUNDWATER PITS
DEPUTY OIL & GAS INSPECTOR
1998 CLOSURE REPORT**

AUG 16 1999

**CANYON LARGO UNIT #304
Meter/Line ID - 93788**

RECEIVED
APR - 2 1999

SITE DETAILS

**Legals - Twn: 24N Rng: 6W Sec: 11
NMOCD Hazard Ranking: 60
Operator: MERRION OIL AND GAS CORP.**

**Unit: C
Land Type: FEDERAL**

**OIL CON. DIV.
DIST. 3**

PREVIOUS ACTIVITIES

**Site Assessment: Jul-94
Soil Boring: Aug-95**

**Excavation: Aug-94 (160 cy)
Monitor Well: Apr-97**

Re-Excavation: Oct-95 (856 cy)

The pit was excavated to 12 feet beneath ground surface (bgs) and a composite soil sample was collected from the excavation bottom and four walls. Approximately 160 cubic yards of impacted soil was removed during excavation. The headspace soil reading from the excavation bottom was 187 ppm. Soil analytical was as follows; benzene - <0.5 mg/kg, total BTEX - 79 mg/kg, TPH (418.1) 13,400 mg/kg.

One soil boring was drilled in the center of the former pit to 22 feet bgs. Groundwater was encountered at approximately 17.5 bgs and a soil sample was collected at 15-17 feet bgs. Soil analytical was as follows; benzene - 5 mg/kg, total BTEX - 35.1 mg/kg, TPH (418.1) - 377 mg/kg.

The pit was re-excavated to 20 feet bgs and another composite soil sample was collected from the excavation bottom and four walls. Approximately 856 additional cubic yards of impacted soil were removed during excavation. The headspace soil reading from the excavation bottom was 360 ppm. Prior to closing the excavation, 50 pounds nitrogen enriched fertilizer was added to the excavation to aid in natural bio-degradation of residual hydrocarbons. Soil analytical was as follows; benzene - <0.5 mg/kg, total BTEX - <3 mg/kg, TPH (418.1) 643 mg/kg.

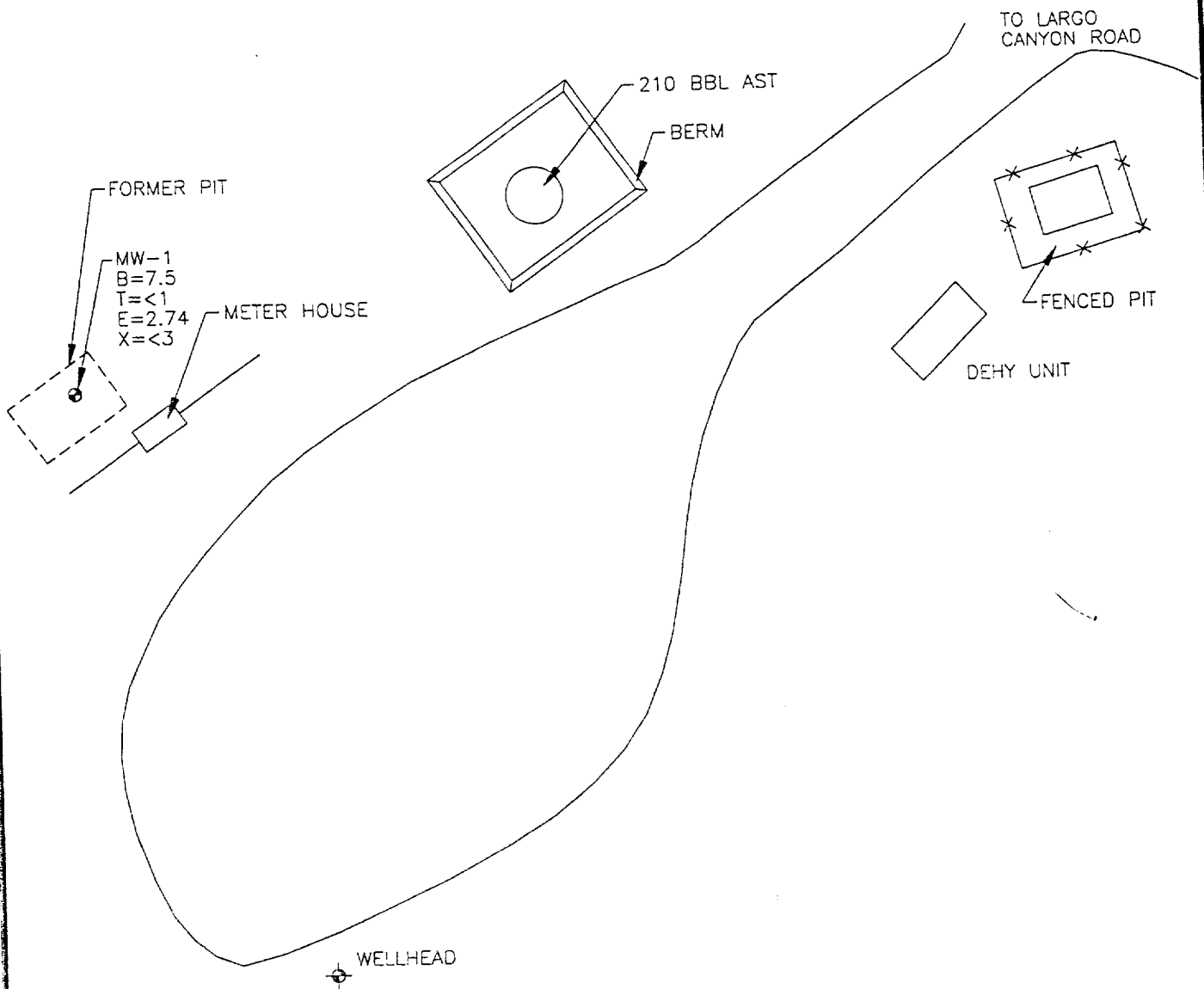
After re-excavation, a monitoring well was installed in the center of the former pit. Quarterly groundwater monitoring was initiated on 6/03/97 and continued through 3/17/98. Groundwater analytical data are presented in Table 1. Groundwater analytical data prior to 1998 has been previously submitted in the 1997 Annual Report.

CONCLUSIONS

Initial groundwater sampling after monitoring well installation indicated benzene to be slightly above standards at 21 ppb. Subsequent quarterly sampling events have shown all BTEX compounds to be below standards, 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



COL 1752048-001



TITLE:
CANYON LARGO UNIT #304
93788

DWN:
TMM
CHKD:
CC
DATE:
1/14/98

DES.:
CC
APPD:
REV.:
0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

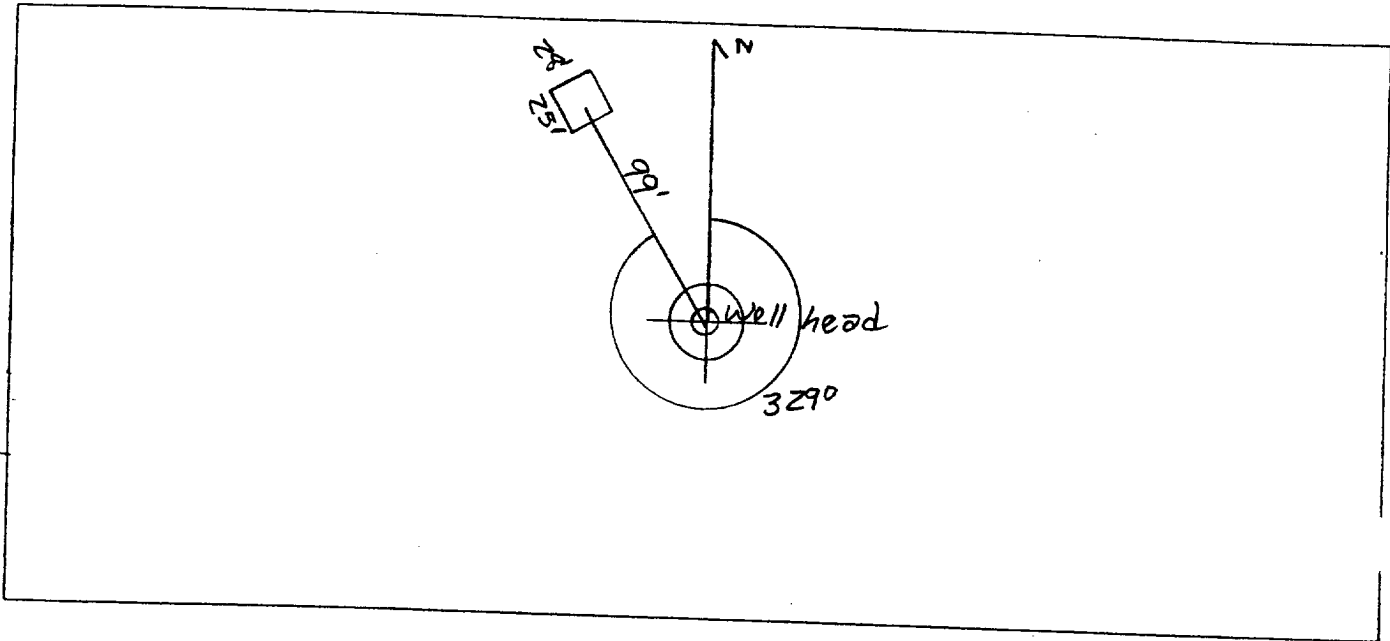
FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>93-788</u> Location: <u>Canyon Largo unit 304</u> Operator #: <u>5997</u> Operator Name: <u>Mediation</u> P/L District: <u>Ballard</u> Coordinates: Letter: <u>C</u> Section <u>11</u> Township: <u>24</u> Range: <u>6</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator _____ Location Drip: <u>X</u> Line Drip: _____ Other: _____ Site Assessment Date: <u>07/07/94</u> Area: <u>07</u> Run: <u>72</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>Largo 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</u> Vulnerable Zone Type - <u>Inside</u> <u>Two pits on site, pit has liquid in it, will close one pit.</u> <u>DIG & HAUL</u>

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 329° Footage from Wellhead 99'
 b) Length : 28' Width : 25' Depth : 4'

ORIGINAL PIT LOCATION



REMARKS

Remarks :

Pictures @ 13:16 (22-25) (Roll 2)

Dump Truck

Notified Ballard Dist. of liquid in pit on 7/8/94.

Completed By:

Mark Kelly
 Signature

7/7/94
 Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 93788 Location: Canyon Largo unit 304
 Coordinates: Letter: C Section 11 Township: 24 Range: 6
 Or Latitude _____ Longitude _____
 Date Started : 8/30/94 Run: 07 72

FIELD OBSERVATIONS

Sample Number(s): MK 299
 Sample Depth: 12 Feet
 Final PID Reading 187 PID Reading Depth 12 Feet
 Yes No
 Groundwater Encountered ☐ ☐ Approximate Depth _____ Feet

CLOSURE

Remediation Method :
 Excavation ☒ Approx. Cubic Yards 160
 Onsite Bioremediation ☐
 Backfill Pit Without Excavation ☐
 Soil Disposition:
 Envirotech ☒ ☐ Tierra
 Other Facility ☐ Name: _____
 Pit Closure Date: 8-31-94 Pit Closed By: BEI

REMARKS

Remarks : EPNG lines marked soil black strong HYDROCARBON
odor

Signature of Specialist: Morgan Killian



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	mk 299	946041
MTR CODE SITE NAME:	93788	N/A
SAMPLE DATE TIME (Hrs):	8-31-94	1318
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	9-1-94	9/1/94
DATE OF BTEX EXT. ANAL.:	9/1/94	9/1/94
TYPE DESCRIPTION:	VC	Brown Sand & Clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	20.5	MG/KG	20			
TOLUENE	8.8	MG/KG	20			
ETHYL BENZENE	6.8	MG/KG	20			
TOTAL XYLENES	63	MG/KG	20			
TOTAL BTEX	79	MG/KG				
TPH (418.1)	13,400	MG/KG			.57	28
HEADSPACE PID	187	PPM				
PERCENT SOLIDS	89.0	%				

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

The Surrogate Recovery was at 72 % for this sample All QA/QC was acceptable.

Active:

ATTI results attached.

DF = Dilution Factor Used

Approved By:

John Sardin

Date:

9/30/94



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

ATI I.D. 409308

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 09/01/94, 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
Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR: jt

Enclosure



GAS CHROMATOGRAPHY RESULTS

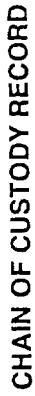
TEST : BTEX (EPA 8020)
 CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 409308
 PROJECT # : 24324
 PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
04	946036	NON-AQ	08/30/94	09/11/94	09/11/94	1
05	946040	NON-AQ	08/31/94	09/11/94	09/11/94	20
06	946041	NON-AQ	08/31/94	09/11/94	09/11/94	20

PARAMETER	UNITS	04	05	06
BENZENE	MG/KG	<0.025	<0.5	<0.5
TOLUENE	MG/KG	<0.025	14	8.8
ETHYLBENZENE	MG/KG	<0.025	5.6	6.8
TOTAL XYLENES	MG/KG	0.093	130	63

SURROGATE:

BROMOFLUOROBENZENE (%) 104 77 72



CHAIN OF CUSTODY RECORD

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

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

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

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

Project Name EPNG PITS
 Project Number 14509 Phase 6000 77
 Project Location Canyon Largo Unit 304 93788

Elevation _____
 Borehole Location QC-S11-T24-R6
 GWL Depth 17.5' BGS
 Logged By CM CHANCE
 Drilled By K Padilla, F. Rivera
 Date/Time Started 8/12/95 - 1100
 Date/Time Completed 8/18/95 - 1200

Well Logged By CM Chance
 Personnel On-Site K Padilla, F. Rivera, D. Charlo
 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	HS	
0				Backfill to 12'						
5										
10										
15	1	15-17	8"	Gry CLAY, soft, sl moist, high plastic,			D	10	75 126	-1110
				Gry SAND, vf-f sand, tr med, loose, saturated						-GW@17.5'
20	2	20-22	24"	lt Br SAND, vf-f sand, tr med, loose, saturated			0	16	0 NA	-1115
				TDB 22'						
25										
30										
35										
40										

Comments:

Defining line between contaminated soil & clean @ ~19'. CM (77(15-17) sent to Lab (BTEX & TPH). Groundwater @ 17.5'. BH grouted to surface

Geologist Signature

Log Chance

PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project		DATE: 8/17/95		CONTRACT LABORATORY P. O. NUMBER	
SAMPLERS: (Signature)							
LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBERS OF CONTAINERS	SAMPLE TYPE	REQUESTED ANALYSIS
							TPH EPA 418.1 BTX EPA 8020 LAB PID SEQUENCE #
	8/17/95	0940	SOIL	CVC 76	1	✓	18 71 RECEIVED BY: (Signature) DATE/TIME
	1110			CVC 77	1	✓	14 71 RECEIVED BY: (Signature) DATE/TIME
	1357			CVC 78	1	✓	14 71 RECEIVED BY: (Signature) DATE/TIME
	1451			CVC 79	1	✓	7 71 RECEIVED BY: (Signature) DATE/TIME
505-599-2144 505-599-2261							
RELINQUISHED BY: (Signature) RECEIVED BY: (Signature)				RELINQUISHED BY: (Signature) RECEIVED BY: (Signature)			
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH				RESULTS & INVOICES TO: FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P.O. BOX 4990 FARMINGTON, NEW MEXICO 87499 FAX: 505-599-2261			
CARRIER CO.				CHARGE CODE			
BILL NO.:				505-599-2144			



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID	Lab ID
	CMC77	947263
MTR CODE SITE NAME:	93788	Canyon Largo Unit #304
SAMPLE DATE TIME (Hrs):	08/17/95	1110
PROJECT:	Phase II Drilling	
DATE OF TPH EXT. ANAL.:	08/21/95	08/21/95
DATE OF BTEX EXT. ANAL.:	08/23/95	08/23/95
TYPE DESCRIPTION:	VG	Gray clay

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	5.0	MG/KG		D		
TOLUENE	<2	MG/KG		D		
ETHYL BENZENE	3.9	MG/KG		D		
TOTAL XYLENES	26.2	MG/KG		D		
TOTAL BTEX	35.1	MG/KG		D		
TPH (418.1)	377	MG/KG			2.03	28
HEADSPACE PID	126	PPM				
PERCENT SOLIDS	78.0	%				

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

The Surrogate Recovery was at 109 % for this sample All QA/QC was acceptable.
Narrative:

DF = Dilution Factor Used

Approved By:

John Jacob

Date:

7/18/96

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE ~~H~~ III

GENERAL

Meter: 93788 Location: Canyon Largo Unit # 304

Coordinates: Letter: C Section 11 Township: 24 Range: 06

Or Latitude _____ Longitude _____

Date Started : 10-26-95 Area: 07 Run: 72

PIT OBSERVATIONS

Sample Number(s): 4P72 4P73 _____

Sample Depth: 20 Feet

Final PID Reading 360 PID Reading Depth 20 Feet
Yes No

Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 18 Feet

Final Dimensions: Length 47 Width 30 Depth 20

CLOSURE

Remediation Method :

Excavation

☒ (1) Approx. Cubic Yards

856 ^{RLB}
_{11/3/95}

Onsite Bioremediation

☐ (2)

Backfill Pit Without Excavation

☐ (3)

Overburden Cubic Yards _____

Soil Disposition:

Envirotech

☒ (1)

☐ (3) Tierra

Other Facility

☐ (2)

Name: _____

Pit Closure Date:

Pit Closed By: Philip Env.

Phase III

REMARKS

Remarks : Dug to 18' Ft + encountered water, went to 20 Ft
and pulled bottom sample PIA was 90 ppm, N-wall 3 ppm,
E-wall 5 ppm W-wall 15 ppm S-wall 668 could not dig
South wall any more due to Loc Drpp position.

Signature of Specialist: James F. Fencor



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	947699
FIELD ID:	JP72
MTR CODE:	93788
SAMPLE DATE:	10/26/95
SAMPLE TYPE:	VG
SITE NAME:	Cyn Largo Unit #304
PROJECT:	Phase III Excavation
DATE OF BTEX ANALYSIS:	10/31/95

FIELD COMMENTS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WOCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	Not Required		None
BENZENE (PPB)	25.4	D (x5)	10
TOLUENE (PPB)	9.8	D (x5)	740
ETHYL BENZENE (PPB)	33.5	D (x5)	750
TOTAL XYLENES (PPB)	416	D,D1 (x5)	620
SURROGATE % RECOVERY	98	Allowed Range 80 to 120 %	

TFS:

for m/p xylenes was outside calibration range.

Approved By:

7/18/96



Phase III Excavation

CHAIN OF CUSTODY RECORD

[illegible]

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



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER: 947699
FIELD ID: JP72
MTR CODE: 93788
SAMPLE DATE: 10-26-95
SAMPLE TYPE: [Excavation] VG
SITE NAME: Canyon Largo Unit #304
PROJECT: Phase III Excavation
DATE OF BTEX ANALYSIS: 10/31/95

FIELD COMMENTS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WQCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	N/A		None
BENZENE (PPB)	25.4	D (x5)	10
TOLUENE (PPB)	9.8	D (x5)	740
ETHYL BENZENE (PPB)	33.5	D (x5)	750
TOTAL XYLENES (PPB)	416	D, DI (x5)	620
SURROGATE % RECOVERY	98%	Allowed Range 80 to 120 %	

NOTES: Result for m/p xylenes was outside calibration range.

Approved By: _____

11/3/95
Date



CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP73	947701
MTR CODE SITE NAME:	93788	Canyon Largo Unit #304
SAMPLE DATE TIME (Hrs):	10/26/95	1630
PROJECT:	Phase III Excavation	
DATE OF TPH EXT. ANAL.:	10/31/95	10/27/95
DATE OF BTEX EXT. ANAL.:	10/27/95	10/27/95
TYPE DESCRIPTION:	VC	Brown sand & clay

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	<0.5	MG/KG				
TOLUENE	<0.5	MG/KG				
ETHYL BENZENE	<0.5	MG/KG				
TOTAL XYLENES	2.2	MG/KG				
TOTAL BTEX	<3	MG/KG				
TPH (418.1)	643	MG/KG			2.26	28
HEADSPACE PID	360	PPM				
PERCENT SOLIDS	89.5	%				

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

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

DF = Dilution Factor Used

Approved By: _____

Date: _____

7/15/96

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

2 Monroe Road
 Bingham, 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 CLU H304 - 93788

Elevation _____
 Borehole Location T24-R6-S11-Ltr C
 GWL Depth 18' BGS
 Logged By D CESARK
 Drilled By K PADILLA
 Date/Time Started 4/1/97 - 0900
 Date/Time Completed 11 - 0930

Well Logged By D CESARK
 Personnel On-Site ~~DESHAR~~ C MAIZ
 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										
5				(BACKFILL						
10				TO						
15				20')						
20				GWC 18'						
25				(HIGHLY CONTM. SOIL)						
30				↓ TD=30'						
35										
40										

Comments:

GW ENCOUNTERED @ 18' BGS. OVER-DRILLED BH-2 TO 30' BGS + COMPLETED MW-1. NO SAMPLES COLLECTED, PLEASE REFER TO MW INSTALLATION RECORD.

Geologist Signature

[Signature]

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc.
 .000 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 CANYON LARGO UNIT #304-
93788

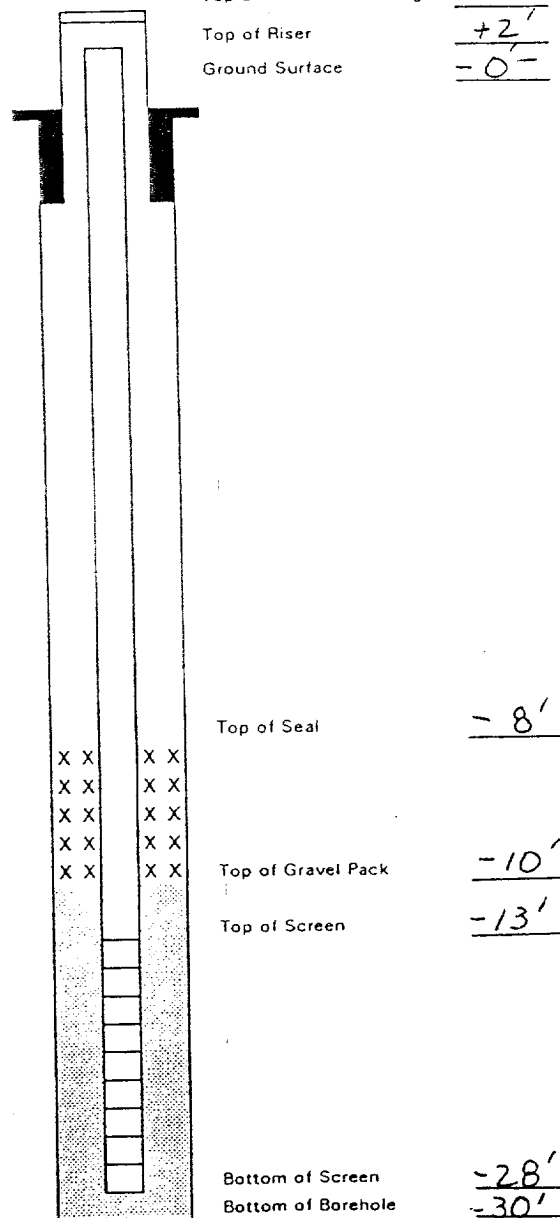
Elevation _____
 Well Location T24N-R11W-S6-L 6'
 GWL Depth 18' BGS
 Installed By R PADILLA

On-Site Geologist D CESARK
 Personnel On-Site ~~DEVALE~~ C HAIZ
 Contractors On-Site _____
 Client Personnel On-Site _____

Date/Time Started 4/1/97-0930
 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	PORTLAND CEMENT	-2'
Bottom of Grout	"	-8'
Top of Well Riser	SCH. 40 PVC	+2'
Bottom of Well Riser	"	-13'
Top of Well Screen	.010 SLOT	-13'
Bottom of Well Screen	"	-28'
Top of Peltonite Seal	ENVIROPLUG	-8'
Bottom of Peltonite Seal	"	-10'
Top of Gravel Pack	10-20 S. SAND	-10'
Bottom of Gravel Pack	"	-28'
Top of Natural Cave-In		-28'
Bottom of Natural Cave-In		-30'
Top of Groundwater		-18'
Total Depth of Borehole		-30'



Comments: _____

Geologist Signature

Well Development and Purging Data

~~Development~~
~~Purging~~

Well Number MW-1

Serial No. WDPD.

Project Name

Project Manager C CHANCE

Project No. 17520

Page 1 of 1

Client Company **EPFS**

Phase.Task No. 6003.77

Site Name CANYON CARGO UNIT #304 - 93788

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 28' BGS
Initial Depth to Water (feet) 14' BGS
Height of Water Column in Well (feet) 14'

Methods of Development

Pump

☐ Centrifugal

☐ Submersible

☐ Peristaltic

☐ Other

Baller

☒ Bottom Valve

☐ Double Check Valve

☐ Stainless-steel Kemmerer

Instruments

Serial No. (If applicable) _____

struments

☒ pH Meter _____

☐ DO Monitor _____

☒ Conductivity Meter _____

☒ Temperature Meter _____

☐ Other _____

Water Disposal

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		9	
Gravel Pack			
Drilling Fluids			
Total			45

Water Removal Data

[illegible]

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

Comments 1ST BAILER WAS CLEAR, THE REST WERE MUDDY, REMOVED ALOT OF SILT/SAND. DID NOT
BAIL WELL DRY. SLIGHT HC₂ ODOOR / SILEEN.

Developer's Signature(s)

Date 4/10/97

Reviewer _____ 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 CANYON LARGO UNIT #304- 93788

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

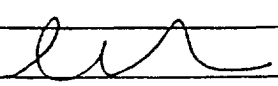
Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comments Below)
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/ cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail	Final Water Depth (feet)	

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Sample Containers

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 34 - MW-1
"	1	"	"				X		DRC 33 - TRIP BLANK

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



CHAIN OF CUSTODY RECORD

Page -

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[illegible]



EL PASO FIELD SERVICES



4-24-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID DRC34	Lab ID 970267
MTR CODE SITE NAME:	93788	CLU #304
SAMPLE DATE TIME (Hrs):	4/10/97	1103
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	21.0	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	11.5	PPB				
TOTAL XYLENES	116	PPB				
TOTAL BTEX	149	PPB				

The Surrogate Recovery was at 100 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

John L. Latch

Date: _____

4/16/97

970267,4/16/97

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
970267 *	93788	CLU #304	4/10/97	Phase II Drilling - Initial	=	21 <		1	=	11.5	=	116	=	150
970521 *	93788	CLU #304	6/3/97	Sample 4 - 1st Qtr	=	6.08 <		1	<	1	=	1.41	=	7
970999 *	93788	CLU #304	9/18/97	Sample 4 - 2nd Qtr	=	3.91 <		1	=	1.62	<	3	<	6
971295 *	93788	CLU #304	12/11/97	Sample 4 - 3rd Qtr	=	7.5 <		1	=	2.74	<	3	<	10
980234	93788	CLU #304	3/17/98	Sample 4 - 4th Qtr	=	7.2 <		1	=	2.65	<	3	<	10

* Analytical reports provided to NMOCD in prior annual report.

Well Development and Purging Data

Site Name CANYON CARGO UNIT #304

☐ Development
☒ Purging

Well Number 11W-1

Meter Code 93788

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 28.60
Initial Depth to Water (feet) 17.70
Height of Water Column in Well (feet) 11.90

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>7.9</u>	<u>23.6</u>
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KOTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer				Increment	Cumulative	Increment	Cumulative					
3-17-98	1121										13.7	6.39	4540		
3-17-98	1127						5.0	5.0			13.4	6.90	4690		
3-17-98	1133						5.0	10.0			13.3	7.02	4670		
3-17-98	1141						5.0	15.0			13.1	7.16	4750		
3-17-98	1147						5.0	20.0			13.5	7.26	4740		
3-17-98	1154						5.0	25.0			13.6	7.34	4680	1.0	

Comments

Developer's Signature Lennie Bird

Date 3-17-98

Reviewer

John Nardi

Date

3/15/98



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980234
MTR CODE SITE NAME:	93788	Canyon Largo Unit #304
SAMPLE DATE TIME (Hrs):	3/17/98	1208
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	7.02	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	2.65	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	10	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.7 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

John Fentler

Date: _____

3/25/98

980234BTEXMW,3/25/98

AMPLE 4 4TH QTR



CHAIN OF CUSTODY RECORD

UxV 7-2-98
 QPV 4-2-98 Pib
 QPV 4-3-98 Chur. **A** 261b

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