

**DEPT. OF ENVIRONMENTAL PROTECTION
1998 CLOSURE REPORT
DEPUTY OIL & GAS INSPECTOR**

AUG 16 1999

VALDEZ GAS UNIT A #1E (CH)
Meter/Line ID - 94298

Approved

SITE DETAILS

Legals - Twn: 29N Rng: 11W

Sec: 24

Unit: G

NMOCD Hazard Ranking: 40

Land Type: FEE

Operator: AMOCO PRODUCTION COMPANY

RECEIVED
APR - 2 1999
OIL CON. DIV.
DIST. 3

PREVIOUS ACTIVITIES

Site Assessment: Apr-94

Excavation: Apr-94 (80 cy)

Soil Boring: Jun-95

Monitor Well: Jun-95

Re-Excavation: Nov-95 (1,548 cy)

Geoprobe: Oct-96

Monitor Well: May-97

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 80 cubic yards were removed during excavation. The headspace soil reading from the excavation bottom was 306 ppm. Soil analytical was as follows; benzene - <0.50 mg/kg, total BTEX - 89.1 mg/kg, TPH (418.1) 131 mg/kg.

The pit was re-excavated to 14 feet beneath ground surface (bgs) and a composite soil sample was collected from the excavation bottom and four walls. Groundwater was encountered at approximately 12 feet bgs. Approximately 1,548 cubic yards of impacted soil was removed during re-excavation. The headspace soil reading from the excavation bottom was 0.3 ppm. Soil analytical was as follows; benzene - <0.50 mg/kg, total BTEX - <3 mg/kg, TPH (418.1) <10 mg/kg. Approximately 100 pounds of nitrogen enriched fertilizer was added to the excavation prior to backfilling to aid in natural bio-degradation of residual hydrocarbons.

One soil boring was drilled in the center of the former pit. Groundwater was encountered at 12 feet bgs and a monitoring well was installed. No soil samples were collected, as groundwater was encountered. Quarterly groundwater monitoring was initiated on 5/21/97 and continued through 5/5/98. Groundwater analytical data are presented in Table 1. Groundwater data prior to 1998 has been previously submitted in the 1997 Annual Report, along with boring logs and monitoring well installation diagrams.

CONCLUSIONS

Initial groundwater sampling after monitoring well installation indicated benzene to be slightly above standards at 15.5 ppb. Subsequent quarterly sampling events has 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

- ⊙ PZ-1 APPROXIMATE PIEZOMETER LOCATION AND NUMBER
- ⊙ MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER
- APPROXIMATE AMOCO MONITORING WELL
- B BENZENE (ug\L)
- T TOLUENE (ug\L)
- E ETHYL BENZENE (ug\L)
- X XYLENE (ug\L)
- ug\L MICROGRAMS PER LITER
- 91.0 GROUNDWATER POTENTIOMETRIC SURFACE
- ➔ APPROXIMATE GROUNDWATER GRADIENT

0 50
FEET



COL. 17520AQ-001



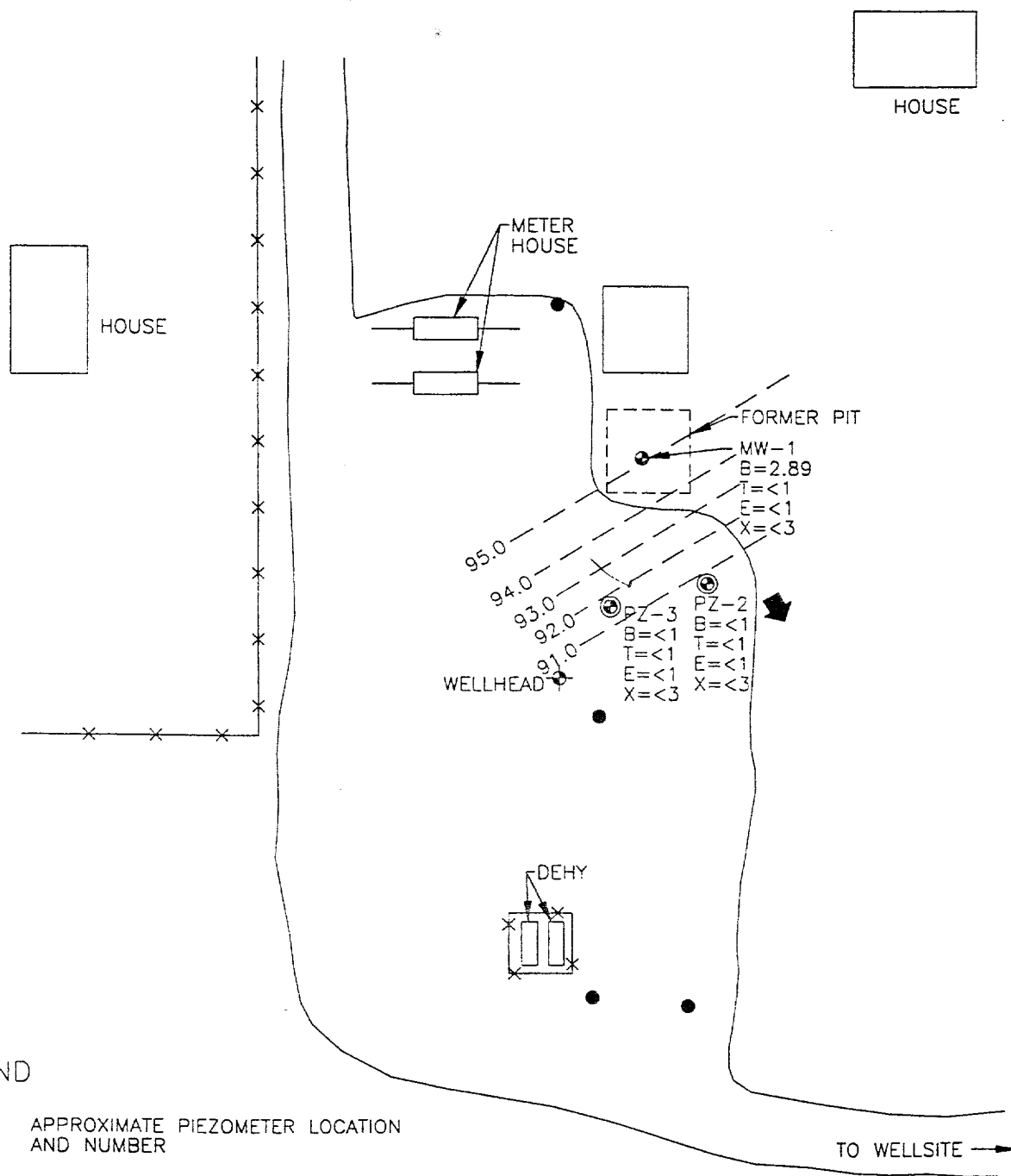
TITLE:
VALDEZ GAS UNIT A1E
94298

DWN:
TMM
CHKD:
CC
DATE:
1/20/98

DES.:
CC
APPD:
REV.:
0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1



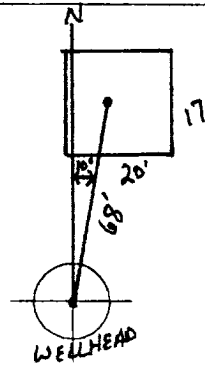
FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>94298</u> Location: <u>VALDEZ GAS UNIT A #1E CH</u> Operator #: <u>0203</u> Operator Name: <u>TENNECO</u> P/L District: <u>BLOOMFIELD</u> Coordinates: Letter: <u>6</u> Section <u>24</u> Township: <u>29</u> Range: <u>11</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator _____ Location Drip: ☒ Line Drip: _____ Other: _____ Site Visit Date: <u>4.14.94</u> Run: <u>10</u> <u>81</u>
SITE ASSESSMENT	NMOCD Zone: Inside _____ Land Type: BLM ☐ (From NMOCD Vulnerable _____ State ☐ Maps) Zone ☒ Fee ☒ Outside ☐ 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>40</u> POINTS
REMARKS	Remarks : <u>TWO PITS ON LOCATION, WILL CLOSE BOTH OF THEM. PITS ARE DRY. LOCATION IS RIGHT NEXT TO A HOUSE DOWN ON A FLAT.</u>

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 10° Footage to Wellhead 68' 4.149
b) Degrees from North _____ Footage to Dogleg _____
Dogleg Name _____
c) Length : 20' Width : 17' Depth : 4'



REMARKS

Remarks :

STARTED TAKING PICTURES AT 10:30 A.M.
END DUMP

Completed By:

Robert Champion
Signature

4.14.94
Date

FIELD F REMEDIATION/CLOSURE FORM

GENERAL

Meter: 94298 Location: VALDEZ Gas Unit A #1 E Ch
 Coordinates: Letter: 6 Section 24 Township: 29 Range: 11
 Or Latitude _____ Longitude _____
 Date Started : 4/28/94 Area: 10 Run: 81

FIELD OBSERVATIONS

Sample Number(s): ⁹⁴⁵⁰⁴² KP.5
 Sample Depth: 12' Feet
 Final PID Reading 306 PID Reading Depth 12' Feet
 Yes No
 Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth _____ Feet

CLOSURE

Remediation Method :
 Excavation ☒ (1) Approx. Cubic Yards 80
 Onsite Bioremediation ☐ (2)
 Backfill Pit Without Excavation ☐ (3)
 Soil Disposition:
 Envirotech ☐ (1) ☒ (3) Tierra
 Other Facility ☐ (2) Name: _____
 Pit Closure Date: 4/28/94 Pit Closed By: B.E.I

REMARKS

Remarks : we got some line markers around location. TOP off
Pit looked clean dug down 3' soil got real BLACK. Contamination. Soil.
Very little HC odor.

Signature of Specialist: Kelly Padilla



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:

KP5

945042

94298

N/A VALDEZ UNIT A #1E

4/28/94

1258

N/A Phase 1

5-2-94

5-2-94

5/5/94

5/5/94

VC

Grey Clay/Sand

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	40.50	MG/KG				
TOLUENE	5.4	MG/KG				
ETHYL BENZENE	7.2	MG/KG				
TOTAL XYLENES	76	MG/KG				
TOTAL BTEX	89.1	MG/KG				
TPH (418.1)	15130	MG/KG			2.17	28
HEADSPACE PID	306	PPM				
PERCENT SOLIDS	80.8	%				

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

Surrogate Recovery was at 88 % for this sample All QA/QC was acceptable.

AT I Results attached.

= Dilution Factor Used

Approved By:

Date:

5/2/94

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



Analytical **Technologies**, Inc.

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

ATI I.D. 405313

May 13, 1994

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 05/03/94, Analytical Technologies, Inc., (ADHS License No. AZ0015), received a request to analyze **non-aqueous** samples. The samples were analyzed with EPA methodology or equivalent methods. The results of these analyses and the quality control data, which follow each set of analyses, are enclosed.

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

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

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

Letitia Krakowski, Ph.D.
Project Manager

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure



GAS CHROMATOGRAPHY RESULTS

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

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
28	945041	NON-AQ	04/28/94	05/05/94	05/05/94	20
29	945042	NON-AQ	04/28/94	05/05/94	05/05/94	20
30	945043	NON-AQ	04/28/94	05/05/94	05/06/94	10

PARAMETER	UNITS	28	29	30
BENZENE	MG/KG	13	<0.50	<0.25
TOLUENE	MG/KG	210	5.4	<0.25
XYLBENZENE	MG/KG	17	7.2	3.6
TOTAL XYLENES	MG/KG	160	76	46
METHYL-t-BUTYL ETHER	MG/KG	<2.4	<2.4	<1.2

SURROGATE:

BROMOFLUOROBENZENE (%) 179* 88 65

*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

GENERAL	Meter: <u>94298</u> Location: <u>VALDEZ GAS UNIT A #1E CH</u> Coordinates: Letter: <u>G</u> Section <u>24</u> Township: <u>29</u> Range: <u>11</u> Or Latitude _____ Longitude _____ Date Started : <u>11-11-95</u> Area: <u>10</u> Run: <u>81</u>
OBSERVATIONS	Sample Number(s): <u>NS133</u> <u>NS134</u> <u>NS135</u> <u>NS136</u> Sample Depth: <u>14</u> Feet Final PID Reading <u>0.3</u> PID Reading Depth <u>14</u> Feet Yes No Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth <u>12</u> Feet Final Dimensions: Length <u>52</u> Width <u>36</u> Depth <u>14</u>
CLOSURE	Remediation Method : Excavation ☒ (1) Approx. Cubic Yards <u>1548</u> LT <u>11/22/95</u> Onsite Bioremediation ☐ (2) Backfill Pit Without Excavation ☐ (3) Overburden Cubic Yards <u>50</u> LT <u>11/22/95</u> Soil Disposition: Envirotech ☒ (1) ☐ (3) Tierra Other Facility ☐ (2) Name: _____ Pit Closure Date: <u>11-20-95</u> Pit Closed By: <u>Philip</u> <u>APPROV. CLOSED BY: ALTON JAMES (EPNG)</u>
REMARKS	Remarks : <u>EXCAVATED Pit - REMOVED monitor well on Pit</u> <u>Pit size 52x36x14 ENCOUNTERED WATER @ 12' TOOK WATER SAMPLE</u> <u>NOTIFIED D.C.D. LOCAL & STATE. PID READINGS: (0.2.1)(1.2.2)(5-1.9)</u> <u>(E-1.9)(LW-1.1) (COMPOSITE 0.3) TREATED w/ 100' FERTILIZER</u> Signature of Specialist: <u>[Signature]</u>



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	NS133	947791
MTR CODE SITE NAME:	94298	Valdery - A - IE CH
SAMPLE DATE TIME (Hrs):	11-16-95	1215
PROJECT:	Phase III Exc.	
DATE OF TPH EXT. ANAL.:	11/17/95	11/17/95 under 9/20/96
DATE OF BTEX EXT. ANAL.:	11/20/95	11/20/95
TYPE DESCRIPTION:	V6	fine light 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	< 1.5	MG/KG				
TOTAL BTEX	< 3	MG/KG				
TPH (418.1)	< 10	MG/KG			2.05	28
HEADSPACE PID	0.3 under 9/20/96	PPM				
PERCENT SOLIDS	77.7	%				

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

The Surrogate Recovery was at 101% for this sample All QA/QC was acceptable.
relative:

DF = Dilution Factor Used

Approved By: _____

Date: 11/21/95



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	947794
FIELD ID:	NS136
MTR CODE:	94298
SAMPLE DATE:	11-16-95
SAMPLE TYPE:	W [Exc.]
SITE NAME:	Valley - A - IE - CH
PROJECT:	Phase III Exc.
DATE OF BTEX ANALYSIS:	11/20/95

FIELD COMMENTS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT	QUALIFIER	WQCC LIMIT PPB
TDS - TOTAL DISSOLVED SOLIDS (PPM)	N/A		None
BENZENE (PPB)	67.6	D (x5)	10
TOLUENE (PPB)	42.2	D (x5)	740
ETHYL BENZENE (PPB)	53.3	D (x5)	750
TOTAL XYLENES (PPB)	591	D (x5)	620
SURROGATE % RECOVERY	100%	Allowed Range 80 to 120 %	

RES:

Approved By:

11/21/95
Date

[illegible]



Page

of

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

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 Valder Gas Unit AIE 94298

Elevation _____

Well Location Center of Pit

GWL Depth 6.68 Top

Installed By K PADILLA

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site _____

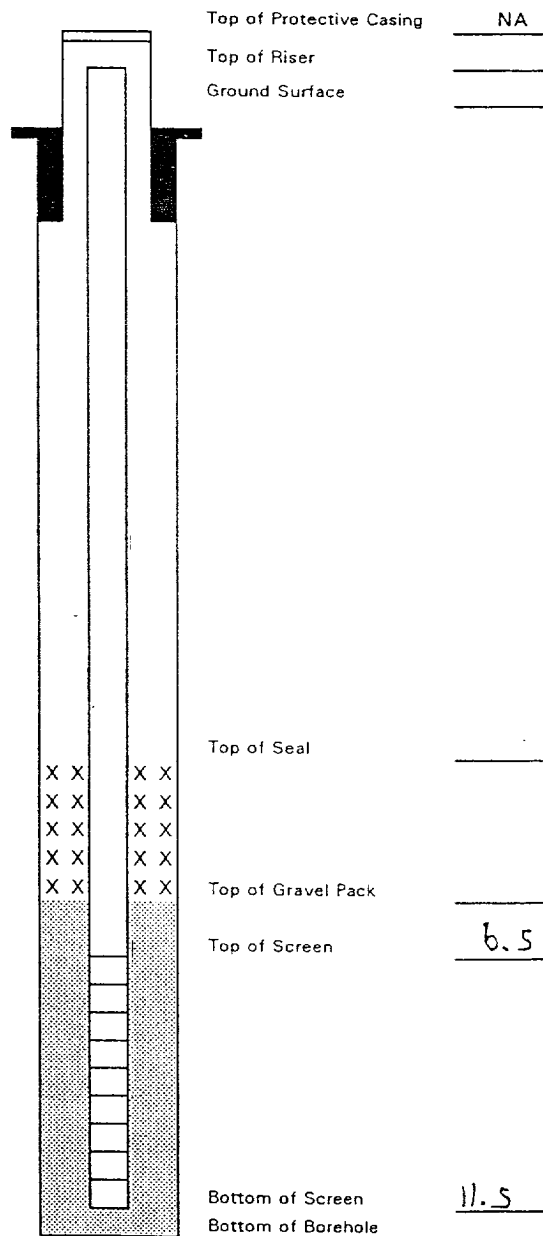
Client Personnel On-Site _____

Date/Time Started 10/28/96

Date/Time Completed 10/28/96

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: _____

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

Elevation

Well Location

SE of PZ1

GWL Depth

8.50 TDR

Installed By K PADILLA

On-Site Geologist

CM CHANCE

Personnel On-Site

D CHARLEY

Contractors On-Site

Client Personnel On-Site

Date/Time Started

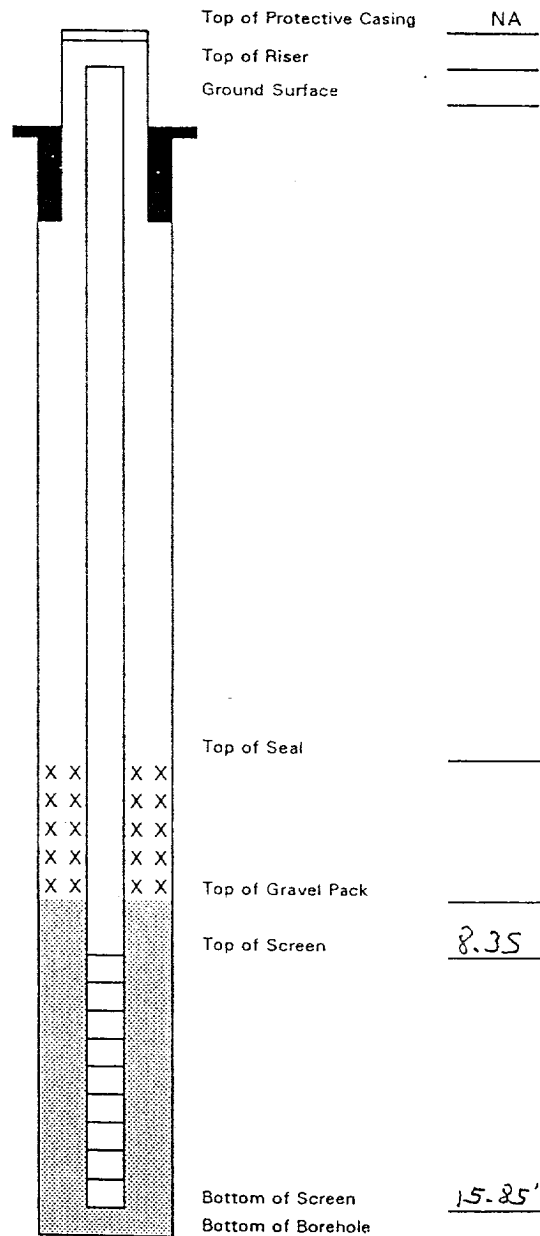
10/28/96

Date/Time Completed

10/28/96

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: _____

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 Valdez Gas Unit A/E 94298

Elevation _____

Well Location SW of PZ1

GWL Depth 8.85 TOR

Installed By K PADILLA

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site _____

Client Personnel On-Site _____

Date/Time Started 10/28/96

Date/Time Completed 10/28/96

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			Top of Seal _____
Bottom of Well Screen			
Top of Peltonite Seal			
Bottom of Peltonite Seal			Top of Gravel Pack _____
Top of Gravel Pack			Top of Screen <u>6.51</u>
Bottom of Gravel Pack			
Top of Natural Cave-In			
Bottom of Natural Cave-In			
Top of Groundwater			Bottom of Screen <u>11.51</u>
Total Depth of Borehole			Bottom of Borehole _____

Comments: _____



Natural Gas Company

A 2683

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:	CMC236	947967
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E
SAMPLE DATE TIME (Hrs):	10/28/96	1505
PROJECT:	Geoprobe	
DATE OF BTEX EXT. ANAL.:	10/29/96	10/29/96
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 at
DF = Dilution Factor Used

114

% for this sample All QA/QC was acceptable.

Narrative: _____

Approved By: _____

Date: _____

10/30/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC235	947966
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E
SAMPLE DATE TIME (Hrs):	10/28/96	1430
PROJECT:	Geoprobe	
DATE OF BTEX EXT. ANAL.:	10/29/96	10/29/96
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 113 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: _____

10/30/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC234	947965
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E
SAMPLE DATE TIME (Hrs):	10/28/96	1325
PROJECT:	Geoprobe	
DATE OF BTEX EXT. ANAL.:	10/29/96	10/29/96
TYPE DESCRIPTION:	PZ1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<1	PPB				
TOLUENE	5.73	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	5.73	PPB				

-BTEX is by EPA Method 8020 -

The Surrogate Recovery was at 115 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John LorchDate: 10/31/96

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 # MW-1

Page 1 of

Project Name EPFS GW PITS

Project Number 17520 Phase 6001

Project Location Valdez AIE 9429E

Elevation

Borehole Location T29-R11-S24-Ltr G

GWL Depth

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 5/7/97-0900

Date/Time Completed 5/7/97-1025

Well Logged By CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site

Client Personnel On-Site

Drilling Method 1/4 ID HSA

Air Monitoring Method PID

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										
10				BACKFILL to 14'						-GW @ 11.5
15				Gray saturated clayey SAND, Fined sand						-gravel
20				TOB 19'						
25										
30										
35										
40										

Comments:

No sample collected. Backfill to 14'. GW @ 11.5

Geologist Signature

CM Chance

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole # BH-1

Well # MW-1

Page 1 of 1

Project Name EPFS GW

Project Number 17520 Phase 6002

Site Location Valdez AIE 94298

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location T29S24R11LTR6

GWL Depth 8.5' BGS

Installed By K Padilla

Date/Time Started 5/7/97-1025

Date/Time Completed 5/7/97-1145

Depths in Reference to Ground Surface				
Item	Material	Depth (feet)		
Top of Protective Casing	8" steel well vault	+3.1		
Bottom of Protective Casing		2		
Top of Permanent Borehole Casing		N/A		
Bottom of Permanent Borehole Casing		N/A		
Top of Concrete		NA		
Bottom of Concrete		NA		
Top of Grout	Type I/II Portland cement	NA		
Bottom of Grout	Powder Bentonite	NA		
Top of Well Riser	4" SCH 40 PVC	+3.0		
Bottom of Well Riser	FLUSH THREAD	1.7		
Top of Well Screen	4" SCH 40 PVC	1.7		Top of Seal 0
Bottom of Well Screen	0.01 SLOT FLUSH THREAD	16.7		
Top of Peltonite Seal	ENVIROPLUG	0'		
Bottom of Peltonite Seal		0.7		Top of Gravel Pack 0.7
Top of Gravel Pack	10-20 SILICA SAND	0.7		Top of Screen 1.7
Bottom of Gravel Pack		16.7'		
Top of Natural Cave-In		16.7'		
Bottom of Natural Cave-In		19'		
Top of Groundwater		8.5		Bottom of Screen 16.7
Total Depth of Borehole		19		Bottom of Borehole 19

Comments: Bentonite hydrated w/ 5gal potable water. Locking well cap & padlock placed on well. GW @ 8.5' after well installed.

CM Chance

10-8) Bloomfield

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, 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 Valdez Gas Unit A/E 94298 94299

Elevation _____

Borehole Location _____

GWL Depth _____

Logged By CM CHANCE

Drilled By MONROUE K. Padilla

Date/Time Started 6/12/95 - 1105

Date/Time Completed 6/12/95 - 1300

Well Logged By CM Chance

Personnel On-Site K. Padilla, E. Rivera, D. Salazar

Contractors On-Site _____

Client Personnel On-Site _____

Drilling Method 8 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										
11-13'	1	11-13'	3"	Blk silty CLAY, very soft, moist, strong odor STNBS - Br silty CLAY, saturated			0	0	269 482	-GW@11.1' -1125hr -Cobbles -Refusal @ 20'
15										
20										
25										
30										
35										
40										

Comments:

Groundwater @ 11.1' after 30 min. No sample. 5 monitor wells on site. 1 is 15' NW of MW-1. 4 are South, Southwest, & Southeast of MW1 ~30-50 yds

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Marvao Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH1
Well # MW1
Page 1 of 1

Project Name EPNG PITS

Project Number 17509 Phase 6000
Project Location Valdez Gas Unit A15 94298

On-Site Geologist C.M. Chancer
Personnel On-Site K. Padilla, F. Rivas, D. Tsulman
Contractors On-Site _____
Client Personnel On-Site _____

Elevation _____
Well Location _____
GWL Depth 11.1'
Installed By K. Padilla

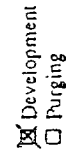
Date/Time Started 6/12/95-1310
Date/Time Completed 6/12/95 1430

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing		NA		Top of Protective Casing <u>NA</u>
Bottom of Protective Casing		NA		Top of Riser <u>+3</u>
Top of Permanent Borehole Casing		NA		Ground Surface <u>0'</u>
Bottom of Permanent Borehole Casing		NA		
Top of Concrete		NA		
Bottom of Concrete		NA		
Top of Grout	NA	NA		
Bottom of Grout	NA	NA		
Top of Well Riser	8' - 4" dia	+3'		
Bottom of Well Riser	Sch 40 PVC	2.7		
Top of Well Screen	15' - .010 slot 4" dia	2.7		
Bottom of Well Screen	Sch 40 PVC	18.7'		Top of Seal <u>0'</u>
Top of Peltonite Seal	1.5 - 50# bags	0'		
Bottom of Peltonite Seal	Med. Enviroplug	2'		Top of Gravel Pack <u>2'</u>
Top of Gravel Pack	20-50# bags	2'		Top of Screen <u>3.7'</u>
Bottom of Gravel Pack	10-20 silica sand	19'		
Top of Natural Cave-In		19'		
Bottom of Natural Cave-In		20'		
Top of Groundwater		11.1'		
Total Depth of Borehole		20'		Bottom of Screen <u>18.7'</u> Bottom of Borehole <u>20'</u>

Comments: 4" bottom cap. Bentonite hydrated w/ 10gal potable water. Well locked w/ padlock & locking well protector.

Geologist Signature

Cory Chancer



Well Number MW-1

Page _____ of _____

Project No. 17520
Page 1 of 1

Project Manager Cory Chance

Phase.Task No. 6003.77

Site Address SAN JUAN CO., NM

Instruments

Water Volume Calculation

Development Criteria

☒ 3 to 6 Casing Volumes of Water Removal

Initial Depth of Well (feet) 18.45 top

☒ pH Meter

OYSTER

☒ Stabilization of Indicator Parameters

☐ Other

Initial Depth to Water (feet) 9.76 for

Height of Water Column in Well (feet) 8.69

☐ DO Monitor

Diameter (inches): Well 4 Gravel Pack

Methods of Development		Item	Water Volume In Well		Gallons to be Removed	Conductivity Meter	Temperature Meter
Pump	Roller		Cubic Feet	Gallons			

	Well Casing	5.67	28.35
☐ Centrifugal			
☒ Bottom Valve			

☐ Submersible	☐ Double Check Valve				
☐ Peristaltic	☐ Stainless-steel Kemmerer				
		Gravel Pack			
		Sand - Fine			
☐ Other _____					

Drilling Fluids		
Total		28.35

ON GROUND ON SITE

Water Removal Data

[illegible]

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

Comments WELL BAILED DRY AT 10 GAL. LET RECOVER 30 MIN. BAILED AN ADDITIONAL 4 GAL. WELL BAILED DRY AGAIN. LET RECOVER 30 MIN. BAILED ANOTHER 4 GAL. WELL BAILED DRY AGAIN. LET RECOVER & SAMPLED.

Developer's Signature(s) _____ Date 5-21-97 Reviewer _____ Date _____



EL PASO FIELD SERVICES



6-11-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	RT3	970479
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E (CH)
SAMPLE DATE TIME (Hrs):	5/21/97	1355
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	5/23/97	5/23/97
TYPE DESCRIPTION:	Monitor Well	Water

7/30/97

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	15.5	PPB	2	D		
TOLUENE	< 1	PPB	2	D		
ETHYL BENZENE	< 1	PPB	2	D		
TOTAL XYLENES	< 3	PPB	2	D		
TOTAL BTEX	15.5	PPB				

The Surrogate Recovery was at 96.5 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

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

Narrative:

Approved By:

John F. L...

Date:

6/3/97

970479,6/2/97



CHAIN OF CUSTODY RECORD

Page

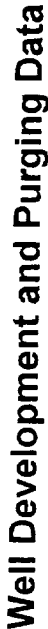
10-

10-

[illegible]

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
970479 *	94298	Valdez Gas Unit A #1E (CH)	5/21/97	Phase IV Drilling - Initial	=	15.5	<	1	<	1	<	3	<	16
970854 *	94298	Valdez Gas Unit A #1E (CH)	8/12/97	Sample 4 - 1st Qtr	=	6.01	<	1	<	1	<	3	=	6
971193 *	94298	Valdez Gas Unit A #1E (CH)	11/6/97	Sample 4 - 2nd Qtr	=	2.89	<	1	<	1	<	3	=	3
980145	94298	Valdez Gas Unit A #1E (CH)	2/5/98	Sample 4 - 3rd Qtr	=	2.67	<	1	<	1	<	3	=	3
980348	94298	Valdez Gas Unit A #1E (CH)	5/5/98	Sample 4 - 4th Qtr	=	1.13	<	1	<	1	<	3	=	1

* Analytical reports provided to NMOCD in prior annual report.



☐	Development
☒	Purging

Well Number NW-1
Meter Code 94298

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

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

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 13.36
Height of Water Column in Well (feet) 7.04

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

Water Disposal

KUTZ SEPARATOR

[illegible]

Comments

THE WELL BAILED ONLY 97.0 GALLONS.

Developer's Signature Ernie Bird

Date 2-5-98

Reviewer Juan Torres

Date 2/17/98



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980145
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E
SAMPLE DATE TIME (Hrs):	2/5/98	1550
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	2/6/98	2/6/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: Surrogate recovery is low due to malfunction of surrogate injection syringe.

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.67	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	3	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 73.3 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Lardi

Date:

2/17/98

980145BTEXMW,2/10/98

SH. 401E 4 3RD QTR



CHAIN OF CUSTODY RECORD

A

2194

2/10/98

Project No.		Project Name			Type and No. of Sample Containers	Preservation Technique	Requested Analysis	Remarks
Sample(s) (Signature)		Date	Time	Comp. GRAB				
[Signature]		02/10/98	1530	X	750145	GC/MS	VALDES GAS UNIT #1E, MW1	
Relinquished by: (Signature)		Date/Time	Received by: (Signature)		Relinquished by: (Signature)	Date/Time	Received by: (Signature)	
[Signature]		02-09-98 1721						
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)			Date/Time	Remarks:	
			[Signature]			2/10/98 1145		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)				

Air Bill No.:



Well Development and Purging Data

Well Number NW-1
Meter Code 94298

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

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

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 13.55
Height of Water Column in Well (feet) 6.85
Diameter (inches): Well 4 Gravel Pack

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

KUTZ SEPARATOR

[illegible]

Developer's Signature *Dennis Bied*

Date 5-5-98

Date 5/11/98



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980348
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E
SAMPLE DATE TIME (Hrs):	5/5/98	1535
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	5/7/98	5/7/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.13	PPB				
TOLUENE	<1	PPB				
ETHYL BENZENE	<1	PPB				
TOTAL XYLENES	<3	PPB				
TOTAL BTEX	1	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: _____

Date: _____

5/11/98

980348BTEXMW,5/8/98

