

EPFS GROUNDWATER PITS
1998 CLOSURE REPORT
DEPUTY OIL & GAS INSPECTOR

AUG 16 1999

CANDADO #23 (MV/CH)
Meter/Line ID - 93195/93196

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

SITE DETAILS

Legals - Twn: 26N Rng: 7W Sec: 9 Unit: B
NMOC Hazard Ranking: 40 Land Type: FEDERAL
Operator: CENTRAL RESOURCES INC.

PREVIOUS ACTIVITIES

Site Assessment: May-94 Excavation: Jun-94 (80 cy) Soil Boring: Mar-97
Monitor Well: Mar-97

The pit was excavated to 6 feet beneath ground surface (bgs) where groundwater was encountered. A composite soil sample was collected from the excavation bottom and four walls. Approximately 80 cubic yards of impacted soil were removed from the excavation. The headspace soil reading from the excavation bottom was 19 ppm. Soil analytical was as follows: benzene - <0.025 mg/kg, total BTEX - 0.103 mg/kg, TPH (418.1) - <10 mg/kg. It should be noted that the initial water sample collected from the pit was not collected from a properly constructed groundwater monitor well and would not accurately represent actual groundwater conditions. The initial water sample was contaminated by soils that were being excavated from the pit.

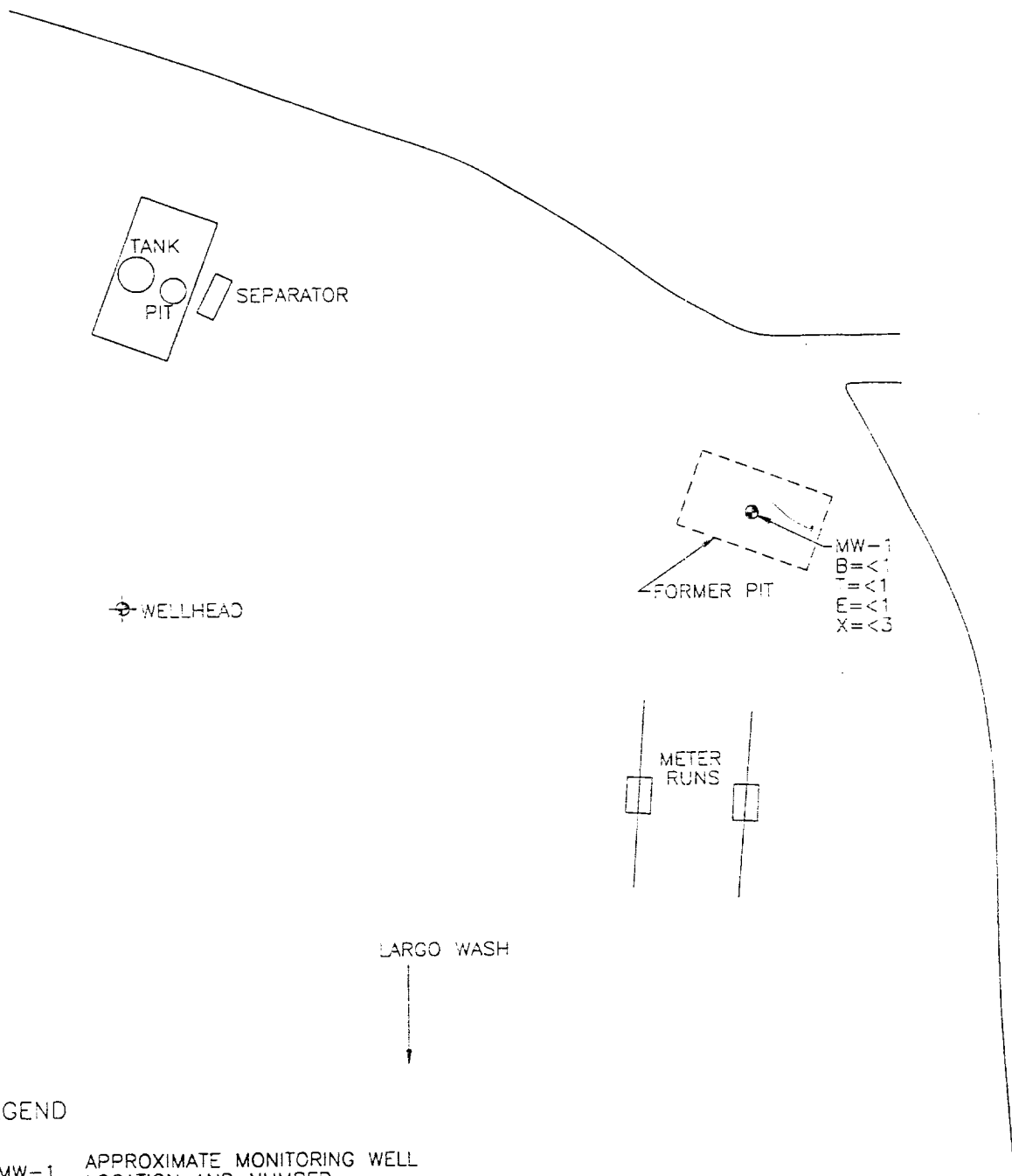
One soil boring was drilled in the center of the former pit. Groundwater was encountered at approximately 6 feet bgs and a monitoring well was installed. No soil samples were collected. Quarterly groundwater monitoring was initiated on 4/16/97 and continued through 3/19/98. Groundwater analytical data are presented in Table 1. Groundwater analytical data prior to 1998 has been previously submitted in the 1997 Annual Report, along with boring logs and monitoring well installation diagrams.

CONCLUSIONS

Groundwater analytical data has been below standards for 4 consecutive quarters since quarterly sampling was initiated. Minimal impact to groundwater has occurred at this site.

RECOMMENDATIONS

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



LEGEND

-  MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER
-  BENZENE (ug\L)
-  TOLUENE (ug\L)
-  ETHYL BENZENE (ug\L)
-  XYLENE (ug\L)
-  MICROGRAMS PER LITER

NOT TO SCALE

COL 17520AC-002



TITLE:
CANDADO #23
93195

OWN:	DES.:
TMM	CC
CHKD:	APPD:
CC	
DATE:	REV.:
12/8/97	0

PROJECT NO.: 17520
EPFS GW PITS

FIGURE 1

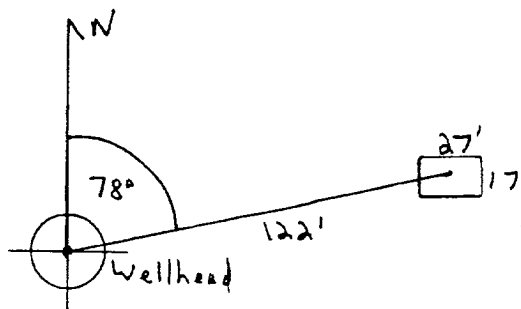
FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>93/95</u> Location: <u>CANDADO 23 (MV)</u> Operator #: <u>6311</u> Operator Name: <u>Central Resource</u> District: <u>Blanco</u> Coordinates: Letter: <u>B</u> Section <u>9</u> Township: <u>26</u> Range: <u>7</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator _____ Location Drip: ☒ Line Drip: _____ Other: _____ Site Assessment Date: <u>5/18/94</u> Area: <u>03</u> Run: <u>72</u>	
	NMOCD Zone: (From NMOCD Maps) Land Type: BLM ☒ (1) State ☐ (2) Fee ☐ (3) Indian _____ Inside ☒ (1) Outside ☐ (2) Depth to Groundwater Less Than 50 Feet (20 points) ☒ (1) 50 Ft to 99 Ft (10 points) ☐ (2) Greater Than 100 Ft (0 points) ☐ (3) 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? ☐ (1) YES (20 points) ☒ (2) NO (0 points) Horizontal Distance to Surface Water Body Less Than 200 Ft (20 points) ☒ (1) 200 Ft to 1000 Ft (10 points) ☐ (2) Greater Than 1000 Ft (0 points) ☐ (3) Name of Surface Water Body <u>Large Canyon</u> (Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds) Distance to Nearest Ephemeral Stream ☐ (1) < 100' (Navajo Pits Only) ☐ (2) > 100' TOTAL HAZARD RANKING SCORE: <u>40</u> POINTS	
REMARKS	Remarks : <u>Redline + Vols - Inside</u> <u>3 pits. Close 1. Pit Dry. CH + MV using Same PIT</u> <u>NIC + Hall</u>	

ORIGINAL PIT LOCATION

ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North 78° Footage from Wellhead 122'
b) Length : 27' Width : 17' Depth : 4'



REMARKS

Remarks :

Pictures @ 1311(b-10)
Dump Truck

Completed By:

Cory Chen
Signature

5/18/94
Date

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: 93196 93195 Location: Candado #23 mve ch
 Coordinates: Letter: B Section 9 Township: 26 Range: 7
 Or Latitude _____ Longitude _____
 Date Started : 6-1-94 Area: 03 Run: 72

FIELD OBSERVATIONS

Sample Number(s): KD 96
 Sample Depth: 6' Feet
 Final PID Reading 19 ppm PID Reading Depth 6' Feet
 Yes No
 Groundwater Encountered ☒ (1) ☐ (2) Approximate Depth 6' 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: 6-2-94 Pit Closed By: BEI

REMARKS

Remarks : Pit appeared highly contaminated to about 5', at 6' slight
discoloration of soil noted along with water seeping into pit. Cleaned
pit up at 6', took PID sample, closed pit.

Signature of Specialist: Kenny Deane



40 ✓

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:

KD96	945334
93196 / 93195	N/A
6-2-94	1135
N/A	
6-6-94	6/6/94
6/9/94	6/10/94
VL	Brown sand

REMARKS: Reference to water sample 945347

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	LO.025	MG/KG	1			
TOLUENE	LO.025	MG/KG	1			
ETHYL BENZENE	LO.025	MG/KG	1			
TOTAL XYLENES	0.028	MG/KG	1			
TOTAL BTEX	0.103	MG/KG				
TPH (418.1)	<10	MG/KG			2.15	28
HEADSPACE PID	19	PPM				
PERCENT SOLIDS	80.0	%				

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

Surrogate Recovery was at 91 % for this sample All QA/QC was acceptable.

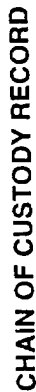
ATI results attached.

DF = Dilution Factor Used

Approved By:

Date:

7/14/94



CHAIN OF CUSTODY RECORD

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

PRELIMINARY GROUNDWATER ASSESSMENT CHECKLIST

meter #: 93196

water sample lab ID: 945347

soil sample lab ID: 94533

1. Groundwater/Hydrology:

- What material is the pit in?
loose: ☐ gravel ☒ sand ☐ silt ☐ clay
hard: ☐ sandstone ☐ shale
- How far below ground surface did you first see water? 6 (feet)
- What material was the water in?
loose: ☐ gravel ☒ sand ☐ silt ☐ clay
hard: ☐ sandstone ☐ shale
- How much water did you see in this layer?
☐ rapid flow ☒ moderate flow ☐ seep
- Did you find a confining layer below the water? ☐ Yes ☒ No
If so, how deep 25 (feet)
- What was the consistency of this confining layer?
loose: ☐ gravel ☐ sand ☐ silt ☐ clay
hard: ☐ sandstone ☐ shale
- How close is the pit to an arroyo/stream:
Vertically 25 (feet) Horizontally 600 (feet)
- Attach a sketch of the area with the pit, any arroyos, streams or cliffs. Draw an arrow pointing North. Draw an arrow showing surface drainage away from the pit. Give approximate distances.

REMARKS: SIDES CONTINUING TO CAVE OFF INTO EXCAVATION, EXTREMELY SANDY SOIL

Contaminant Migration:

- How far below grade does soil staining start? 2 (feet)
- Is there free oil on the water? ☒ Yes ☐ No
If so, how much ☒ sheen ☐ drops ☐ layers
- What other sources of contamination are close to the pit?

OPERATOR: SEPARATOR PIT AND TANK PIT
REMARKS: APPROX. 40 yds and 60 yds downstream of FRNG PIT

3. Potential risk: (Use approximate distances)

- How close is nearest dwelling? 3 MILES TO LARGE PLT. (feet/miles)
- How close is nearest water well? N/A (feet/miles)
- How close is nearest surface water body? (ditch, pond, stream, etc.)
LARGE WASH - 600 FT (feet/miles)
- How close is nearest spring? N/A (feet/miles)

REMARKS: DUAR COMBINATION OF CANADO 23 CH-93196 and CANADO 23 MV 93195
OPERATOR #311: CENTRAL RESOURCES INC.
LETTER "B" SECTION 9 TN-26-N R-7-W BLM LAND

APPROVAL TO CLOSE PIT GIVEN BY JOHNNY ROBINSON OF CCD
ON THIS DATE 6-2-94 UNABLE TO CONTACT DENNY FOUST

SIDES STILL SHOWING CONTAMINATION, BOTTOM BELOW
WATER LEVEL CLEAN



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT - Water

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	945347
MTR CODE SITE NAME:	93196
SAMPLE DATE:	6-2-94
SAMPLE TIME (Hrs):	1115
SAMPLED BY:	Ricky Cosby
DATE OF BTEX ANALYSIS:	6/6/94
SAMPLE TYPE:	G

REMARKS:

EPA Method 8020 (BTEX) RESULTS

PARAMETER	RESULT PPB	QUALIFIER	WQCC LIMIT PPB
BENZENE	1340	D(20)	10
TOLUENE	4390	D(50)	740
ETHYL BENZENE	1090	D(20)	750
TOTAL XYLENES	6450	D(50)	620
SURROGATE % RECOVERY	116	Allowed Range 80 to 120 %	

NOTES:

Approved By:

6/6/94

Date



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

ATI I.D. 406331

June 15, 1994.

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

Project Name/Number: PIT CLOSURE 24324

Attention: John Lambdin

On 06/08/94, 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.

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

Setu Kulkarni.

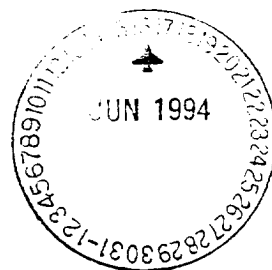
Letitia Krakowski, Ph.D.
Project Manager

H Mitchell Runt

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager

MR:jd

Enclosure





Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : BTEX (EPA 8020)
CLIENT : EL PASO NATURAL GAS CO. ATI I.D.: 406331
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	945334	NON-AQ	06/02/94	06/09/94	06/10/94	1
02	945335	NON-AQ	06/02/94	06/09/94	06/10/94	20
03	945336	NON-AQ	06/02/94	06/09/94	06/10/94	1

PARAMETER	UNITS	01	02	03
BENZENE	MG/KG	<0.025	0.70	<0.025
TOLUENE	MG/KG	<0.025	66	0.031
IYLBENZENE	MG/KG	<0.025	24	<0.025
TOTAL XYLENES	MG/KG	0.028	210	<0.025

SURROGATE:

BROMOFLUOROBENZENE (%)	91	122*	96
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*OUTSIDE ATI QUALITY CONTROL LIMITS DUE TO MATRIX INTERFERENCE

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH- 2
Well #
Page 1 of 1

PHILIP ENVIRONMENTAL SERVICES INC.

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

Project Name EPFS GW PITS
Project Number 17520 Phase 6001.77
Project Location CANDADO #23 (MV)(CH)
93195/93196
Well Logged By D CESARK
Personnel On-Site D CHARLEY, S ARCHULETA
Contractors On-Site
Client Personnel On-Site
Drilling Method 4 1/4" ID HSA
Air Monitoring Method PID, CGI

Elevation
Borehole Location T20 R7 - S9 - Ltr B
GWL Depth 6' BGS
Logged By D CESARK
Drilled By M DONAHUE
Date/Time Started 3/10/97 - 1200
Date/Time Completed " - 1230

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				BACKFILL						
5				TO 6'						
				GWCG'						
10										
15										
20										
25										
30										
35										
40										

NO SAMPLES COLLECTED

TD = 13'

Comments:

GW ENCOUNTERED @ 6' BGS, OVER-DRILLED TO 13' BGS COMPLETED MW,
NO SAMPLES WERE COLLECTED. PLEASE REFER TO WELL COMPLETION 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

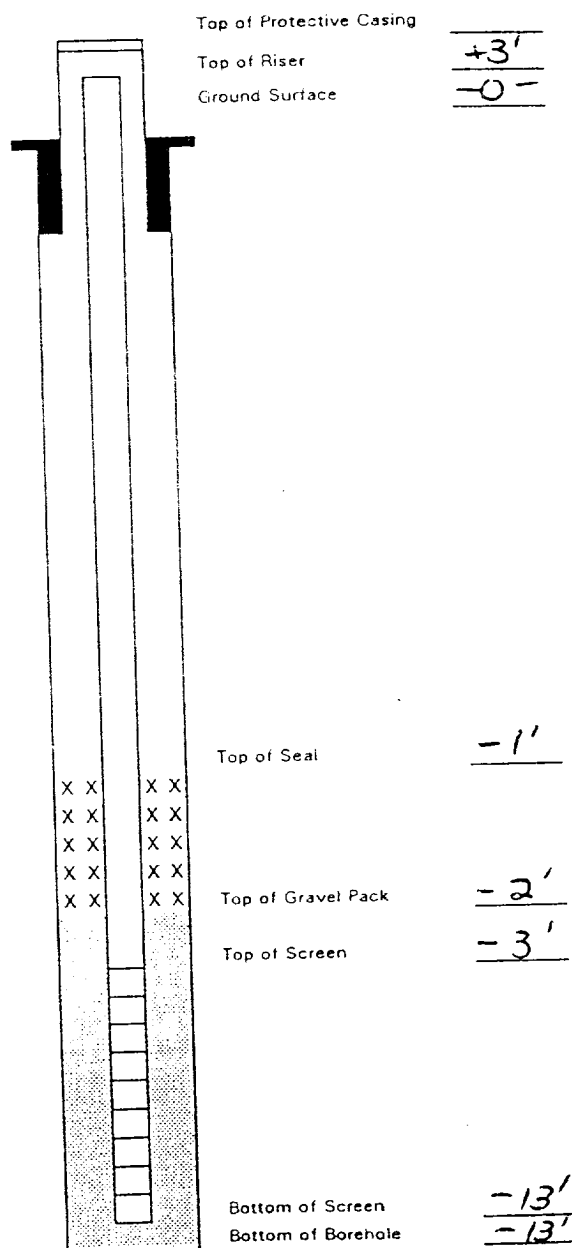
Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location CANDADO #23 (MV)(CH)
43195/93196
On-Site Geologist D CESARK
Personnel On-Site D CHARLEY
Contractors On-Site _____
Client Personnel On-Site _____

Elevation _____
Well Location T26N-R7W-S9-L1B'
GWL Depth 6' BGS
Installed By M DONOHUE

Date/Time Started 3/10/97 - 1230
Date/Time Completed " - 1300

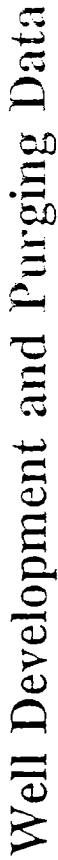
Depths in Reference to Ground Surface

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	SCH 40 PVC	+3'
Bottom of Well Riser	"	-3'
Top of Well Screen	.010 SLOT	-3'
Bottom of Well Screen	"	-13'
Top of Peltonite Seal	ENVIRBPLUG	-1'
Bottom of Peltonite Seal	"	-2'
Top of Gravel Pack	10-20 S.SND.	-2'
Bottom of Gravel Pack	"	-13'
Top of Natural Cave-In		-13'
Bottom of Natural Cave-In		-13'
Top of Groundwater		-6'
Total Depth of Borehole		-13'



Comments: _____

Geologist Signature _____



~~Development~~
~~Purging~~

MW-1

Page 1 of 1

17520

6005

Site Name CANDHU 23 (MV, CH) - 93196 93195

Water Volume Calculation

Initial Depth of Well (feet) 13' 8GS
Initial Depth to Water (feet) 3' 8GS
Height of Water Column in Well (feet) 10'

Pump

Item	Cubic Feet	Gallons	Gallons to be Removed
Well Casing		62.5	
Gravel Pack			
Drilling Fluids			
Total			62.5

[illegible]

Comments: WERE HEARD WAS LOCKED + INTER. 1ST SEVERAL BARRIERS WERE CLOSED. REMOVED MOST OF AND. NEWLY BUILT

Developer's Signature(s)

Reviewer

Date _____



Water Sampling Data

Location No. MW-1

Serial No. WSD- _____

Group List Number _____

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 4/16/97Project Name EPFS GW PITS Project No. 17520Project Manager C CHANCE Phase/Task No. 6003.77Site Name CANDADO 23 (MV, CH) - 93196/93195

Sampling Specifications

Requested Sampling
Depth Interval (feet) _____
Requested Wait Following
Development/Purging (hours) _____

Initial Measurements

Time Elapsed From Final Development/Purging (hours) _____
Initial Water Depth (feet) _____
Nonaqueous Liquids Present (Describe) _____

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

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	
EPA 8020 BTEX	182	G/VV	40		X		X		DRC 38 - TRIP BLANK
	2	"	"		X	Y	X		DRC 39 - MW-1

Filter Type _____ Chain-of-Custody Form Number _____

Comments * PLEASE REFER TO WELL DEVELOPMENT + PURGING DATA FORM.Signature [Signature] Date 4/16/97 Reviewer _____ Date _____



EL PASO FIELD SERVICES



5-5-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC 39	970315
MTR CODE SITE NAME:	93196/93195	Canado 23
SAMPLE DATE TIME (Hrs):	4/16/97	1030
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	4/18/97	4/18/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1.98	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	4.15	PPB				
TOTAL XYLENES	6.31	PPB				
TOTAL BTEX	12.4	PPB				

The Surrogate Recovery was at 90.0 % for this sample All QA/QC was acceptable.

Narrative:

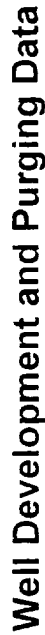
Approved By: John L. Smith

Date: 4/24/97

[illegible]

Sample #	Meter/ Line #	Site Name	Sample Date	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	S7	Total BTEX PPB
970315 *	93195	Candado 23 (MV, CH)93195	4/16/97	Phase II Drilling - Initial	=	1.98	<	1	=	4.15	=	6.31	=	12
970529 *	93195	Candado 23 (MV, CH)93195	6/5/97	Sample 4 - 1st Qtr	<	1	<	1	<	1	<	3	<	6
970971 *	93195	Candado 23 (MV, CH)93195	9/11/97	Sample 4 - 2nd Qtr	<	1	<	1	<	1	<	3	<	6
971262 *	93195	Candado 23 (MV, CH)93195	12/2/97	Sample 4 - 3rd Qtr	<	1	<	1	<	1	<	3	<	6
980241	93195	Candado 23 (MV, CH)93195	3/19/98	Sample 4 - 4th Qtr	<	1	<	1	=	1.94	<	3	<	2

* Analytical reports provided to NMOCD in prior annual report.



Well Number MW-1
Meter Code 93195

Development	
Purging	X

Site Name **CANDADO #73**

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 |
| ☐ | Other | | |

Water Volume Calculation

Initial Depth of Well (feet) 15.90
Initial Depth to Water (feet) 5.39
Height of Water Column in Well (feet) 10.51

Diameter (inches): Well

Instruments

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

Water Disposal

KUTZ SEPARATOR

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.9	20.8
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments

Developer's Signature Denise Bird

Date 3-19-98 Reviewer

John Fawcett Date *3 Dec 1988*



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980241
MTR CODE SITE NAME:	93195	Candado #23
SAMPLE DATE TIME (Hrs):	3/19/98	1332
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	3/23/98	3/23/98
TYPE DESCRIPTION:	MW-1	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	1.94	PPB				
TOTAL XYLENES	< 3	PPB				
TOTAL BTEX	2	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 102.4 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

3/25/98

980241BTEXMW, 3/25/98

