

3R - 246

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 dark 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

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

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

RECEIVED

APR 05 1999

SITE DETAILS

Legals - Twn: 29N Rng: 11W Sec: 24 Unit: G
NMOCD Hazard Ranking: 40 Land Type: FEE
Operator: AMOCO PRODUCTION COMPANY

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

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



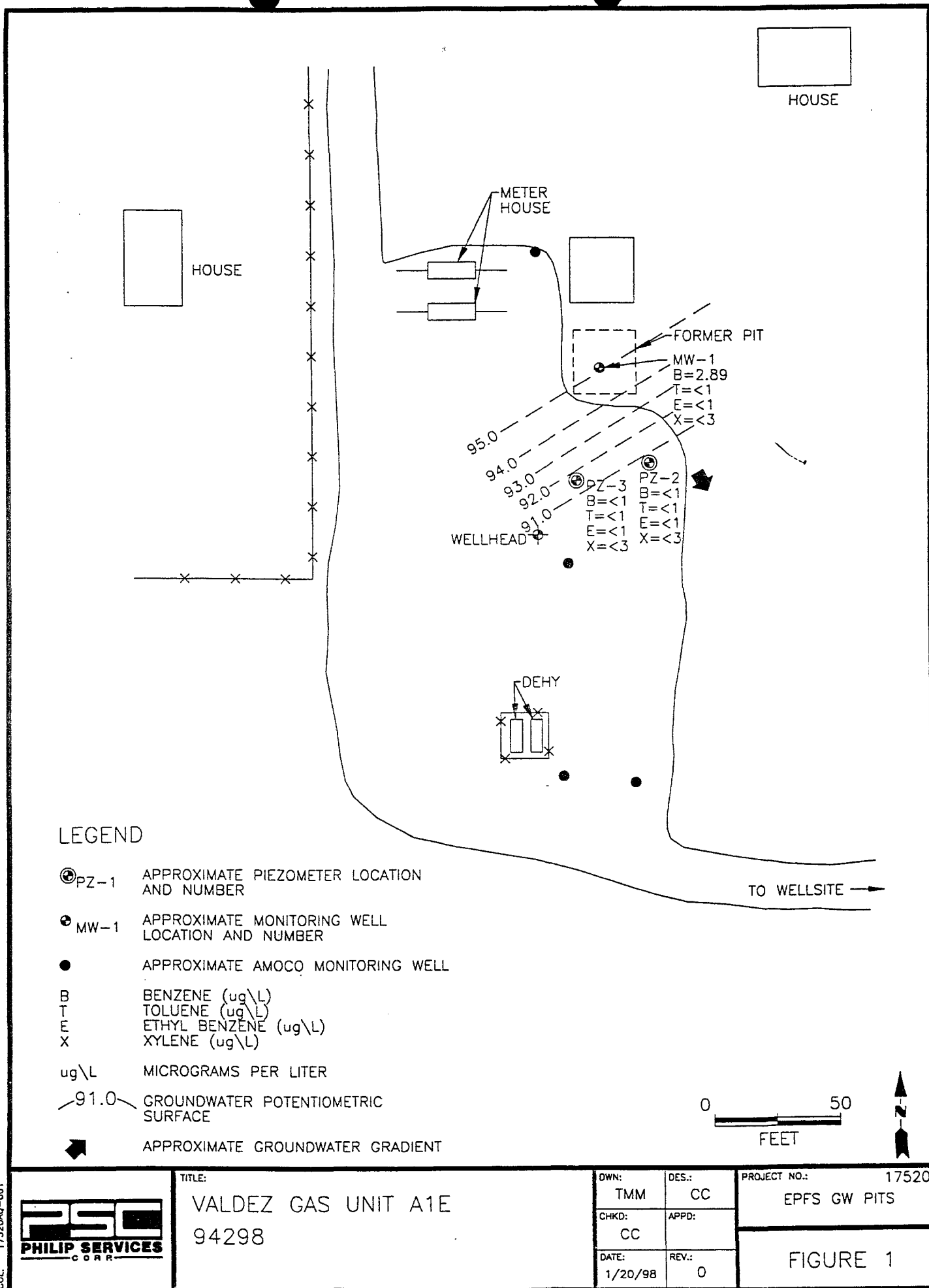
TITLE:
VALDEZ GAS UNIT A1E
94298

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

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

COL. 17520AQ-001



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: <u>X</u> Line Drip: _____ Other: _____ Site Visit Date: <u>4.14.94</u> Run: <u>10</u> <u>81</u>	
	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>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>	

PHASE I EXCAVATION

FIELD FORM 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): ⁹⁴⁵⁰⁹²KP. 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

NIA VALDEZ UNIT A #1E

4/28/94

1258

NIA Phase 7

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	20.50	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)	15 130 131	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 820 -

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

AT I Results attached.

F = Dilution Factor Used

Approved By:

Date:

5/2/94



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of

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



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.

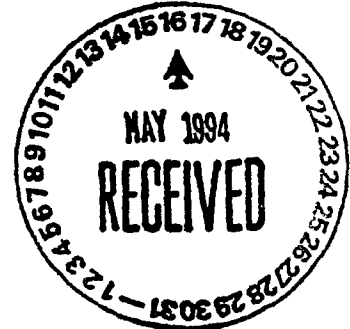
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

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

PHASE III RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

GENERAL

Meter: 94298 Location: VALDEZ GAS UNIT A#1E CH
 Coordinates: Letter: G Section 24 Township: 29 Range: 11
 Or Latitude _____ Longitude _____
 Date Started : 11-11-95 Area: 10 Run: 81

OBSERVATIONS

Sample Number(s): NS133 NS134 NS135 NS136
 Sample Depth: 14 Feet
 Final PID Reading 0.3 PID Reading Depth 14 Feet
 Yes No
 Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 12 Feet
 Final Dimensions: Length 52 Width 36 Depth 14

CLOSURE

Remediation Method :
 Excavation ☒ (1) Approx. Cubic Yards 1548 LT 11/22/95
 Onsite Bioremediation ☐ (2)
 Backfill Pit Without Excavation ☐ (3)
 Overburden Cubic Yards 50 LT 11/22/95
 Soil Disposition:
 Envirotech ☒ (1) ☐ (3) Tierra
 Other Facility ☐ (2) Name: _____

Pit Closure Date: 11-20-95 Pit Closed By: Philip

APPROV. CLOSER BY: ALTON JAMES (EPNG)

REMARKS

Remarks : EXCAVATED PIT - REMOVED PROHIBITION WELL ON PIT
PIT SIZE 52X36X14 ENCOUNTERED WATER @ 12' TOOK WATER SAMPLE
NOTIFIED D.C.D. LOCAL & STATE. PID READINGS: (LO-2.1)(N-2.2)(S-1.9)
(E-1.9)(W-1.1) (COMPOSITE 0.3) TREATED W/ 100' FERTILIZER

Signature of Specialist: [Signature]



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-1E 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.

Narrative:

DF = Dilution Factor Used

Approved By: JP.

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:

Valdey - 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 %	

NOTES:

Approved By:

11/21/95
Date

[illegible]



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of

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

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

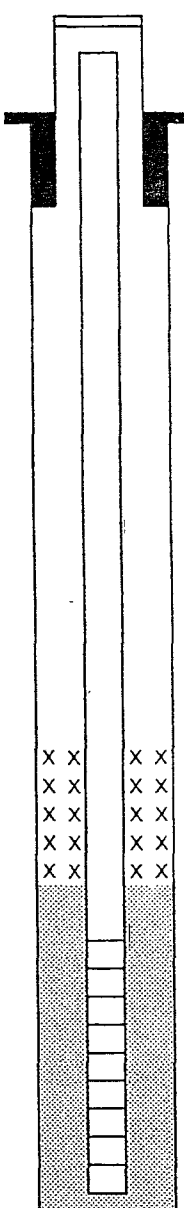
Project Name EPFS PITS
Project Number 16297 Phase 6004
Site Location Valdez Gas Unit AIE 94298

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		



Top of Protective Casing NA

Top of Riser _____

Ground Surface _____

Top of Seal _____

Top of Gravel Pack _____

Top of Screen 6.5

Bottom of Screen 11.5

Bottom 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

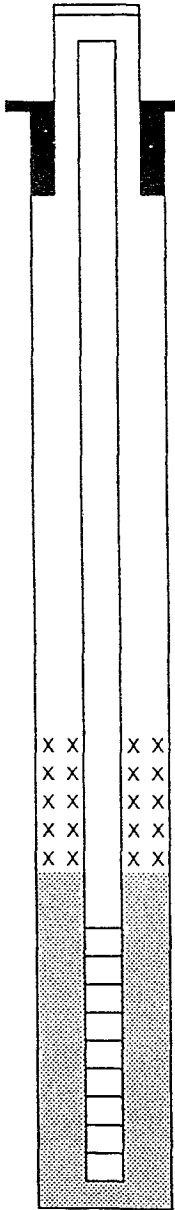
Contractors On-Site _____

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		



Top of Protective Casing NA

Top of Riser _____

Ground Surface _____

Top of Seal _____

Top of Gravel Pack _____

Top of Screen 8.35

Bottom of Screen 15.25'

Bottom 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 _____

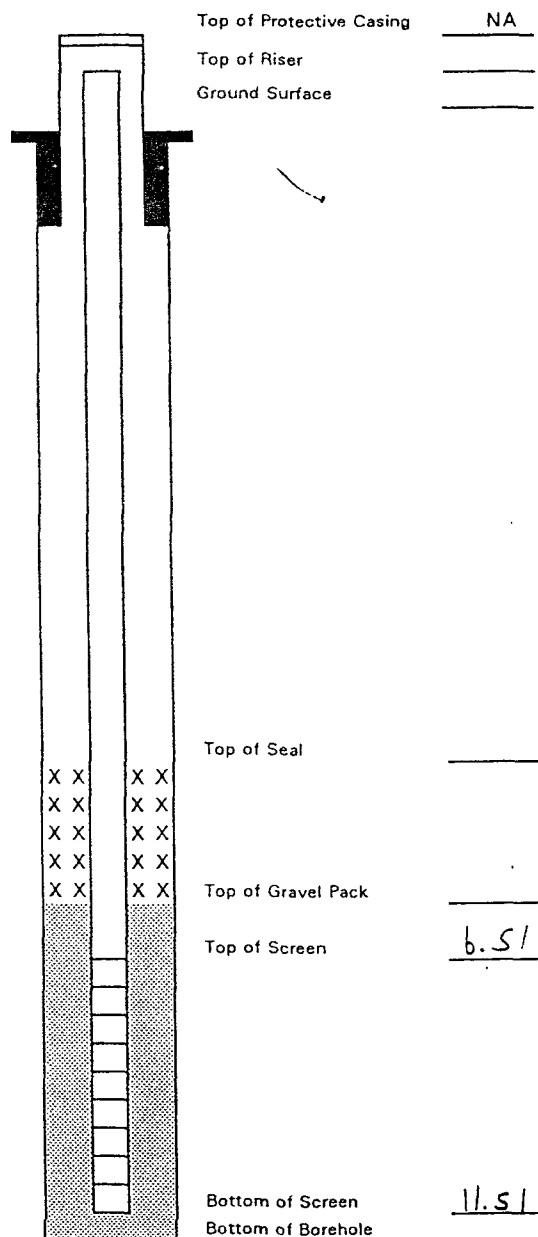
Client Personnel On-Site _____

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		
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: _____

A 2683

[illegible]



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 114 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John L. LohrDate: 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: John SmithDate: 10/30/96



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID CMC234	Lab ID 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 LatchDate: 10/30/96

PHASE II SOIL BORING

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # BH-1
Well # 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										
15				BACKFILL to 14'						-GW @ 11.5
20				Gray saturated clayey SAND, Fined sand						-gravel
25										
30				TOB 19'						
35										
40										

Comments:

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

Geologist Signature

Ray 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 A/E 94298

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location T29S24R11LTR6

GWL Depth 9.5' BGS

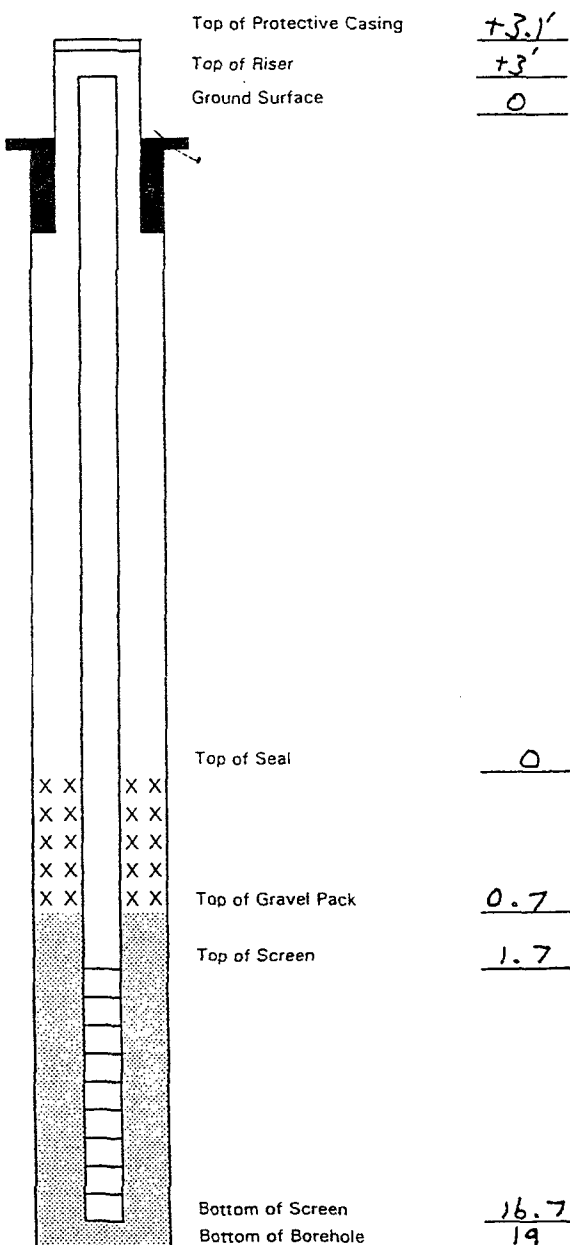
Installed By K Padilla

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
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	10-20 SILICA SAND	0.7
Bottom of Gravel Pack		16.7'
Top of Natural Cave-In		16.7'
Bottom of Natural Cave-In		19'
Top of Groundwater		8.5
Total Depth of Borehole		19



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

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 99298 99299

Elevation

Borehole Location

GWL Depth

Logged By

CM CHANCE

Drilled By

M. DONOHUE K. Padilla

Date/Time Started

6/12/95 - 1105

Date/Time Completed

6/12/95 - 1200

Well Logged By

CM Chance

Personnel On-Site

K. Padilla, E. Rivera, D. Tealaya

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			0	0	269	GW @ 11.1'
15				ETNBs - Br silty CLAY, saturated					482	1125 hr
20										Cobbles
25										
30										Refusal @ 20'
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 Monroe 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 14509 Phase 6000
Project Location Valdez Gas Unit A/E 94298

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

On-Site Geologist C. M. Chancy
Personnel On-Site K. Padilla, E. Rioscas, D. J. Alar
Contractors On-Site _____
Client Personnel On-Site _____

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 Chancy



☒ Development
☐ Purging

WELL DEVELOPMENT AND PURGING DATA

Well Number MW-1

Serial No. WDPD-

Page 1 of 1

Project Name EEFS G.W. PITS

Project Manager CORY CHANCE

Project No. 17520

Client Company EL PASO FIELD SERVICES

Phase Task No. 6003.77

Site Name VALDEZ GAS UNIT A #1E CH

Site Address SAN JUAN CO., NM

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
☐ Other _____

Water Volume Calculation

Initial Depth of Well (feet) 18.45 TOR
Initial Depth to Water (feet) 9.76 TOR
Height of Water Column in Well (feet) 8.69
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing	<u>8.69</u>	<u>5.67</u>	<u>28.35</u>
Gravel Pack			
Drilling Fluids			
Total			<u>28.35</u>

Instruments

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

Serial No. (if applicable) _____

OYSTER

OYSTER

OYSTER

Water Disposal

ON GROUND ON SITE

Water Removal Data

Date	Time	Development Method	Removal Rate (gal/min)	Initial Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons)		Product Volume Removed (gallons)		Temperature (°C)	pH	Conductivity (mmhos/cm)	Dissolved Oxygen (mg/L)	Comments
						Increment	Cumulative	Increment	Cumulative					
5-21-97	1201	X				5	5			13.9	6.94	1400		DARK BROWN-SILTY
5-21-97	1216	X				5	10			14.0	6.85	2320		DARK BROWN-SILTY
5-21-97	1253	X				4	14			13.1	6.91	2460		DARK BROWN-SILTY
5-21-97	1330	X				4	18			13.2	6.96	2460		DARK BROWN-SILTY

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 MORE MIN. BAILED ANOTHER 4 GAL. WELL BAILED DRY AGAIN. LET RECOVER & SAMPLED.

Developer's Signature(s) [Signature]

Date 5-21-97

Reviewer _____

Date _____

Location No. MW-1

WATER SAMPLING DATA

Serial No. WSD-Group List Number Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 5-21-97Project Name EPFS GW PITS Project No. 17S20Project Manager CORY CHANCE Phase Task No. 6003.77Site Name VALDEZ GAS UNIT A #1E CH

Sampling Specifications

Requested Sampling

Depth Interval (feet) TOP 3'

Requested Wait Following

Development/Purging (hours) NONE

Initial Measurements

Time Elapsed From Final Development/Purging (hours) 25 MIN.Initial Water Depth (feet) 9.76 TORNonaqueous Liquids Present (Describe) NONE

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data					Notes (Explain in Comment Below)
			Temp (°C)	pH	DO (mg/L)	Cond. (µmhos/cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (ft)	Bail Depth (ft)	Final Water Depth (ft)	
	SEE	WELL	DEVELOPMENT				AND PURGING DATA				SHEET	

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	2	V	40		X	H	X		SAMPLED AT 1355

Filter Type NONE Chain-of-Custody Form Number EPFSComments Signature Paul Thompson Date 5-21-97 Reviewer Date



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 IV ^{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:

Date:

6/3/97

CHAIN OF CUSTODY RECORD



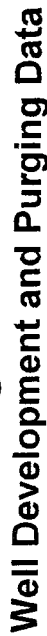
Natural Gas Company

[illegible]

QUARTERLY MONITORING RESULTS

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.



Well Development and Purging Data

Site Name VALDEZ GAS UNIT AREA

☐	Development
☒	Purging

Well Number 11W-1

Meter Code 94298

Development Criteria

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

Water Volume Calculation

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

Diameter (inches): Well 4 Gravel Pack

Methods of Development

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

Instruments

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

Water Disposal

KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.7	140
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments THE WELL BAILED ONLY 07.0 GALLONS.

Developer's Signature: Dennis Bird

Date 2-5-98 Reviewer John Fitch

Date 2/17/98



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:

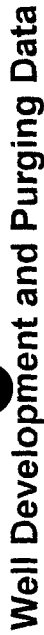
Approved By: John Lardi

Date: 2/17/98

980145BTEXMW, 2/10/98

2194

[illegible]



☐ Development

☒ Purging

Well Number MW-1

Meter Code 74298

Site Name VALDEZ GAS UNIT A #1E

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 |

Water Volume Calculation

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

Instruments

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

Water Disposal

KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.5	13.6
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments THE WELL BAILED ONLY P 7.0 GALLONS

Developer's Signature Lennis Bied

Date 5-5-98

John F. Smith: Date 5/11/48

Date _____



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: _____

John L. Linder

Date: _____

5/11/98

980348BTEXMW,5/8/98

SAMPLE 4 4TH QTR



CHAIN OF CUSTODY RECORD

Project No.	Project Name	Requested Analysis		Type and No. of Sample Containers	Preservation Technique	Remarks
MC # 74298	Dennis Bird	Date: 5-5-98				
Date	Time	Comp.	GRAB	Sample Number		
5-5-98 1535			X	980348	5-1 40C X	VALDES GAS UNIT A #1 E MID
[The following rows are crossed out with a diagonal line]						
Relinquished by: (Signature) <i>Dennis Bird</i> Date/Time 5-5-98 1721 Received by: (Signature) _____ Date/Time _____						
Relinquished by: (Signature) _____ Date/Time _____ Received by: (Signature) _____ Date/Time _____						
Relinquished by: (Signature) _____ Date/Time _____ Received by: (Signature) _____ Date/Time _____						
Carrier Co: _____ Date Results Reported / by: (Signature) _____						

5-18-98 Nial.
5-18-98 Anal.
5-18-98 Chem.

A 2680



QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 980132 to 980135, 980142 to 980145

QA/QC for 2/6/98 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	47.5	95.0	75 - 125 %	X
Toluene	Standard	50.0	47.8	96	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.3	97	75 - 125 %	X
m & p - Xylene	Standard	100	96.4	96.4	75 - 125 %	X
o - Xylene	Standard	50.0	48.4	97	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	24.7	98.7	39 - 150	X
Toluene	Standard	25.0	24.5	98	46 - 148	X
Ethylbenzene	Standard	25.0	24.5	98	32 - 160	X
m & p - Xylene	Standard	50.0	48.8	98	Not Given	X
o - Xylene	Standard	25.0	24.5	98	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	49.2	98.4	75 - 125 %	X
Toluene	Standard	50.0	49.4	98.7	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.6	99.2	75 - 125 %	X
m & p - Xylene	Standard	100	98.9	98.9	75 - 125 %	X
o - Xylene	Standard	50.0	49.7	99	75 - 125 %	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	49.3	98.5	75 - 125 %	X
Toluene	Standard	50.0	50.4	100.8	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.9	99.7	75 - 125 %	X
m & p - Xylene	Standard	100	99.3	99.3	75 - 125 %	X
o - Xylene	Standard	50.0	50.0	100.0	75 - 125 %	X

Narrative: Acceptable.

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	47.6	95.2	75 - 125 %	X
Toluene	Standard	50.0	47.0	94.0	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.9	95.7	75 - 125 %	X
m & p - Xylene	Standard	100	95.0	95.0	75 - 125 %	X
o - Xylene	Standard	50.0	48.5	97.0	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
980143					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 980143					RANGE	
Benzene	50	<1	48.7	97.3	75 - 125 %	X
Toluene	50	<1	48.4	97	75 - 125 %	X
Ethylbenzene	50	<1	48.6	97	75 - 125 %	X
m & p - Xylene	100	<2	96.7	96.7	75 - 125 %	X
o - Xylene	50	<1	48.6	97	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

Narrative: 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

Narrative: Acceptable.

Reported By: CPV

Approved By: John Larchi

Date: 2/17/98



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 980345 to 980348, 980350 to 980352

QA/QC for 5/7/98 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	49.7	99.4	75 - 125 %	X
Toluene	Standard	50.0	50.9	102	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.7	103	75 - 125 %	X
m & p - Xylene	Standard	100	104.0	104.0	75 - 125 %	X
o - Xylene	Standard	50.0	50.8	102	75 - 125 %	X
LCS LA-45476 25 PPB					RANGE	
Benzene	Standard	25.0	25.1	100.5	39 - 150	X
Toluene	Standard	25.0	25.6	102	46 - 148	X
Ethylbenzene	Standard	25.0	26.0	104	32 - 160	X
m & p - Xylene	Standard	50.0	52.7	105	Not Given	X
o - Xylene	Standard	25.0	25.7	103	Not Given	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	48.8	97.5	75 - 125 %	X
Toluene	Standard	50.0	50.0	100.0	75 - 125 %	X
Ethylbenzene	Standard	50.0	51.2	102.3	75 - 125 %	X
m & p - Xylene	Standard	100	103.0	103.0	75 - 125 %	X
o - Xylene	Standard	50.0	49.9	100	75 - 125 %	X
CCV LA-52589 50 PPB					RANGE	
Benzene	Standard	50.0	48.1	96.2	75 - 125 %	X
Toluene	Standard	50.0	49.0	98.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	50.2	100.3	75 - 125 %	X
m & p - Xylene	Standard	100	100.7	100.7	75 - 125 %	X
o - Xylene	Standard	50.0	49.1	98.1	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
980345					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	1.8	1.8	0.31	+/- 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 980345					RANGE	
Benzene	50	<1	49.2	98.4	75 - 125 %	X
Toluene	50	1.8	51.8	100	75 - 125 %	X
Ethylbenzene	50	<1	50.2	100	75 - 125 %	X
m & p - Xylene	100	<2	101.3	101.3	75 - 125 %	X
o - Xylene	50	<1	50.2	100	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

Narrative: Acceptable.

TRIP BLANK	SOURCE	PPB (2 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: CV

Approved By: John L. Lach

Date: 5/1/98