

3R - 199

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 cursive script that reads '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

December 1998

RECEIVED

APR 05 1999

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520
Book 1



EPFS GROUNDWATER PITS 1998 CLOSURE REPORT

JOHNSON #1E
Meter/Line ID - 93357

RECEIVED

APR 05 1999

SITE DETAILS

Legals - Twn: 31N Rng: 13W
NMOCD Hazard Ranking: 20
Operator: P-R-O MANAGEMENT

Sec: 21 Unit: P
Land Type: FEE

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

PREVIOUS ACTIVITIES

Site Assessment: Mar-94 Excavation: May-94 (20 cy) Geoprobe: Nov-96
Soil Boring: Mar-97 Monitor Well: Mar-97

The pit was excavated to 5 feet beneath ground surface (bgs) where groundwater was encountered. A composite soil sample was collected from the pit bottom and four walls. The headspace soil reading from the excavation bottom was 194 ppm. Soil analytical was as follows; benzene - <0.12 mg/kg, total BTEX - 10.2 mg/kg, TPH (418.1) - 610 mg/kg.

Groundwater samples were collected from geoprobe holes in November of 1996. Laboratory analysis of the groundwater collected during the geoprobe sampling event showed all geoprobe samples, up-gradient and down-gradient of the former pit, were below New Mexico Water Quality Control Commission standards.

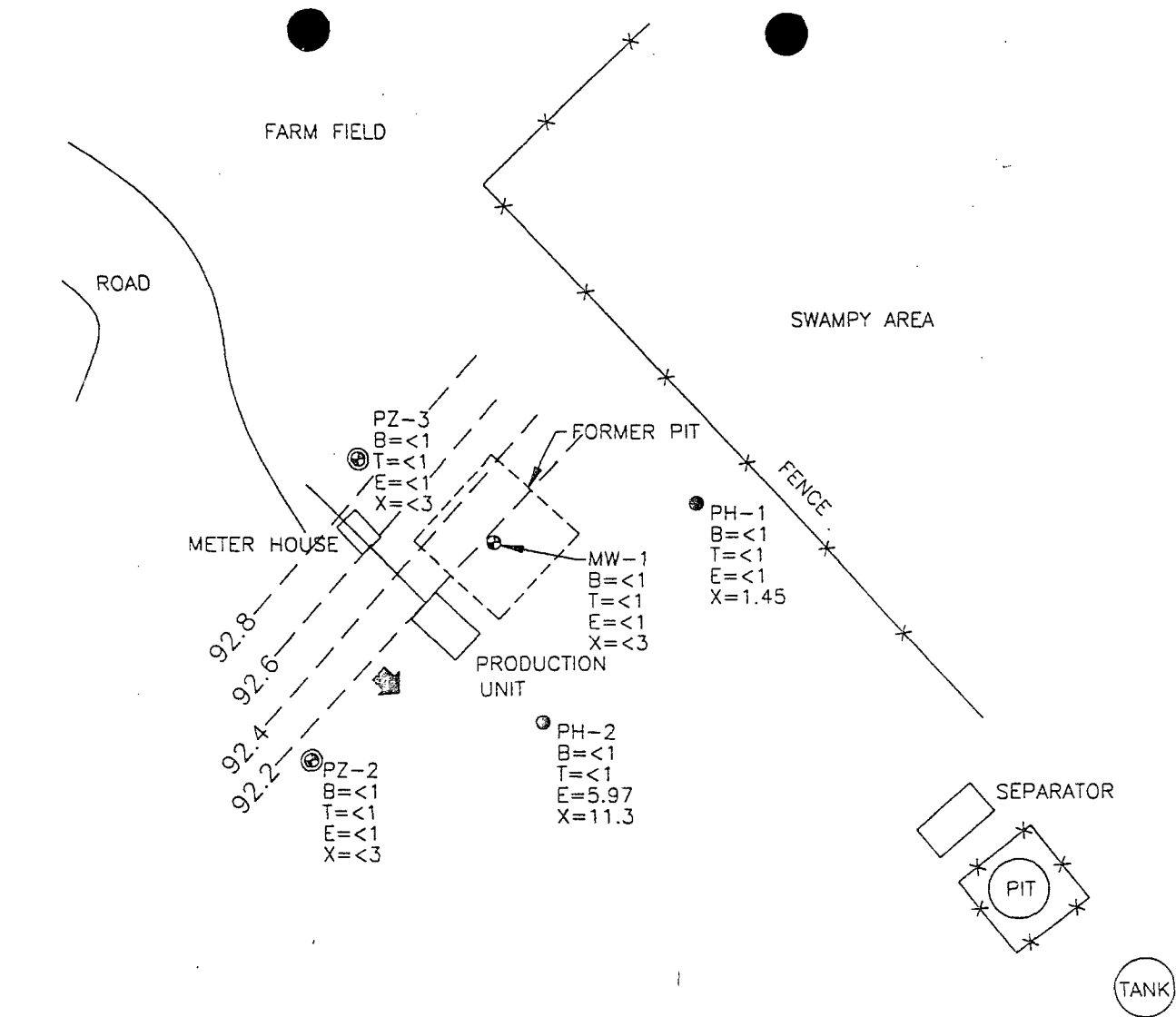
One soil boring was drilled in the center of the former pit. Groundwater was encountered at 5 feet bgs and a monitoring well was installed. No soil samples were collected. Quarterly groundwater monitoring was initiated on 3/28/97 and continued through 3/23/98. Groundwater analytical data are presented 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 15.3 ppb. Subsequent quarterly sampling events has shown all BTEX compounds to be below laboratory detection limits, indicating minimal impact to groundwater. Geoprobe groundwater sampling from around the outside of the pit also indicated minimal impact to groundwater.

RECOMENDATIONS

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



LEGEND

- ⊕ PZ-1 APPROXIMATE PIEZOMETER LOCATION AND NUMBER
- PH-1 APPROXIMATE PROBEHOLE LOCATION AND NUMBER
- ⊙ 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
- 92.2 GROUNDWATER POTENTIOMETRIC SURFACE
- ➔ APPROXIMATE GROUNDWATER GRADIENT
- ⊕ WELLHEAD



COL 17520Y-002



TITLE:
JOHNSON #1 E
93357

DWN: TMM	DES.: CC
CHKD: CC	APPD:
DATE: 1/20/98	REV.: 0

PROJECT NO.: 17520 EPFS GW PITS
FIGURE 1

FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>93357</u> Location: <u>JOHNSON #1E</u> Operator #: <u>7272</u> Operator Name: <u>PRO MANAG</u> P/L District: <u>KUTZ</u> Coordinates: Letter: <u>P</u> Section <u>21</u> Township: <u>31</u> Range: <u>13</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____ Site Visit Date: <u>3-28-94</u> Run: <u>02</u> <u>42</u>
SITE ASSESSMENT	NMOCD Zone: Inside ☐ Land Type: BLM ☐ (From NMOCD Vulnerable ☐ Maps) Zone ☒ State ☐ Outside ☐ Fee ☒ Indian _____ Depth to Groundwater Less Than 50 Feet (20 points) ☐ 50 Ft to 99 Ft (10 points) ☐ Greater Than 100 Ft (0 points) ☒ 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? ☐ YES (20 points) ☒ NO (0 points) Horizontal Distance to Surface Water Body Less Than 200 Ft (20 points) ☐ 200 Ft to 1000 Ft (10 points) ☐ Greater Than 1000 Ft (0 points) ☒ Name of Surface Water Body _____ (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds) TOTAL HAZARD RANKING SCORE: <u>0</u> POINTS
REMARKS	Remarks : <u>TWO PITS ON LOCATION. WILL CLOSE ONLY ONE. DENY HAS NOT BEEN DISCONNECTED FROM PIT YET. PIT IS DRY.</u>

PHASE I EXCAVATION

FIELD REMEDIATION/CLOSURE FORM

GENERAL

Meter: 93357 Location: JOHNSON # 1E

Coordinates: Letter: Section Township: Range:

Or Latitude Longitude

Date Started : 5-3-94 Area: 02 Run: 42

FIELD OBSERVATIONS

Sample Number(s): ⁹⁴⁵⁰⁶⁴K.P 14

Sample Depth: 5' Feet

Final PID Reading 194 PID Reading Depth 5' Feet

Yes No

Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 5' Feet

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 20

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Soil Disposition:

Envirotech ☐ (1) ☒ (3) Tierra

Other Facility ☐ (2) Name:

Pit Closure Date: 5-3-94 Pit Closed By: B.E.L

REMARKS

Remarks : No Line markers STARTED Remediation TO 12'
HIT Ground water AT 5' Soil is BLACK. CALLED mike TO get A Hold
of RICK, could Not get A Hold of RICK. move on to other A LOCATION. Put Fence UP.
Till RICK OKAYes it PID 194. Soil Black, Rocky DENNY FOUST OKAYes TO Close Pit.

OCP

Signature of Specialist: Kelly Padella



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Soil

SAMPLE IDENTIFICATION

SAMPLE NUMBER:

Field ID

Lab ID

MTR CODE | SITE NAME:

SAMPLE DATE | TIME (Hrs):

SAMPLED BY:

DATE OF TPH EXT. | ANAL:

DATE OF BTEX EXT. | ANAL:

TYPE | DESCRIPTION:

N/A

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	40.12	MG/KG	5			
TOLUENE	40.12	MG/KG	5			
ETHYL BENZENE	0.86	MG/KG	5			
TOTAL XYLENES	9.1	MG/KG	5			
TOTAL BTEX	10.2	MG/KG				
TPH (418.1)	610	MG/KG			1.52	28
HEADSPACE PID	194	PPM				
PERCENT SOLIDS	88.2	%				

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

Surrogate Recovery was at 73 % for this sample All QA/QC was acceptable.

ATI Results attached,

F = Dilution Factor Used

Approved By:

Date:

7/14/94

CHAIN OF CUSTODY RECORD

PROJECT NAME Pit Closure Project # 24324						REQUESTED ANALYSIS								CONTRACT LABORATORY P.O. NUMBER													
SAMPLERS: (Signature)		<i>Kelly Padilla</i>		DATE: 5-3-94																							
LAB ID	DATE	TIME	MATRIX	SAMPLE NUMBER	TOTAL NUMBERS OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX	EPA 8020																		
5-3-94	0900	Soil	KP # 14	I	VC	X	X	X	X	HIT WATER AT S. SOIL BLACK - ROCKY																	
5-3-94	1110	Soil	KP # 15	I	VC	X	X	X	X	TANK IN PIT SIDE OF PIT																	
5-3-94	1715	Soil	KP # 16	I	VC	X	X	X	X	Grey Looking SAND																	
RECEIVED BY: (Signature) <i>Kelly Padilla</i>		DATE/TIME 5/3/94 1915		RECEIVED BY: (Signature) <i>Juan T. Pina</i>		DATE/TIME 5/4/94 1310		RECEIVED BY: (Signature) <i>[Signature]</i>		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)		DATE/TIME		RECEIVED BY: (Signature)			
REQUESTED TURNAROUND TIME:		ROUTINE ☐ RUSH ☒		CARRIER CO.		SAMPLE RECEIPT REMARKS		RESULTS & INVOICES TO:		FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P.O. BOX 4990 FARMINGTON, NEW MEXICO 87499		505-599-2144		FAX: 505-599-2261		BILL NO.:											



Analytical **Technologies**, Inc.

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

ATI I.D. 405331

May 19, 1994

El Paso Natural Gas Company
770 W. Navajo
Farmington, NM 87401

Project Name/Number: PIT PROJECT 24324

Attention: John Lambdin

On 05/06/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **aqueous** and **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

Upon arrival, it was noted that sample 945055 contained headspace. The client was notified and the sample was analyzed "as is."

The laboratory was instructed to correct the sampling data for sample 945075 to 05/04/94.

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:jd

Enclosure



GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 405331
PROJECT # : 24324
PROJECT NAME : PIT PROJECT

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
14	945062	NON-AQ	05/03/94	05/09/94	05/13/94	25
15	945063	NON-AQ	05/03/94	05/09/94	05/13/94	25
16	945064	NON-AQ	05/03/94	05/09/94	05/13/94	5

PARAMETER	UNITS	14	15	16
BENZENE	MG/KG	2.4	<0.62	<0.12
TOLUENE	MG/KG	81	1.8	<0.12
YL BENZENE	MG/KG	12	1.4	0.86
TOTAL XYLENES	MG/KG	160	24	9.1

SURROGATE:

BROMOFLUOROBENZENE (%)	37*	48*	73
------------------------	-----	-----	----

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

GEOPROBE

PIEZOMETER INSTALLATION RECORD

Philip Environmental Services, Inc.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole # PZ - 1

Well #

Page 1 of 1

Project Name EPFS PITS

Project Number 16297 Phase 6004

Site Location Johnson IE 93257

R13-T31-S21-P

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY F. Rivero

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Center of Pit

GWL Depth 6.10 BGS 8.61 TOP

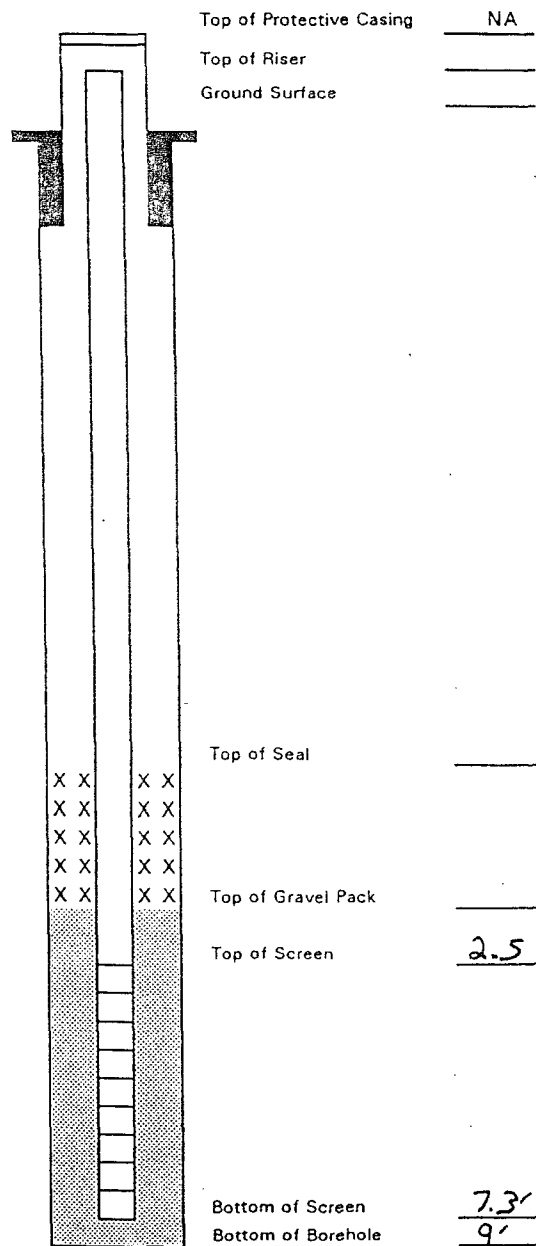
Installed By K PADILLA

Date/Time Started 11/14/96

Date/Time Completed 11/14/96

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Comments: 5' screen 5' riser

PIEZOMETER INSTALLATION RECORD

Philip Environmental Services, Inc.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole # PZ - 2

Well # _____

Page 1 of 1

Project Name EPFS PITS

Project Number 16297 Phase 6004

Site Location Johnson IE 93357

Elevation _____

Well Location SW of PZ1

GWL Depth 5.15 BGS 7-2770a

Installed By K PADILLA

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY F. River

Contractors On-Site _____

Client Personnel On-Site _____

Date/Time Started 11/18/96

Date/Time Completed 11/18/96

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing			Top of Protective Casing <u>NA</u>	
Bottom of Protective Casing			Top of Riser _____	
Top of Permanent Borehole Casing		N/A	Ground Surface _____	
Bottom of Permanent Borehole Casing		N/A		
Top of Concrete				
Bottom of Concrete				
Top of Grout				
Bottom of Grout				
Top of Well Riser				
Bottom of Well Riser				
Top of Well Screen				
Bottom of Well Screen			Top of Seal _____	
Top of Peltonite Seal				
Bottom of Peltonite Seal			Top of Gravel Pack _____	
Top of Gravel Pack			Top of Screen <u>0.65</u>	
Bottom of Gravel Pack				
Top of Natural Cave-In				
Bottom of Natural Cave-In				
Top of Groundwater			Bottom of Screen <u>5.65</u>	
Total Depth of Borehole			Bottom of Borehole <u>9.00</u>	

Comments: V. gravelly. 5' screen 3' riser

PIEZOMETER INSTALLATION RECORD

Philip Environmental Services, Inc.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole # PZ-3

Well # _____

Page 1 of 1

Project Name EPFS PITS

Project Number 16297 Phase 6004

Site Location Johnson IE 93357

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY F. Rivera

Contractors On-Site _____

Client Personnel On-Site _____

Elevation _____

Well Location N. of PZ1

GWL Depth 4.45 to 4.1 BGJ

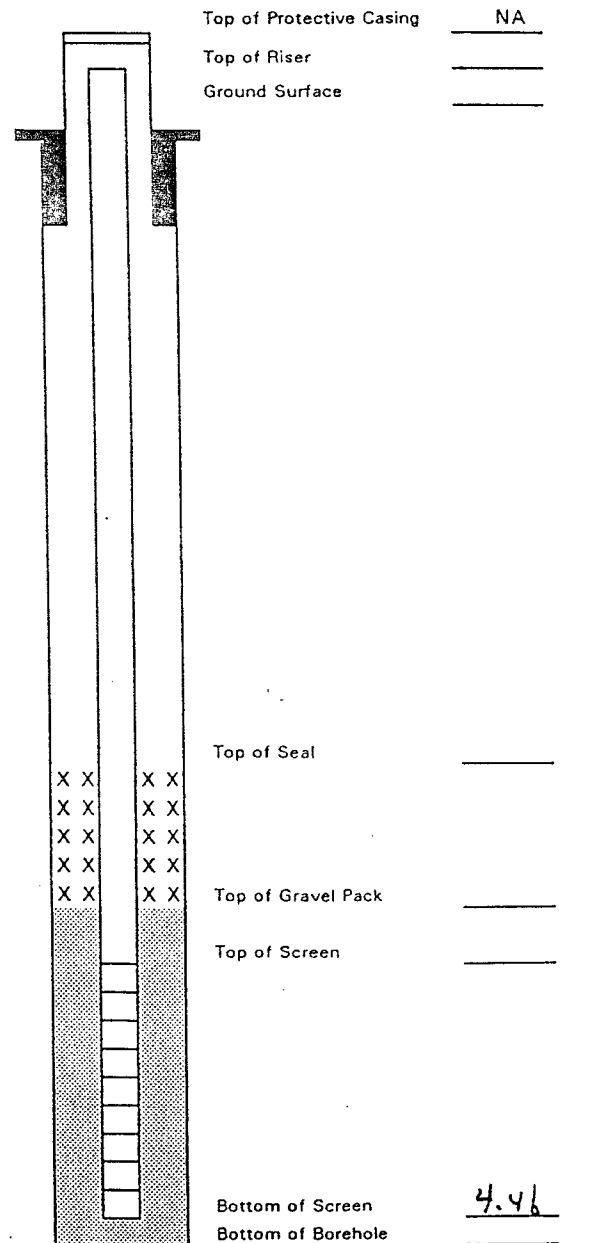
Installed By K PADILLA

Date/Time Started 11/18/96

Date/Time Completed 11/18/96

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Comments: 5' screen



Natural Gas Company

A 2330

CHAIN OF CUSTODY RECORD

[illegible]



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC249	948000
MTR CODE SITE NAME:	93357	Johnson 1E
SAMPLE DATE TIME (Hrs):	11/14/96	1255
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	11/18/96	11/19/96
TYPE DESCRIPTION:	PZ1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	145	PPB	5	D		
TOLUENE	112	PPB	5	D		
ETHYL BENZENE	207	PPB	5	D		
TOTAL XYLENES	2380	PPB	5	D		
TOTAL BTEX	2840	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 89.4 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

John Smith

Date: _____

11/25/96

**EL PASO
FIELD SERVICES****FIELD SERVICES LABORATORY****ANALYTICAL REPORT****PIT CLOSURE PROJECT****SAMPLE IDENTIFICATION**

	Field ID	Lab ID
SAMPLE NUMBER:	CMC250	948001
MTR CODE SITE NAME:	93357	Johnson 1E
SAMPLE DATE TIME (Hrs):	11/14/96	1336
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	11/18/96	11/19/96
TYPE DESCRIPTION:	PH1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	1.45	PPB				
TOTAL BTEX	1.45	PPB				

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at 87.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: 11/25/96

**EL PASO
FIELD SERVICES****FIELD SERVICES LABORATORY****ANALYTICAL REPORT****PIT CLOSURE PROJECT****SAMPLE IDENTIFICATION**

	Field ID	Lab ID
SAMPLE NUMBER:	CMC251	948002
MTR CODE SITE NAME:	93357	Johnson 1E
SAMPLE DATE TIME (Hrs):	11/14/96	1355
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	11/19/96	11/19/96
TYPE DESCRIPTION:	PH2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB	2	D		
TOLUENE	<1	PPB	2	D		
ETHYL BENZENE	5.97	PPB	2	D		
TOTAL XYLENES	11.3	PPB	2	D		
TOTAL BTEX	17.3	PPB				

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at
DF = Dilution Factor Used

86.8

% for this sample All QA/QC was acceptable.

Narrative: _____

Approved By: _____

Date: _____

11/25/96



Natural Gas Company

CHAIN OF CUSTODY RECORD

Project No. 16297		Project Name EPFS GW PITS		Requested Analysis		Remarks	
Samplers (Signature) <i>Cory Chave</i>		Date: 11/18/96		Preservation Technique BTEX			
Date	Time	Comp.	GRAB	Type and No. of Sample Containers	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
11/18/96	—		✓	1 HCY 49	X		
11/18/96	1015		✓	2 SMC 2.52	X		
11/18/96	1045		✓	2 SMC 2.53	X		
<i>See 11/18/96</i>							
Relinquished by: (Signature) <i>Cory Chave</i>		Date/Time 11/18/96 1700		Received by: (Signature)		Date/Time 11/18/96	
Relinquished by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time 11/18/96	
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Date/Time	
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)			
Air Bill No.:		san juan repro form 71-55 A					



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC252	948013
MTR CODE SITE NAME:	93357	Johnson 1E
SAMPLE DATE TIME (Hrs):	11/18/96	1015
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	11/26/96	11/26/96
TYPE DESCRIPTION:	PZ2	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: 98.9 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

John L. Fisher

Date: 11/27/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC253	948014
MTR CODE SITE NAME:	93357	Johnson 1E
SAMPLE DATE TIME (Hrs):	11/18/96	1045
PROJECT:	GEOPROBE	
DATE OF BTEX EXT. ANAL.:	11/26/96	11/26/96
TYPE DESCRIPTION:	PZ3	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 a
DF = Dilution Factor Used

95.2

% for this sample All QA/QC was acceptable.

Narrative:

Approved By:

John Linder

Date:

11/27/96

**PHASE II SOIL BORING AND
MONITORING WELL INSTALLATION**

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road

Farmington, 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 6001.77
Project Location JOHNSON #1E- 93357

Elevation _____
Borehole Location T31-R13 S 21-Ltr P
GWL Depth 5.35' BGS (PZ-1)
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/11/97 - 0900
Date/Time Completed 4 - 1000

Well Logged By D CESARK
Personnel On-Site D CHARLEY S ARCHULETA
Contractors On-Site _____
Client Personnel On-Site _____
Drilling Method 4 1/4" ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ BH S			Drilling Conditions & Blow Counts
0				BACKFILL						
5				TO 5' GWC 5' BGS						
10				7'-11' GRAVEL/COBBLE ZONE						
15				TD=13'						
20										
25										
30										
35										
40										

Comments:

GROUNDWATER ENCOUNTERED @ 5' BGS IN BACKFILL. OVER-DRILLED TO 13' BGS & SET WELL. TD = 13' BGS. NO SAMPLES COLLECTED. PLEASE REFER TO MW COMP. DIAGRAM.

Geologist Signature

[Signature]

MONITORING WELL INSTALLATION RECORD

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

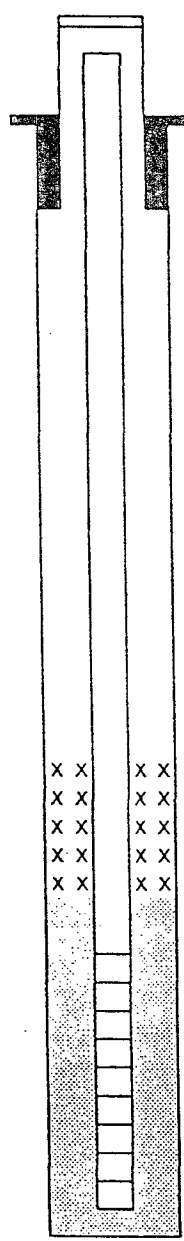
Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location JOHNSON #1E-93357

Elevation _____
Well Location T31N-R13W-S21-L1P
GWL Depth 5.35' BGS
Installed By M DONOHUE

On-Site Geologist D CESARK
Personnel On-Site A CHARLEY S ARCHULETA
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 3/11/97 - 1000
Date/Time Completed " - 1100

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		
Bottom of Grout		
Top of Well Riser	5CH40 PYC	+3'
Bottom of Well Riser	"	-3'
Top of Well Screen	.010 SLOT	-3'
Bottom of Well Screen	"	-13'
Top of Peltonite Seal	ENVIROPLUG	-1'
Bottom of Peltonite Seal	"	-2'
Top of Gravel Pack	10-20 S.SND.	-2'
Bottom of Gravel Pack	"	-13'
Top of Natural Cave-In		-13'
Bottom of Natural Cave-In		-13.5'
Top of Groundwater		-5'
Total Depth of Borehole		-13.5'



Top of Protective Casing _____

Top of Riser +3'

Ground Surface -0'-

Top of Seal -1'

Top of Gravel Pack -2'

Top of Screen -3'

Bottom of Screen -13

Bottom of Borehole -13.5'

Comments: _____

Geologist Signature _____

Well Development and Purging Data

Well Number MW-1

Page 1 of 1

C CHANCE

C CHANCE

9.3357

Water Volume Calculation

Initial Depth of Well (feet) 13' 36S
Initial Depth to Water (feet) 5' 5' 36S
Height of Water Column in Well (feet) 7.5'

Diameter (inches): Well 4 Gravel Pack _____

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			13.75
Gravel Pack			
Drilling Fluids			
Total			13.75

Water Disposal

[illegible]

Comments

Reviewer

Date _____



Water Sampling Data

Location No. MW-1Serial No. WSD-Group List Number Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 3/28/97Project Name EPFS GW PITS Project No. 17520Project Manager C CHANCE Phase/Task No. 6003.77Site Name JOHNSON #1 E- 93357

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) 13' AFS
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)	Ball	Final Water Depth (feet)	
3/28	1425	DC	10.6	7.53		79	5	.33		✓		
	1440	"	10.4	7.37		100	5	.33		✓		
	1450	"	10.4	7.31		113	5	.5		✓		

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	
BTEX	DRC20	VV	40		✓	Y			

Type Chain-of-Custody Form Number Comments Signature Date 3/28/97 Reviewer Date



EL PASO FIELD SERVICES



5-21-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC20	970233
MTR CODE SITE NAME:	93357	Johnson #1E
SAMPLE DATE TIME (Hrs):	3/28/97	1510
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	4/3/97	4/4/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	15.3	PPB				
TOLUENE	18.0	PPB				
ETHYL BENZENE	11.5	PPB				
TOTAL XYLENES	194	PPB				
TOTAL BTEX	239	PPB				

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

Narrative:

Approved By: John Labdi

Date: 4/8/97

970233,4/8/97



A 2235

CHAIN OF CUSTODY RECORD

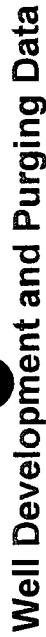
[illegible]

QUARTERLY MONITORING RESULTS

Mo

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
970233 *	93357	Johnson #1E	3/28/97	Phase II Drilling - Initial	=	15.3	=	18	=	11.5	=	194	=	239
970520 *	93357	Johnson #1E	6/2/97	Sample 4 - 1st Qtr	<	1	<	1	<	1	<	3	<	6
971042 *	93357	Johnson #1E	9/22/97	Sample 4 - 2nd Qtr	<	1	<	1	<	1	<	3	<	6
971293 *	93357	Johnson #1E	12/10/97	Sample 4 - 3rd Qtr	<	1	<	1	<	1	<	3	<	6
980247	93357	Johnson #1E	3/23/98	Sample 4 - 4th Qtr	<	1	<	1	<	1	<	3	<	6

* Analytical reports provided to NMOCD in prior annual report.



☐	Development
☒	Purging

Well Number MW-1

Meter Code 93357

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet)	Final Depth of Well (feet)	Initial Depth of Well (feet)	Final Depth of Well (feet)
15.80			

Initial Depth to Water (feet) 7.18

Height of Water Column in Well (feet) 8.62

Diameter (inches): Well **4** Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.7	17.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

Developer's Signature Dennis Bird

Date 3-23-98

Reviewer

John Ford

Date _____

83/34



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980247
MTR CODE SITE NAME:	93357	Johnson #1E
SAMPLE DATE TIME (Hrs):	3/23/98	0948
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	3/27/98	3/27/98
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 102.3 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: Jon Ford

Date: 4/3/98

93357BTEXMW,3/31/98

CHAIN OF CUSTODY RECORD

Project No.	Project Name		MC # 93357		Date: 3-23-98		Remarks												
Samplers: (Signature)		Date		Time		Comp.		GRAB		Sample Number		Type and No. of Sample Containers		Preservation Technique		Requested Analysis			
[Signature]		3-23-98		0948		X		X		9503470		G-1		4°C		X		JOHNSON #15 MW-1	
[Signature]		3-23-98		—		X		X		—		G-1		4°C		X		TRIP BLANK	
[Diagonal Line]																			
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Received by: (Signature)			
[Signature]		3-23-98 1613		[Signature]		3-23-98 1613		[Signature]		3-23-98 1613		[Signature]		3-23-98 1613		[Signature]			
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Received by: (Signature)			
[Signature]		—		[Signature]		—		[Signature]		—		[Signature]		—		[Signature]			
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Date/Time		Remarks:											
[Signature]		—		[Signature]		—		3/24/98 1110											
Carrier Co.		[Signature]		Carried Phone No.		Date Results Reported / by: (Signature)													
Air Bill No.:																			



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980247 to 980252, 980255 to 980259

QA/QC for 3/27/98 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	51.3	102.7	75 - 125 %	X
Toluene	Standard	50.0	52.4	105	75 - 125 %	X
Ethylbenzene	Standard	50.0	53.0	106	75 - 125 %	X
m & p - Xylene	Standard	100	107.7	107.7	75 - 125 %	X
o - Xylene	Standard	50.0	52.6	105	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	25.9	103.7	39 - 150	X
Toluene	Standard	25.0	26.4	106	46 - 148	X
Ethylbenzene	Standard	25.0	26.8	107	32 - 160	X
m & p - Xylene	Standard	50.0	54.6	109	Not Given	X
o - Xylene	Standard	25.0	26.4	106	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	51.4	102.8	75 - 125 %	X
Toluene	Standard	50.0	52.3	104.6	75 - 125 %	X
Ethylbenzene	Standard	50.0	53.0	105.9	75 - 125 %	X
m & p - Xylene	Standard	100	107.4	107.4	75 - 125 %	X
o - Xylene	Standard	50.0	52.8	106	75 - 125 %	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	50.4	100.9	75 - 125 %	X
Toluene	Standard	50.0	51.2	102.5	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.4	102.9	75 - 125 %	X
m & p - Xylene	Standard	100	104.6	104.6	75 - 125 %	X
o - Xylene	Standard	50.0	51.5	102.9	75 - 125 %	X

Narrative: Acceptable.

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
V LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	50.4	100.8	75 - 125 %	X
Toluene	Standard	50.0	51.1	102.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	52.1	104.2	75 - 125 %	X
m & p - Xylene	Standard	100	105.7	105.7	75 - 125 %	X
o - Xylene	Standard	50.0	51.3	102.7	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
980247					RANGE	
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
2nd Analysis 980247					RANGE	
Benzene	50	<1	51.9	103.8	75 - 125 %	X
Toluene	50	<1	52.0	104	75 - 125 %	X
Ethylbenzene	50	<1	52.3	105	75 - 125 %	X
m & p - Xylene	100	<2	106.2	106.2	75 - 125 %	X
o - Xylene	50	<1	52.0	104	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (2 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

arrative: Acceptable.

TRIP BLANK	SOURCE	PPB (3 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

arrative: Acceptable.

Reported By: CP

Approved By: John F. L. Ch

Date: 4/3/98