

3R - 246

REPORTS

DATE:

1997



Certified Mail: #Z 295 387 297; #Z 295 387 296

February 27, 1998

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

RECEIVED

MAR 02 1998

Environmental Bureau
Oil Conservation Division

Re: 1997 Groundwater Annual Report

Dear Mr. Olson:

In accordance with reporting requirements, El Paso Field Services (EPFS) has enclosed annual updates for 57 groundwater impacted locations that were identified during our pit closure project of 1994/1995.

Of the 57 reports, EPFS hereby requests your approval for closure of 11 of these locations. The 11 reports for which EPFS requests closure, are in 2 separate binders entitled "Request for Closure".

After you have had an opportunity to review these updates, EPFS would like to schedule a meeting with you to discuss issues related to closure criteria for some of the more complex locations that are currently being addressed.

If you have any questions regarding this information, please call me at 505/599-2141. I will contact you within the next quarter to schedule a meeting.

Sincerely,

A handwritten signature in cursive script that reads 'Sandra D. Miller'.

Sandra D. Miller
Environmental Manager

xc: Mr. Bill Liesse, BLM w/o enclosures

Mr. Denny Foust, NMOCD - Aztec w/enclosures; Certified Mail #Z 295 387 298; #Z 295 387 299

Ms. Charmaine Tso, Navajo EPA w/enclosures; Certified Mail #Z 295 387 292

SAN JUAN BASIN PIT CLOSURES
San Juan Basin, New Mexico

El Paso Field Services Pit Project Groundwater Report
Annual Report

March 1998

Prepared For

El Paso Field Services
Farmington, New Mexico

Project 17520

PHILIP
INDUSTRIAL

EPFS GROUNDWATER PITS

1997 ANNUAL GROUNDWATER REPORT

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

SITE DETAILS

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

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		

1997 ACTIVITIES

Monitor Well Installation - One groundwater monitor well was installed in the center of the former pit.

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 8/12/97. Groundwater analytical data are presented in Table 1.

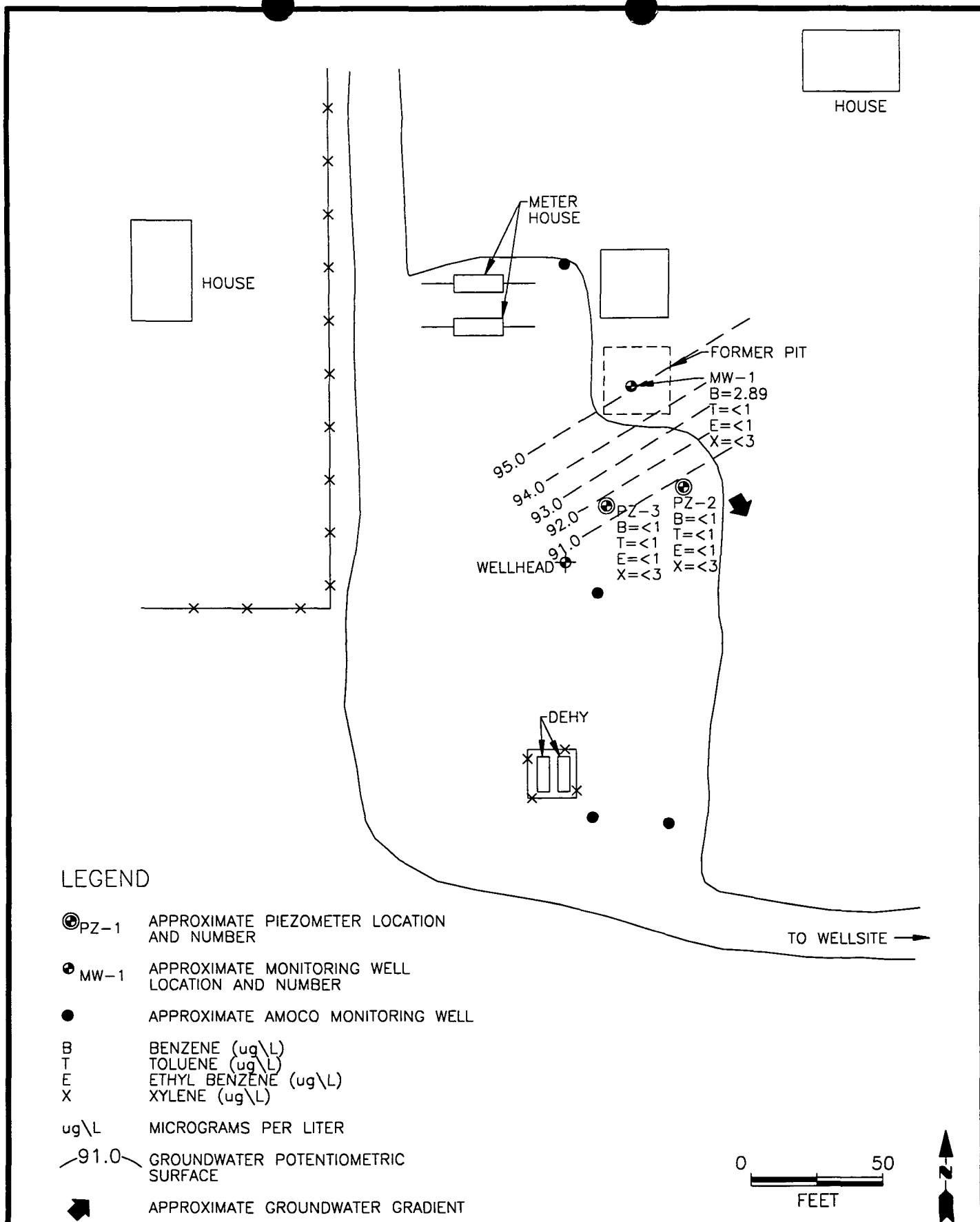
CONCLUSIONS

Based on groundwater levels collected from Geoprobe data, the groundwater flow trends to the southeast on this site, as presented in Figure 1. Groundwater analytical data from PZ-2 (downgradient of MW-1) were below standards for BTEX. One crossgradient groundwater sample was also below standards.

Groundwater analytical data has been below standards since quarterly sampling was initiated at MW-1. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

- Quarterly sampling will continue at MW-1 until 4 consecutive clean quarters are achieved.
- Following OCD approval for closure, MW-1 will be abandoned following OCD approved abandonment procedures.



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

TABLE 1

Sample #	Motor/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
970479	94298	Valdez Gas Unit A #1E (CH)	7/15/95	1	Phase II Drilling - Initial					
970479	94298	Valdez Gas Unit A #1E (CH)	5/21/97	1	Phase IV Drilling - Initial	= 15.5	< 1	< 1	< 3	< 16
970854	94298	Valdez Gas Unit A #1E (CH)	8/12/97	1	Sample 4 - 1st Qtr	= 6.01	< 1	< 1	< 3	= 6
971193	94298	Valdez Gas Unit A #1E (CH)	11/6/97	1	Sample 4 - 2nd Qtr	= 2.89	< 1	< 1	< 3	< 3

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 97298 97299

Elevation _____
Borehole Location _____
GWL Depth _____
Logged By CM CHANCE
Drilled By MC DONOUGH 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, F. 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	1	11-15'	3"	Blk silty CLAY, very soft, moist, strong odor			0	0	269 982	GW @ 11.1' 1125h
15				CTNGs - Br silty CLAY, saturated						Cobbles
20				TDB 20'						Refusal @ 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 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 17509 Phase 6000
Project Location Valdez Gas Unit A15 94298
On-Site Geologist C. M. Chance
Personnel On-Site K. Padilla, F. Rioscas, D. Tsalas
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/ 10 gal potable water. Well locked w/ padlock + locking well protector.

Geologist Signature

Cory Chance

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 A/E 94296

Elevation
Borehole Location T29-R11 - S24-Ltr 6
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 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

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 A/E 94298

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location T29S24R11 LTRG

GWL Depth 8.5' BGS

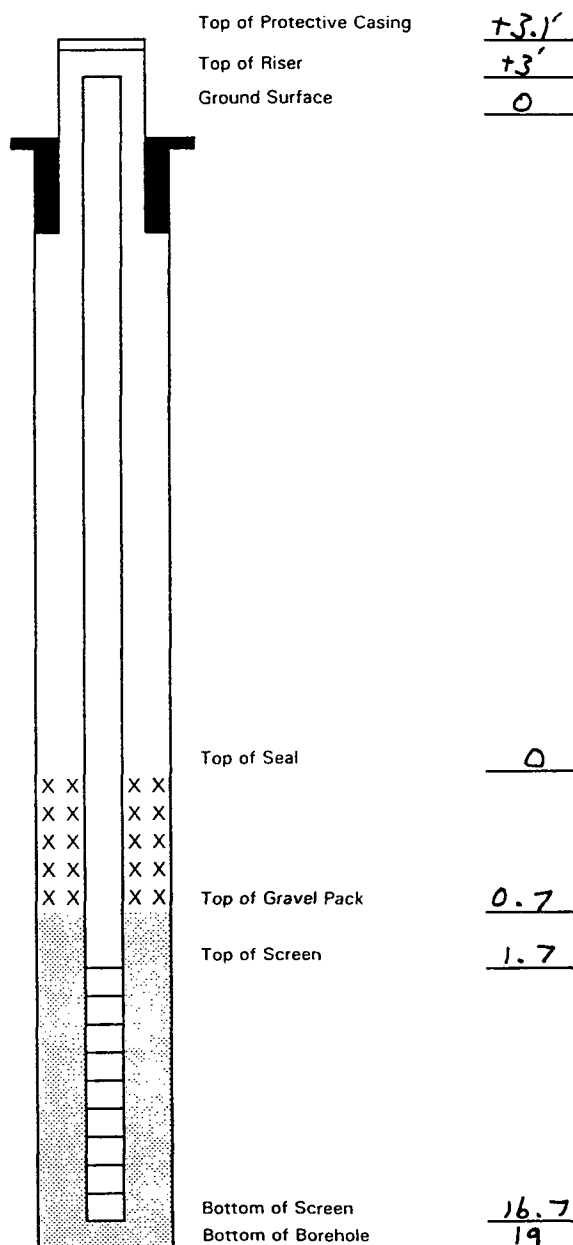
Installed By K Padilla

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		N/A
Bottom of Concrete		N/A
Top of Grout	Type I/II Portland cement	N/A
Bottom of Grout	Powder Bentonite	N/A
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/ 5 gal potable water. Locking well cap & padlock placed on well. GW @ 8.5' after well installed.

CM Chance

GEOPROBE

SITE ACTIVITIES

21-Feb-97

Meter/Line #: 94298

Location/Line #: Valdez A #1E

MW#:

Depth to GW:

Depth to Product:

Product Thickness:

Date: 10/28/96

Activity: Geoprobe

Comments: Installed 3 piezos. This site has 4 Amoco MW's.

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

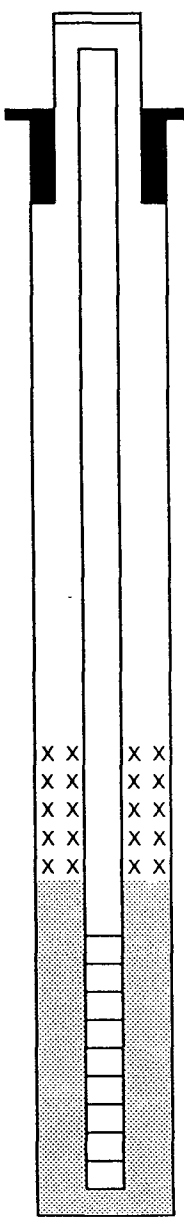
Project Name EPFS PITS
Project Number 16297 Phase 6004
Site Location Valdez Gas Unit AIE 94298

Elevation _____
Well Location Center of Pit
GWL Depth 6.68 TD
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 _____

On-Site Geologist CM CHANCE

Personnel On-Site D CHARLEY

Contractors On-Site _____

Client Personnel On-Site _____

Elevation _____

Well Location SE of P21

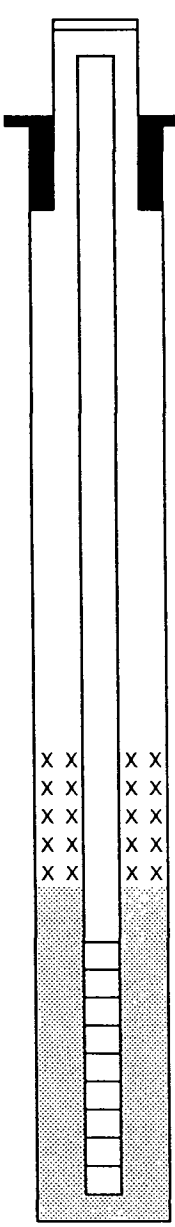
GWL Depth 8.50 TDR

Installed By K PADILLA

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

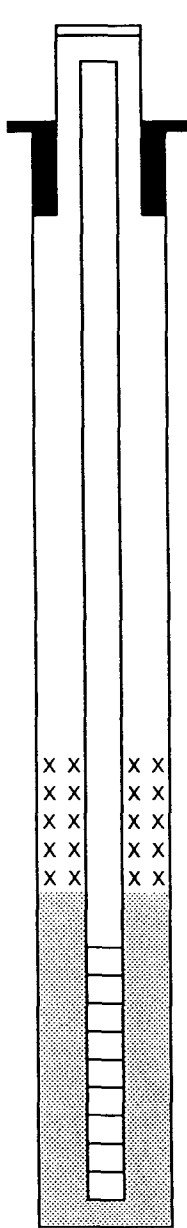
Contractors On-Site _____

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		



Top of Protective Casing NA

Top of Riser _____

Ground Surface _____

Top of Seal _____

Top of Gravel Pack _____

Top of Screen 6.51

Bottom of Screen 11.51

Bottom of Borehole _____

Comments: _____



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:	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: 10/30/96



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:	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: 10/31/96

**1997 GROUNDWATER
ANALYTICAL**

CONTRACT LABORATORY P. O. NUMBER

[illegible]



6-11-97

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	Field ID RT3	Lab ID 970479
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E (CH)
SAMPLE DATE TIME (Hrs):	5/21/97	1355
PROJECT:	Phase W 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 L. Allen

Date:

6/3/97

Project Name	EPFS	GW	PITS

Project Manager Cory Chance

Project No. 17520

Client Company EL PASO FIELD SERVICES

Site Name VALDEZ GAS UNIT A #13 CH

Site Address SAN JUAN CO., NM

Phase.Task No. 6003. 77

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 18.45 YOR
Initial Depth to Water (feet) 9.76 YOR
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	8.69	5.67	28.35
Gravel Pack			
Drilling Fluids			
Total			28.35

Methods of Development

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

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

[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) Robert Thompson

Reviewer _____ Date _____

Date S-21-97

Date _____

Location No. Mw-1

Serial No. WSD-

WATER SAMPLING DATA

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 5-21-97

Project Name EPFS GW PITS Project No. 17S20

Project Manager CORY CHANCE Phase.Task No. 6003.77

Site 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 TOR

Nonaqueous Liquids Present (Describe) NONE

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

[illegible]

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

[illegible]

Filter Type NONE Chain-of-Custody Form Number EPFS

Comments

Signature [Signature] Date 5-21-97 Reviewer _____ Date _____



A 2055

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Requested Analysis		Type and No. of Sample Containers		Remarks	
Samplers: (Signature)		Date: 8-12-97		Requested Analysis		Type and No. of Sample Containers		Remarks	
Date	Time	Comp.	GRAB	Sample Number	BT/C	GC/MS	GC/MS	GC/MS	Remarks
8-12-97	1535		X	970854	X	X	X	X	VALDES GAS UNIT A#E MC 94298
[Diagonal line across the body of the table]									
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time		Received by: (Signature)	
Dennis Bied		8-12-97 1643							
Relinquished by: (Signature)		Date/Time		Relinquished by: (Signature)		Date/Time		Received by: (Signature)	
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Date/Time		Remarks:	
				Mendon Rogers		8/13/97 0750			
Carrier Co:				Carrier Phone No.				Date Results Reported / by: (Signature)	



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970854
MTR CODE SITE NAME:	94298	Valdez A #1E-CH
SAMPLE DATE TIME (Hrs):	8/12/97	1535
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	8/13/97	8/13/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	6.01	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 87.6 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Linder

Date:

8/27/97

970854BTEX, 8/27/97



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970854
DATE SAMPLED:	08/12/97
TIME SAMPLED (Hrs):	1535
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	97298
SAMPLE SITE NAME:	Valdez A #1-CH
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	6.86	Units	08/14/97
Alkalinity as CO ₃	0	PPM	08/14/97
Alkalinity as HCO ₃	1830	PPM	08/14/97
Calcium as Ca	365	PPM	08/13/97
Magnesium as Mg	73.7	PPM	08/13/97
Total Hardness as CaCO ₃	1,215	PPM	08/13/97
Chloride as Cl	152	PPM	08/13/97
Sulfate as SO ₄	157	PPM	08/13/97
Fluoride as F	<0.1	PPM	08/14/97
Nitrate as NO ₃ -N	<0.6	PPM	08/13/97
Nitrite as NO ₂ -N	<0.6	PPM	08/13/97
Ammonium as NH ₄ ⁺	37.0	PPM	08/13/97
Phosphate as PO ₄	<0.6	PPM	08/13/97
Potassium as K	14.1	PPM	08/13/97
Sodium as Na	287	PPM	08/13/97
Total Dissolved Solids	2,020	PPM	08/14/97
Conductivity	2,920	umhos/cm	08/14/97
Anion/Cation %	2.1%	%, <5.0 Accepted	09/09/97

Lab Remarks:

Reported By: mh

Approved By:

John L. Linder

Date: 9-11-97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970854
SAMPLE DATE:	08/12/97
SAMPLE TIME (Hrs):	0015
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	94298
SAMPLE SITE NAME:	Valdez Gas Unit A #1E
SAMPLE POINT:	MW-1

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC (As)	0.033	0.100
BARIUM (Ba)	0.75	1.00
CADMIUM (Cd)	<0.0002	0.010
CHROMIUM (Cr)	<0.004	0.050
LEAD (Pb)	<0.003	0.050
MERCURY (Hg)	<0.0002	0.002
SELENIUM (Se)	<0.011	0.050
SILVER (Ag)	<0.0004	0.050

References:

Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.
Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.
Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.
Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.
Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Reported By: CV

Approved By:

John Lander

Date: 9-11-97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970854
Date Reported: 09/05/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	94.4%
Barium	0.064	0.065	98.8%
Cadmium	0.0013	0.0012	110%
Chromium	0.008	0.007	103%
Lead	0.044	0.042	105%
Mercury	0.0041	0.0046	89.3%
Selenium	0.040	0.041	98.8%
Silver	0.0062	0.0068	91.2%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	0.008	0.008	0.8%
Barium	0.106	0.114	7.3%
Cadmium	ND	ND	NA
Chromium	0.004	0.005	4.7%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.008	0.118	0.100	107%
Barium	0.106	0.997	1.00	89.1%
Cadmium	ND	0.0105	0.010	99.7%
Chromium	0.004	0.052	0.050	94.9%
Lead	ND	0.054	0.050	102%
Mercury	ND	0.0017	0.0020	89.0%
Selenium	ND	0.054	0.050	105%
Silver	ND	0.0393	0.005	78.4%

METHOD BLANK

Analyte	Found Result (mg/L)	Detection Level (mg/L)
Arsenic	ND	0.004
Barium	ND	0.019
Cadmium	ND	0.0002
Chromium	ND	0.004
Lead	ND	0.003
Mercury	ND	0.00019
Selenium	ND	0.011
Silver	ND	0.0004

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: John F. L...

Date: 9-8-97



Well Development and Purging Data

Site Name VALDEZ GAS UNIT A #1E

Well Number 9W-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) 12.55
Height of Water Column in Well (feet) 7.85

Height of Water Column in Well 2.8 Gravel Pack

Diameter (inches): Well 4

Methods of Development

- | | | | |
|--------------------------|--------------------|-------------------------------------|---------------------------------|
| <input type="checkbox"/> | Pump | <input checked="" type="checkbox"/> | Bailer |
| <input type="checkbox"/> | Centrifugal | <input checked="" type="checkbox"/> | Bottom Valve |
| <input type="checkbox"/> | Submersible | <input type="checkbox"/> | Double Check Valve |
| <input type="checkbox"/> | Peristaltic | <input type="checkbox"/> | Stainless-steel Kemmerer |

☐ Other

Instruments

- | | |
|-------------------------------------|--------------------|
| <input checked="" type="checkbox"/> | pH Meter |
| <input type="checkbox"/> | DO Monitor |
| <input checked="" type="checkbox"/> | Conductivity Meter |
| <input checked="" type="checkbox"/> | Temperature Meter |
| <input checked="" type="checkbox"/> | Other <i>DO-C</i> |

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments
THE WELL BAILED DRY 07.0 GALLONS.

Developer's Signature *Dennis Bied*

Date 8/2-97

Reviewer

Don Fodor

Date 8/27/97



Natural Gas Company

CHAIN OF CUSTODY RECORD

SAMPLE 4 2ND QTR

A 2132

[illegible]



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971193
MTR CODE SITE NAME:	94298	Valdez Gas Unit A #1E
SAMPLE DATE TIME (Hrs):	11/6/97	1420
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	11/7/97	11/7/97
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.89	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 95.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Lallo

Date:

11/12/97

971193BTEXMW,11/10/97



Well Number WW-1
Meter Code 94398

<input type="checkbox"/>	Development
<input checked="" type="checkbox"/>	Purging

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

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 12.56
Height of Water Column in Well (feet) 7.34
Diameter (Inches): Well 4 Gravel Pack

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

<input type="checkbox"/>	Pump	<input type="checkbox"/>	Bailer
<input type="checkbox"/>	Centrifugal	<input checked="" type="checkbox"/>	Bottom Valve
<input type="checkbox"/>	Submersible	<input type="checkbox"/>	Double Check Valve
<input type="checkbox"/>	Peristaltic	<input type="checkbox"/>	Stainless-steel Kemmerer

KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.7	15.5
Gravel Pack			
Drilling Fluids			
Total			

[illegible]

Developer's Signature Dennis Bird

Date 11-6-97 Reviewer John F. Luth Date 11/7/97