

3R - 180

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
ENVIRONMENTAL

EPFS GROUNDWATER PITS

1997 ANNUAL GROUNDWATER REPORT

GALLEGOS CANYON UNIT D #160

Meter/Line ID - 14046

SITE DETAILS

Legals - Twn: 29N Rng: 12W Sec: 27 Unit: 1
NMOCD Hazard Ranking: 40 Land Type: FEE
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Apr-94 Excavation: Apr-94 (40 cy) Soil Boring: Nov-95
Re-Excavation: Oct-96 (1,260 cy) Monitor Well: Feb-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 8/6/97. Groundwater analytical data are presented in Table 1.

Well Point Installation - Groundwater samples were collected from temporary monitoring wells. In addition, groundwater gradient was determined using the temporary monitoring wells.

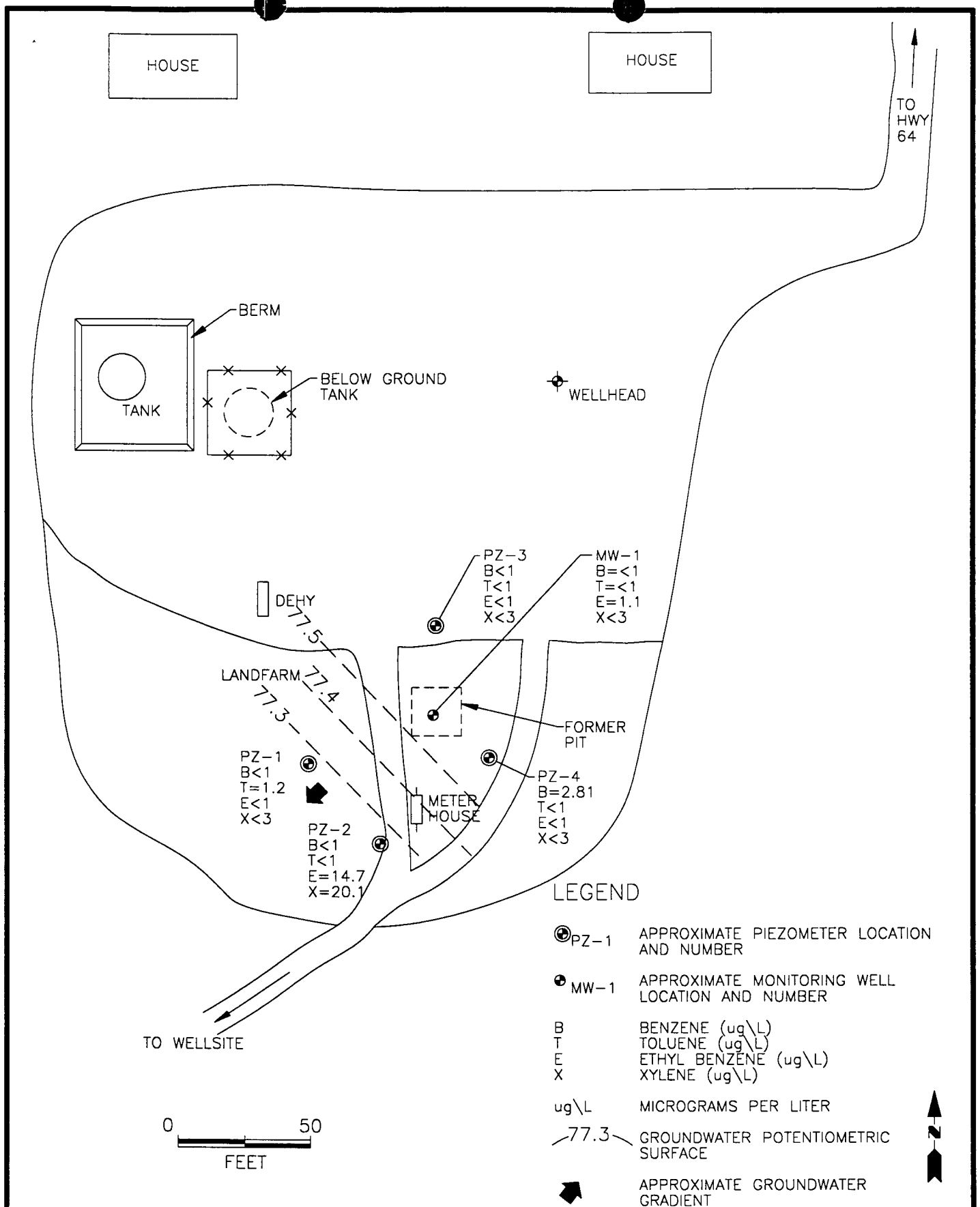
CONCLUSIONS

Based on groundwater levels collected from Well Point data, the groundwater flow trends to the southwest on this site, as presented in Figure 1.

Groundwater analytical data has been below standards since quarterly sampling was initiated at MW-1. Groundwater samples collected from temporary monitoring wells, up and down gradient of MW-1, were all below standards for BTEX. 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 17520J-001



TITLE:
GALLEGOS CANYON
UNIT D160 14046

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

DES.:
CC
APPD:
REV.:
0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

EPFS Groundwater Pits
1997 Annual Groundwater Report

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total HEX
970202	14046	GCU Unit D #160	3/10/97	1	Phase II Drilling - Initial	= 72.8	1	= 111	= 822	= 1007
970817	14046	GCU Unit D #160	8/6/97	1	Sample 4 - 1st Qtr	= 2.65	= 1.97	= 30.1	= 6	= 35
971194	14046	GCU Unit D #160	11/6/97	1	Sample 4 - 2nd Qtr	< 1	< 1	= 1.1	< 3	< 6

RECORD OF SUBSURFACE EXPLOATION

PHILIP ENVIRONMENTAL SERVICES INC.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH- 2
Well # 1
Page 1 of 1

Project Name EPFS GW PITS
Project Number 17520 Phase 6001.77
Project Location GCU UNIT D #160-14046

Elevation _____
Borehole Location T29 R12- S27- Ltr 1
GWL Depth 21' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 2/26/97 - 1400
Date/Time Completed 11 - 1600

Well Logged By D CESARK
Personnel On-Site D CHARLEY
Contractors On-Site _____
Client Personnel On-Site _____

Drilling Method 4 1/4" ID HSA
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: PPM BZ BH S			Drilling Conditions & Blow Counts
0				BACKFILL						TIME 7
5				TO						
10				12'						
15	1	13'-15'	12"	(FILL MATERIAL) - TO 19'					0/	14207
20	2	18'-20'		CLAYEY, FINE-SAND, SAND-CLAY MIXTURES. DARK GRAY HC STAIN, MODERATE HC COOR.	SC				24/51	14307
25				GRAVELS / COBBLES (NO SAMPLE)						
30				TD = 29'						
35										
40										

Comments:

AUGER REFUSAL IN COBBLES @ 29' BGS. GW ENCOUNTERED @ 21' BGS.
LAST RETREIVABLE SAMPLE WAS HIGHLY CONTAMINATED, SO NOT SUBMITTED
TO LAB. SET WELL - PLEASE REFER TO WELL COMP. DIAGRAM.

Geologist Signature

[Signature]

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Inc.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # 2
Well # 1
Page 1 of 1

Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location GCU UNIT D#160-14046

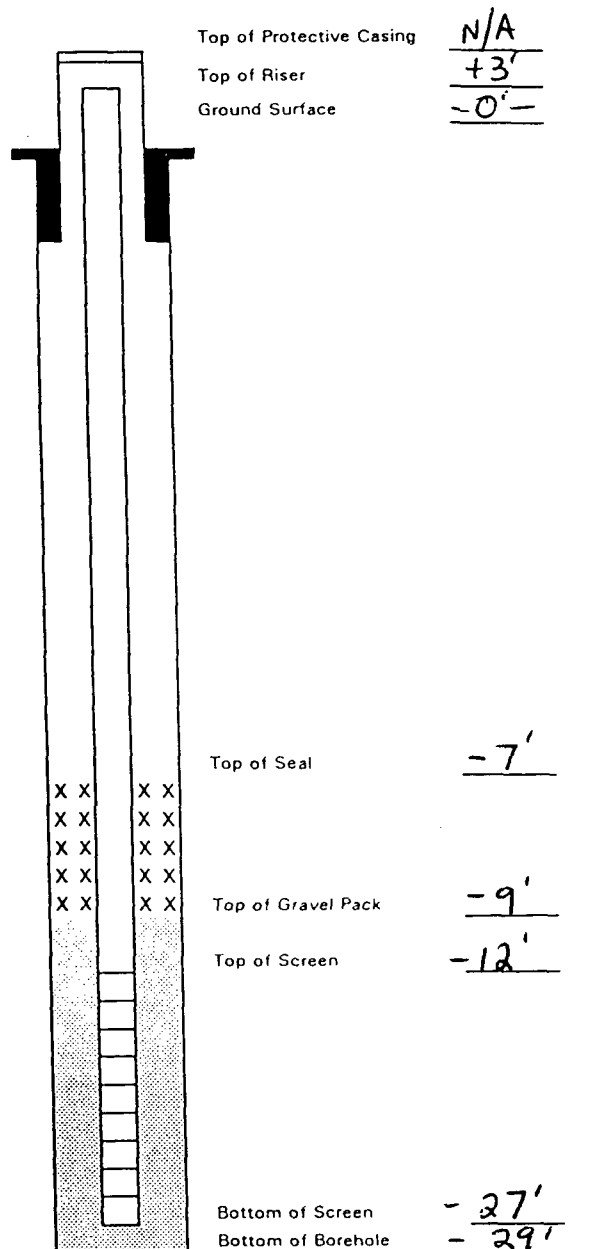
Elevation _____
Well Location T29N-R12W-S27-L1
GWL Depth -21'
Installed By M DONOHUE

On-Site Geologist D CESARK
Personnel On-Site D CHARLEY
Contractors On-Site _____
Client Personnel On-Site _____

Date/Time Started 2/26/97 1600
Date/Time Completed " 1800

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		-1'
Bottom of Grout		-7'
Top of Well Riser	SCHED. 40 PVC	+3'
Bottom of Well Riser	"	-12'
Top of Well Screen	1010 SCREEN	-12'
Bottom of Well Screen	"	-27'
Top of Peltonite Seal	ENVIROPLUG	-7'
Bottom of Peltonite Seal	"	-9'
Top of Gravel Pack	10-20 SAND	-9'
Bottom of Gravel Pack	"	-27'
Top of Natural Cave-In		-27'
Bottom of Natural Cave-In		-29'
Top of Groundwater		-21'
Total Depth of Borehole		-29'



Comments: PROBLEMS w/ ROD BINDING IN GRAVELS/AUGER, HEAVING SANDS -
HAD TO 'STEM' AUGERS w/ CLEAN WATER TO COMPLETE WELL.

Geologist Signature [Signature]

WELLPOINTS

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-1

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Gallegos Canyon Unit D 160
14046

On-Site Geologist C CHANCE

Personnel On-Site D Charley, C Goner

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr I -S27-T29-R12

GWL Depth 17.83' TDP

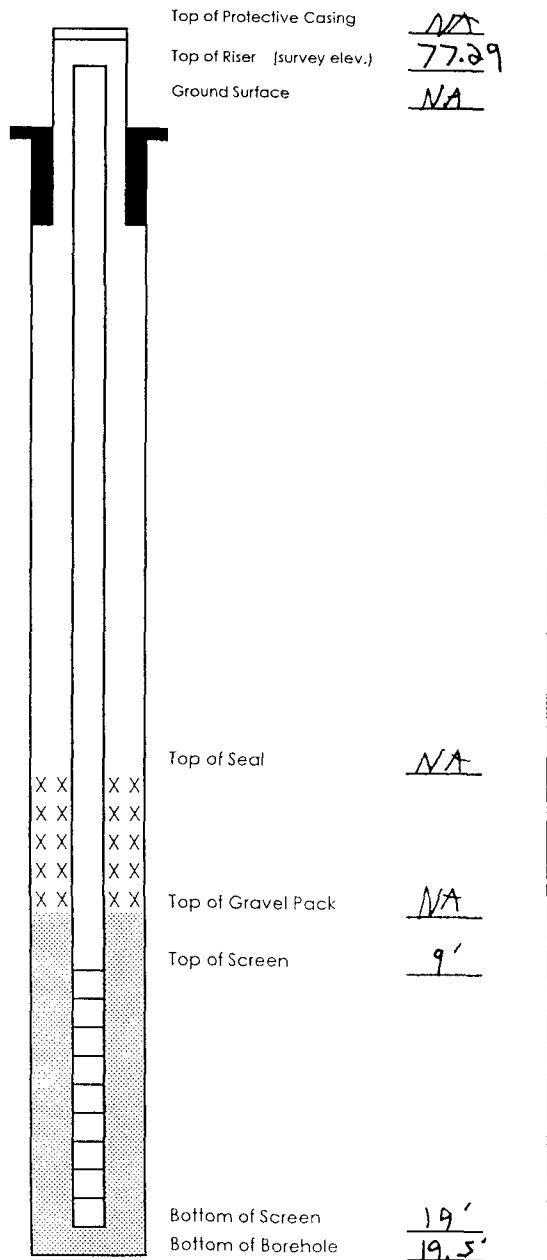
Installed By K. Padilla

Date/Time Started 9/29/97

Date/Time Complete 9/29/97

COMMENTS

- PZ1 is 250' + 49' from MW1
- Collect soil sample @ 15-17'
- BGS = DK br CLAY, soft, high plastic, dry, mod gypsum parting. PID = 3 ppm
- Install piezometer + collect GW sample (CMC360)



Majority of site has been "land farmed".

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-2

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Gallegos Canyon Unit D/60

14046

On-Site Geologist C CHANCE

Personnel On-Site D Charley, C Gomez

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr I -S27-129-R12

GWL Depth 16.98 TOR

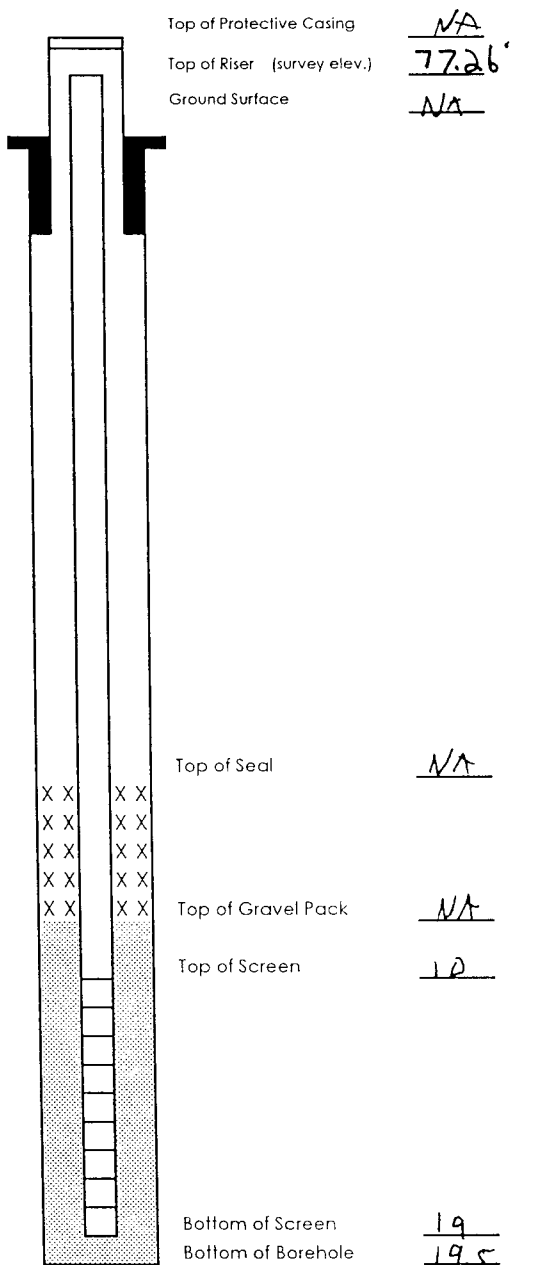
Installed By K Padilla

Date/Time Started 9/29/97

Date/Time Complete 9/29/97

COMMENTS

- PZ2 is 205° ↓ 52' from MW1
- Collect soil sample @ 15-17'
- BGS: Br/Tan mottled CLAY, med stiff, hi plastic, dry, mod gypsum parting
- P10 = 61 ppm
- Install piezometer & collect GW sample (CMC 361)



MW1 ^{GW} riser elev. 77.54. MW1 GW @ 22.11 TOR

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.

4000 Monroe Rd.

Farmington, NM 87401

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

Borehole #

Well # PZ-3

Page 1 of 1

Project Name EPFS GW PITS

Project Number 17520 Phase 6006

Site Location Gallegos Canyon Unit D160
14046

On-Site Geologist C CHANCE

Personnel On-Site D Gomez, D Chasley

Contractors On-Site

Client Personnel On-Site

Elevation

Well Location Ltr J -S27-129-R10

GWL Depth ~24' BGS

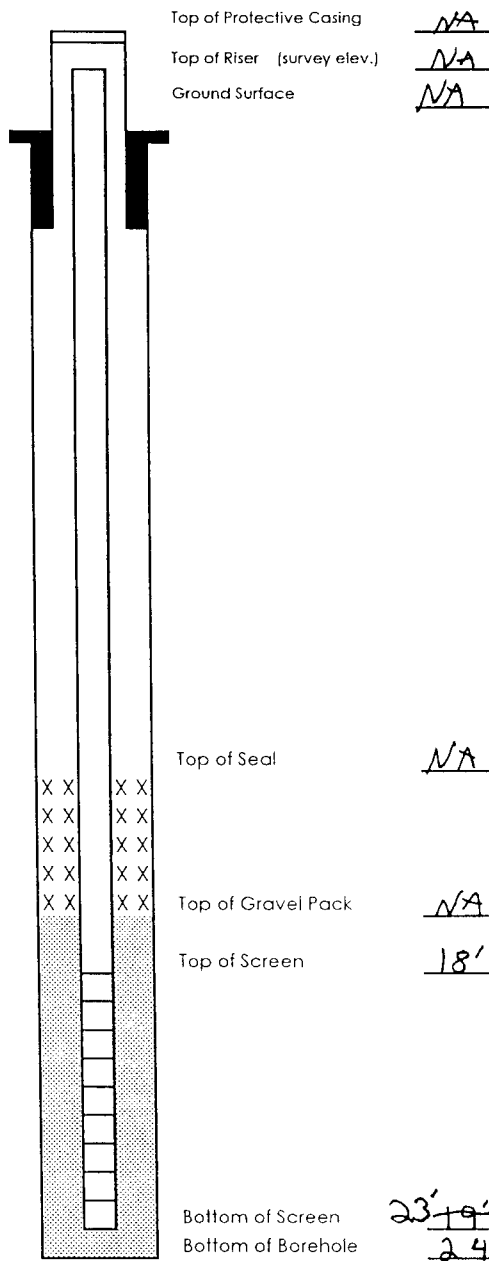
Installed By K Padilla

Date/Time Started 9/30/97

Date/Time Complete 9/30/97

COMMENTS

- P23 is 3° ↓ 35' From MW1
- Collect soil sample 20-22'
- BGS: DK Br CLAY, med stiff,
- hi plastic, dry, tr gypsum parting
- PII = 2 ppm
- Install temp well pt &
- collect GW sample (CMC362)
- Pull well pt & gravel B4



Note: P23 is ~5' higher in elev. than MW1

TEMPORARY PIEZOMETER INSTALLATION

Philip Services Corp.
4000 Monroe Rd.
Farmington, NM 87401
(505) 326-2262 FAX (505) 326-2388

Borehole #
Well # PZ-4
Pag 1 of 1

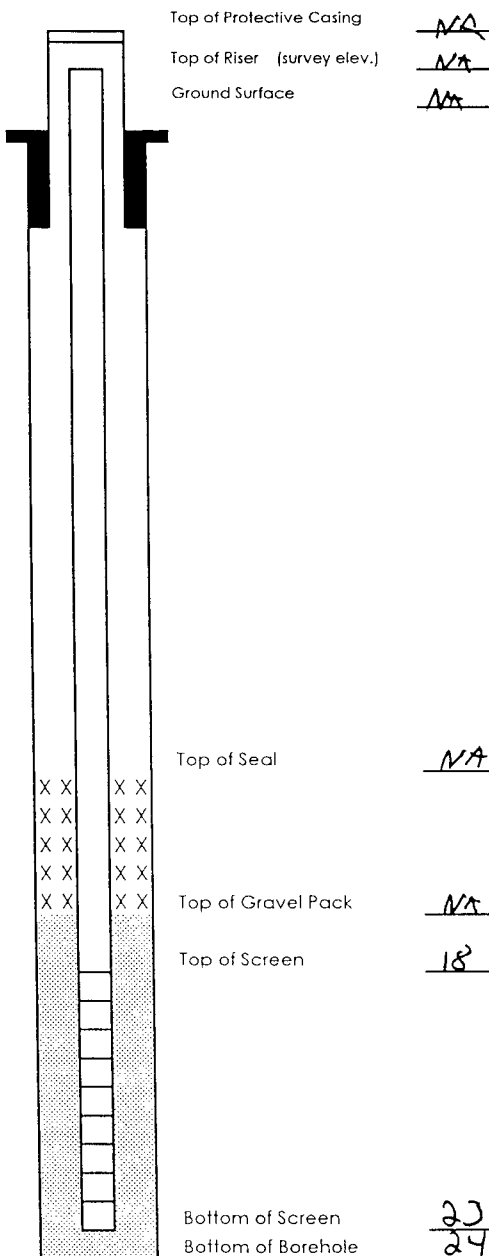
Project Name EPFS GW PITS
Project Number 17520 Phase 6006
Site Location Gallegos Canyon Unit D160
14246
On-Site Geologist C CHANCE
Personnel On-Site C Gomez, D Charley
Contractors On-Site
Client Personnel On-Site

Elevation
Well Location Ltr T -S27-T29-R12
GWL Depth
Installed By K. Padilla

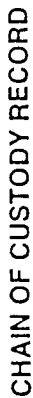
Date/Time Started 9/30/97
Date/Time Complete 9/30/97

COMMENTS

- PZ4 is 130° ↓ 26' from MW1
- Collect soil sample from
15-17' BGS: Br clayey SILT,
med dense, dry
PID = 7 ppm
- Install temp. well pt +
collect GW sample (Cmr363)
- Pull well pt ↓ gravel BH



Cory Chance



CHAIN OF CUSTODY RECORD

PROJECT NAME		PROJECT NUMBER		CONTRACT LABORATORY P. O. NUMBER	
Pit Closure Project		24324			
DATE: 9/29/97		FIELD ID		REMARKS	
LAB ID	DATE	TIME	MATRIX	SEQUENCE #	
71072	9/29/97	—	Water		Trip Blank
71073	1115		CMC 358		GCU A142E 03906 P25
71074	1215		CMC 359		" P26
71075	1410		CMC 360		GCU D16D 14046 P21
71076	1530	✓	CMC 361		" P22
Note: GW reacted w/ HCL. VERY difficult to remove all bubbles					

REQUESTED ANALYSIS

TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #
---------------	---------------	---------	------------

RECEIVED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

DATE/TIME

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY

EL PASO NATURAL GAS COMPANY

P.O. BOX 4990

FARMINGTON, NEW MEXICO 87499

505-599-2144

FAX: 505-599-2261



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC360	971075
MTR CODE SITE NAME:	14046	GCU D #160
SAMPLE DATE TIME (Hrs):	9/29/97	1410
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/1/97	10/1/97
TYPE DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	1.20	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	1	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 92.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John L. Latta

Date: 10-3-97

971075BTEXWP,10/2/97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC361	971076
MTR CODE SITE NAME:	14046	GCU D #160
SAMPLE DATE TIME (Hrs):	9/29/97	1530
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/1/97	10/1/97
TYPE DESCRIPTION:	PZ-2	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	14.7	PPB				
TOTAL XYLENES	20.1	PPB				
TOTAL BTEX	35	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Lardi

Date:

10-3-97

971075BTEXWP,10/2/97



CHAIN OF CUSTODY RECORD

Page _____ of _____

SUBJECT NUMBER 24324		PROJECT NAME Pit Closure Project		DATE 9/20/97		REQUESTED ANALYSIS				CONTRACT LABORATORY P. O. NUMBER			
LAB ID		DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID	SEQUENCE #	REMARKS	
971088	9/20/97	1000	1145	Water	Trip Blank	1	VB	✓	✓			Trip Blank	
971086	9/20/97	1000	1145	Water	CMC362	2	VB	✓	✓			GCV D160 14046 P23	
971087	9/20/97	1000	1145	Water	CMC363	2	VB	✓	✓			P24	
RECEIVED OCT 10 1997													
Note: P24 GW reacted w/ HCL													
RELINQUISHED BY: (Signature) <i>Cory Chaney</i>		DATE/TIME 9/20/97 1400		RECEIVED BY: (Signature) <i>Cory Chaney</i>		DATE/TIME 10/2/97 1145		RELINQUISHED BY: (Signature) <i>John Teller</i>		DATE/TIME 10/2/97 1145		RECEIVED BY: (Signature) <i>John Teller</i>	
REQUESTED TURNAROUND TIME: ROUTINE ☐ RUSH ☐		SAMPLE RECEIPT REMARKS Cool + Intact - No Thermo.		RESULTS & INVOICES TO:		FIELD SERVICES LABORATORY EL PASO NATURAL GAS COMPANY P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499		FAX: 505-599-2261		FAX: 505-599-2144		FAX: 505-599-2261	



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	Trip Blank	971085
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	9/30/97	1000
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/6/97	10/6/97
TYPE DESCRIPTION:	Trip Blank	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 97.4 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John Ladd

Date: 10-7-97

971085BTEXWPTB,10/7/97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC362	971086
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	9/30/97	1000
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/6/97	10/6/97
TYPE DESCRIPTION:	PZ-3	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	< 1	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	< 6	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative: _____

Approved By: John JardenDate: 10-7-97

971086BTEXWP,10/7/97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	CMC363	971087
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	9/30/97	1145
PROJECT:	Well Points	
DATE OF BTEX EXT. ANAL.:	10/6/97	10/6/97
TYPE DESCRIPTION:	PZ-4	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.81	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 97.2 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

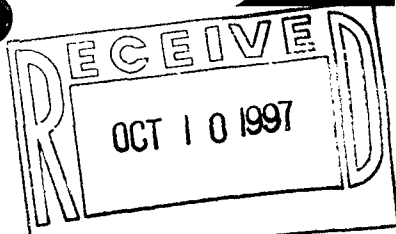
Approved By: John L. Linder

Date: 10-8-97

971087BTEXWP,10/8/97



EL PASO FIELD SERVICES



QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 971080 to 971087

QA/QC for 10/6/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
ICV LA-52589 50 PPB						
Benzene	Standard	50.0	49.3	98.7	75 - 125 %	X
Toluene	Standard	50.0	48.7	97	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.3	99	75 - 125 %	X
m & p - Xylene	Standard	100	98.5	98.5	75 - 125 %	X
o - Xylene	Standard	50.0	49.2	98	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
LCS LA-45476 25 PPB						
Benzene	Standard	25.0	25.3	101.2	39 - 150	X
Toluene	Standard	25.0	24.4	97	46 - 148	X
Ethylbenzene	Standard	25.0	24.8	99	32 - 160	X
m & p - Xylene	Standard	50.0	49.8	100	Not Given	X
o - Xylene	Standard	25.0	24.9	100	Not Given	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.2	98.5	75 - 125 %	X
Toluene	Standard	50.0	48.1	96.2	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.9	97.8	75 - 125 %	X
m & p - Xylene	Standard	100	97.7	97.7	75 - 125 %	X
o - Xylene	Standard	50.0	49.0	98	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
CCV LA-52589 50 PPB						
Benzene	Standard	50.0	49.9	99.7	75 - 125 %	X
Toluene	Standard	50.0	48.0	96.0	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.3	96.7	75 - 125 %	X
m & p - Xylene	Standard	100	96.3	96.3	75 - 125 %	X
o - Xylene	Standard	50.0	48.4	96.8	75 - 125 %	X

Narrative: Acceptable.

LABORATORY DUPLICATES:

SAMPLE ID	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
971086					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 971086					RANGE	
Benzene	50	<1	53.7	107.5	75 - 125 %	X
Toluene	50	<1	48.6	97	75 - 125 %	X
Ethylbenzene	50	<1	49.1	98	75 - 125 %	X
m & p - Xylene	100	<2	98.2	98.2	75 - 125 %	X
o - Xylene	50	<1	49.3	99	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (3 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.

9/30/97 TRIP BLANK	SOURCE	PPB	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: CVApproved By: [Signature]Date: 10-8-97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 971052 to 971055, 971058, 971068, 971069, 971070, 971071 to 971074

QA/QC for 9/30/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
ICV LA-52589 50 PPB					YES	NO
					RANGE	
Benzene	Standard	50.0	49.7	99.4	75 - 125 %	X
Toluene	Standard	50.0	49.9	100	75 - 125 %	X
Ethylbenzene	Standard	50.0	50.0	100	75 - 125 %	X
m & p - Xylene	Standard	100	100.3	100.3	75 - 125 %	X
o - Xylene	Standard	50.0	50.0	100	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
LCS LA-45476 25 PPB					YES	NO
					RANGE	
Benzene	Standard	25.0	25.0	100.0	39 - 150	X
Toluene	Standard	25.0	25.2	101	46 - 148	X
Ethylbenzene	Standard	25.0	25.0	100	32 - 160	X
m & p - Xylene	Standard	50.0	50.1	100	Not Given	X
o - Xylene	Standard	25.0	25.1	100	Not Given	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
CCV LA-52589 50 PPB					YES	NO
					RANGE	
Benzene	Standard	50.0	49.5	99.0	75 - 125 %	X
Toluene	Standard	50.0	49.1	98.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.1	98.2	75 - 125 %	X
m & p - Xylene	Standard	100	97.9	97.9	75 - 125 %	X
o - Xylene	Standard	50.0	49.2	98	75 - 125 %	X
SAMPLE NUMBER	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
CCV LA-52589 50 PPB					YES	NO
					RANGE	
Benzene	Standard	50.0	49.2	98.3	75 - 125 %	X
Toluene	Standard	50.0	48.7	97.3	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.4	96.8	75 - 125 %	X
m & p - Xylene	Standard	100	96.5	96.5	75 - 125 %	X
o - Xylene	Standard	50.0	48.6	97.2	75 - 125 %	X

Narrative: Acceptable.

SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	48.5	97.0	75 - 125 %	X
Toluene	Standard	50.0	47.4	94.8	75 - 125 %	X
Ethylbenzene	Standard	50.0	47.3	94.6	75 - 125 %	X
m & p - Xylene	Standard	100	93.9	93.9	75 - 125 %	X
o - Xylene	Standard	50.0	47.6	95.1	75 - 125 %	X

LABORATORY DUPLICATES:

SAMPLE ID 971053	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
					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	<1	0.00	+/- 20 %	X
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 971053	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	50	<1	50.3	100.7	75 - 125 %	X
Toluene	50	<1	49.7	99	75 - 125 %	X
Ethylbenzene	50	<1	49.3	99	75 - 125 %	X
m & p - Xylene	100	<2	98.1	98.1	75 - 125 %	X
o - Xylene	50	<1	49.3	99	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 ARRYOVER 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.

9/30/97 TRIP BLANK	SOURCE	PPB	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: CA

Approved By: John Fawcett

Date: 10-6-97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT EPA METHOD 8020 - BTEX

Samples: 971056 to 971057, 971075 to 971076

QA/QC for 10/1/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	50.4	100.7	75 - 125 %	X
Toluene	Standard	50.0	50.0	100	75 - 125 %	X
Ethylbenzene	Standard	50.0	49.7	99	75 - 125 %	X
m & p - Xylene	Standard	100	99.3	99.3	75 - 125 %	X
o - Xylene	Standard	50.0	49.4	99	75 - 125 %	X
SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	25.0	24.4	97.5	39 - 150	X
Toluene	Standard	25.0	23.8	95	46 - 148	X
Ethylbenzene	Standard	25.0	24.4	98	32 - 160	X
m & p - Xylene	Standard	50.0	49.1	98	Not Given	X
o - Xylene	Standard	25.0	24.5	98	Not Given	X
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Standard	50.0	49.4	98.7	75 - 125 %	X
Toluene	Standard	50.0	48.1	96.1	75 - 125 %	X
Ethylbenzene	Standard	50.0	48.7	97.4	75 - 125 %	X
m & p - Xylene	Standard	100	97.5	97.5	75 - 125 %	X
o - Xylene	Standard	50.0	48.6	97	75 - 125 %	X

LABORATORY DUPLICATES:

SAMPLE ID 971075	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE	
					YES	NO
					RANGE	
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X
Toluene	Matrix Duplicate	1.2	1.1	4.56	+/- 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 971075					RANGE	
Benzene	50	<1	51.9	103.7	75 - 125 %	X
Toluene	50	1.2	51.0	100	75 - 125 %	X
Ethylbenzene	50	<1	50.1	100	75 - 125 %	X
m & p - Xylene	100	<2	100.9	100.9	75 - 125 %	X
o - Xylene	50	<1	49.9	100	75 - 125 %	X

Narrative: Acceptable

AUTO BLANK	SOURCE	PPB (analyzed at X5)	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 (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.

Reported By: CPKApproved By: John LinderDate: 12-6-07

**1997 GROUNDWATER
ANALYTICAL**

PHILIP



Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 3059

Project Name		EPFS GWS PITS	
Project Number		17520	
Phase . Task		6003 . 77	
Samplers		J. Long	
Laboratory		Name ERN	
Location		Farmington NM	
Sample Number (and depth)	Date	Time	Matrix
JAL T.R.P. BLANK	3-10-97	1115	WATER
JAL 14046-01	3-10-97	1245	WATER
JAL 08906-01	3-10-97	1610	WATER
JAL T.R.P. BLANK	3-11-97	1000	WATER
JAL 10153-01	3-11-97	1045	WATER
JAL 75220-01	3-11-97	1325	WATER
JAL 75220-01	3-11-97	1530	WATER
JAL T.R.P. BLANK	3-12-97	1150	WATER
JAL 71676-01	3-12-97	1155	WATER
JAL T.R.P. BLANK	3-13-97	1000	WATER
JAL 74016-01	3-13-97	1010	WATER

Type of Analysis and Bottle	Total Number of Bottles	Comments
ETX	1	ONE VOA TOO OLD HEADSPACE PRESENT (Both Air)
	2	ONE VOA TOO OLD HEADSPACE PRESENT
	2	ONE VOA TOO OLD HEADSPACE PRESENT
	1	
	2	
	2	
	2	
	1	
	2	
	1	
	2	

Relinquished by:

Received By:

Signature	Date	Time	Signature	Date	Time
<i>[Signature]</i>	3-13-97	1420	<i>[Signature]</i>	3/13/97	1435

Samples Iced: ☒ Yes ☐ No

Carrier: Hand Delivered

Airbill No.

Preservatives (ONLY for Water Samples)

Shipping and Lab Notes:

- ☐ Cyanide Sodium hydroxide (NaOH)
☒ Volatile Organic Analysis Hydrochloric acid (HCl)
☐ Metals Nitric acid (HNO3)
☐ TPH (418.1) Sulfuric acid (H2SO4)
☐ Other (Specify) _____
☐ Other (Specify) _____

Rec'd - Cool and In-TACT JX

PHILIP

Chain of Custody Record

4000 Monroe Road
Farmington, NM 87401

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

COC Serial No. C 3060

Project Name <i>EPFS G.W. PTS</i>		Type of Analysis and Bottle		Total Number of Bottles	Comments
Project Number 17520	Phase Task 6003 77				
Samplers <i>J. Long</i>	Name <i>ELP250</i>				
Laboratory	Location <i>Farmington</i>				
Sample Number (and depth)	Date	Time	Matrix		
<i>SAL 932601</i>	<i>3-13-97</i>	<i>1220</i>	<i>WATER</i>	<i>X</i>	
<i>EPFS LAB IN 970212</i>					

Relinquished by:

Received By:

Signature <i>[Signature]</i>	Signature <i>[Signature]</i>
Date <i>3-13-97</i>	Date <i>3/13/97</i>
Time <i>1430</i>	Time <i>1435</i>

Samples Iced: ☒ Yes ☐ No

Carrier: *Hand Delivered*

Airbill No.

Preservatives (ONLY for Water Samples)

Shipping and Lab Notes:

- ☐ Cyanide Sodium hydroxide (NaOH)
☒ Volatile Organic Analytes Hydrochloric acid (HCl)
☐ Metals Nitric acid (HNO3)
☐ TPH (418.1) Sulfuric acid (H2SO4)
☐ Other (Specify) _____
☐ Other (Specify) _____

Rec'd - Cool and in TACT

EL PASO FIELD SERVICES



5-22-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JAL 14046-01	970202
MTR CODE SITE NAME:	14046	GCU Unit D #160
SAMPLE DATE TIME (Hrs):	3/10/97	1245
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	3/14/97	3/14/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	72.8	PPB	5	D		
TOLUENE	< 1	PPB	5	D		
ETHYL BENZENE	111	PPB	5	D		
TOTAL XYLENES	822	PPB	5	D		
TOTAL BTEX	1010	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95.4 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: 4/5/97

970202,4/3/97

Water Sampling Data

Location No. 77 W 1

Serial No. WSD

Group List Number _____

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3-10-97

Project Name EPF 6 W 1 S Project No. 17520

Project Manager Carl Chance Phase Task No. 6003 77

Site Name GCD #160

Sampling Specifications

Requested Sampling
Depth Interval (feet) BP 3'
Requested Wait Following
Development/Purging (hours) —

Initial Measurements

Time Elapsed From Final Development/Purging ^{MIN} (hours) 20
Initial Water Depth (feet) 21.41
Nonaqueous Liquids Present (Describe) 2

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

Date	Time	Sampler Initials	Water Quality Readings				Water Collection Data				Notes (Explain in Comments Below)		
			Temp. (°C)	pH	DO (mg/L)	Cond. (µmhos/ cm)	Volume Removed (gallons)	Removal Rate (gal/min)	Pump Intake Depth (feet)	Bail		Final Water Depth (feet)	
See			well development + purging d/t 2 sheet										

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)
Preservatives: H = HCl; N = HNO₃; S = H₂SO₄; A = NaOH; O = Other (Specify); — = None

Sample Containers

Analytical Parameter List	Container			Field Filtered		Preserved	Cooled During Collection		Sample #	Comments
	Number	Type	Volume (mL)	Yes	No		Yes	No		
3tex	2	G	40		X	H	X		JAL-14046-01	1245

Filter Type _____ Chain-of-Custody Form Number C 3059

Comments _____

Signature [Signature] Date 3-10-97 Reviewer _____ Date _____



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970817
MTR CODE SITE NAME:	14046	GCU D #160 MW-1
SAMPLE DATE TIME (Hrs):	8/6/97	1529
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	8/11/97	8/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	2.65	PPB	2	D		
TOLUENE	1.97	PPB	2	D		
ETHYL BENZENE	30.1	PPB	2	D		
TOTAL XYLENES	<6	PPB	2	D		
TOTAL BTEX	35	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.9 % 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. Linder

Date: 8/25/97

970817BTEX, 8/22/97



Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970817
DATE SAMPLED:	08/06/97
TIME SAMPLED (Hrs):	1509
SAMPLED BY:	DB
MATRIX:	Water
METER CODE:	14046
SAMPLE SITE NAME:	GCU D #160
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.31	Units	08/11/97
Alkalinity as CO_3	0	PPM	08/11/97
Alkalinity as HCO_3	701	PPM	08/11/97
Calcium as Ca	265	PPM	08/11/97
Magnesium as Mg	57	PPM	08/11/97
Total Hardness as CaCO_3	895	PPM	08/11/97
Chloride as Cl	205	PPM	08/08/97
Sulfate as SO_4	738	PPM	08/08/97
Fluoride as F	0.84	PPM	08/11/97
Nitrate as $\text{NO}_3\text{-N}$	<0.6	PPM	08/08/97
Nitrite as $\text{NO}_2\text{-N}$	<0.6	PPM	08/08/97
Ammonium as NH_4^+	<0.1	PPM	08/11/97
Phosphate as PO_4	<0.6	PPM	08/08/97
Potassium as K	4.2	PPM	08/11/97
Sodium as Na	361	PPM	08/11/97
Total Dissolved Solids	2,100	PPM	08/11/97
Conductivity	2,760	umhos/cm	08/11/97
Anion/Cation %	1.5%	%, < 5.0 Accepted	08/21/97

Remarks:

Reported By: CV

Approved By: John F. Linder

Date: 8/22/97



EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970817
SAMPLE DATE:	08/06/97
SAMPLE TIME (Hrs):	1529
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	14046
SAMPLE SITE NAME:	GCU D #160
SAMPLE POINT:	MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC (As)	0.009	0.100
BARIUM (Ba)	0.14	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 Ladden

Date: 9-11-97



EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970817
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	0.059	0.065	90.6%
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

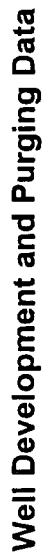
ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: [Signature]

Date: 9-8-97



☐	Development
☒	Purging

Development Criteria

Water Volume Calculation

Initial Depth of Well (feet) 30.20
Initial Depth to Water (feet) 22.25
Height of Water Column in Well (feet) 7.95

Methods of Development

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

☐ Other _____

Instruments

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

Water Disposal
KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.3	15.8
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments
BAILED DRY @ 3.0 GALLONS.

Developer's Signature *Ennio Bied*

Date 8-6-97

Reviewer

John Feller Date *8/22/97*

Date _____



A 2133

Project No.	Project Name		Requested Analysis		Remarks
Samplers: (Signature)	Date	Time	Comp.	GRAB	
MC #14046	Dennis Bird		Date: 11-6-97		
WATER	11-6-97	1533	X	971194	G-1
Type and No. of Sample Containers					40C X
Preservation Technique					PTK
Date/Time					11-6-97 1721
Received by: (Signature)					Received by: (Signature)
Relinquished by: (Signature)					Relinquished by: (Signature)
Date/Time					11-6-97 0715
Received for Laboratory by: (Signature)					Received by: (Signature)
Carrier Co.					Date Results Reported / by: (Signature)



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971194
MTR CODE SITE NAME:	14046	GCU D #160
SAMPLE DATE TIME (Hrs):	11/6/97	1553
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	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	1.10	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	1	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.0 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John Lueder

Date:

11/12/97

971194BTEXMW,11/10/97



Site Name SCU WPTD #60

Development	☐
Purging	☒

Well Number MW-1
Meter Code 14046

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 30.20
Initial Depth to Water (feet) 20.71
Height of Water Column in Well (feet) 9.49
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> |

D.O. CHAMETS KIT

Water Disposal

KUTZ SEP 19 470P

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.3	18.8
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments THE WELL BAILED DRY P 60 GALLONS

Developer's Signature Dennis Bied

Date 11-6-97 Reviewer _____

John Fells

Date 11/12/97