

3R - 226

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 cursive script, 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

NICKLES #1
Meter/Line ID - 73034

RECEIVED

APR 05 1999

SITE DETAILS

Legals - Twn: 31N
NMOCD Hazard Ranking: 30
Operator: Fuller Petroleum

Rng: 13W

Sec: 11

Unit: K
Land Type: Fee

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

PREVIOUS ACTIVITIES

Site Assessment: January- 95
Re-excavation: November-95 (942 cy)

Excavation: February- 95 (40 cy) Soil Boring: September- 95
Monitoring Well: March-97

The pit was excavated to the practical extent of the trackhoe, which was approximately 12 feet beneath ground surface (bgs). A composite soil sample was collected from the excavation bottom and four walls. Approximately 40 cubic yards of impacted soil were removed during the excavation. The headspace soil reading from the excavation bottom was 206 ppm. Soil analytical was as follows; benzene - 52.5 mg/kg, total BTEX - 1500 mg/kg, and TPH (418.1) 7,310 mg/kg.

One soil boring was drilled in the center of the former pit. Groundwater was encountered at approximately 19 feet bgs. One soil sample was collected from 15-17 feet bgs. Soil analytical was as follows; benzene - 6.9 mg/kg, total BTEX - 113 mg/kg, and TPH (418.1) 438 mg/kg.

The pit was re-excavated to approximately 20 feet bgs and approximately 942 cubic yards of additional impacted soil were removed. The headspace soil reading from the excavation bottom was 197 ppm. A composite soil sample was collected from the four walls and the excavation bottom. Soil analytical was as follows: benzene - 3.7 mg/kg, total BTEX - 156 mg/kg and TPH (418.2) - 101 mg/kg.

After re-excavation a soil boring was drilled and a monitoring well was installed. Quarterly groundwater monitoring was initiated on 7/17/97 and continued through 4/27/98. Groundwater analytical data are presented on Table 1. Groundwater analytical data prior to 1998 has been previously submitted in the 1997 Annual Report, along with well diagrams and boring logs.

CONCLUSIONS

Groundwater analytical data has been below standards for 4 consecutive quarters since quarterly sampling was initiated, 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.



TITLE:

NICKELS No. 1 DK
METER 73034

PROJECT NO.:

17520

DES.:

CC

DWN:

TMM

APPD:

CC

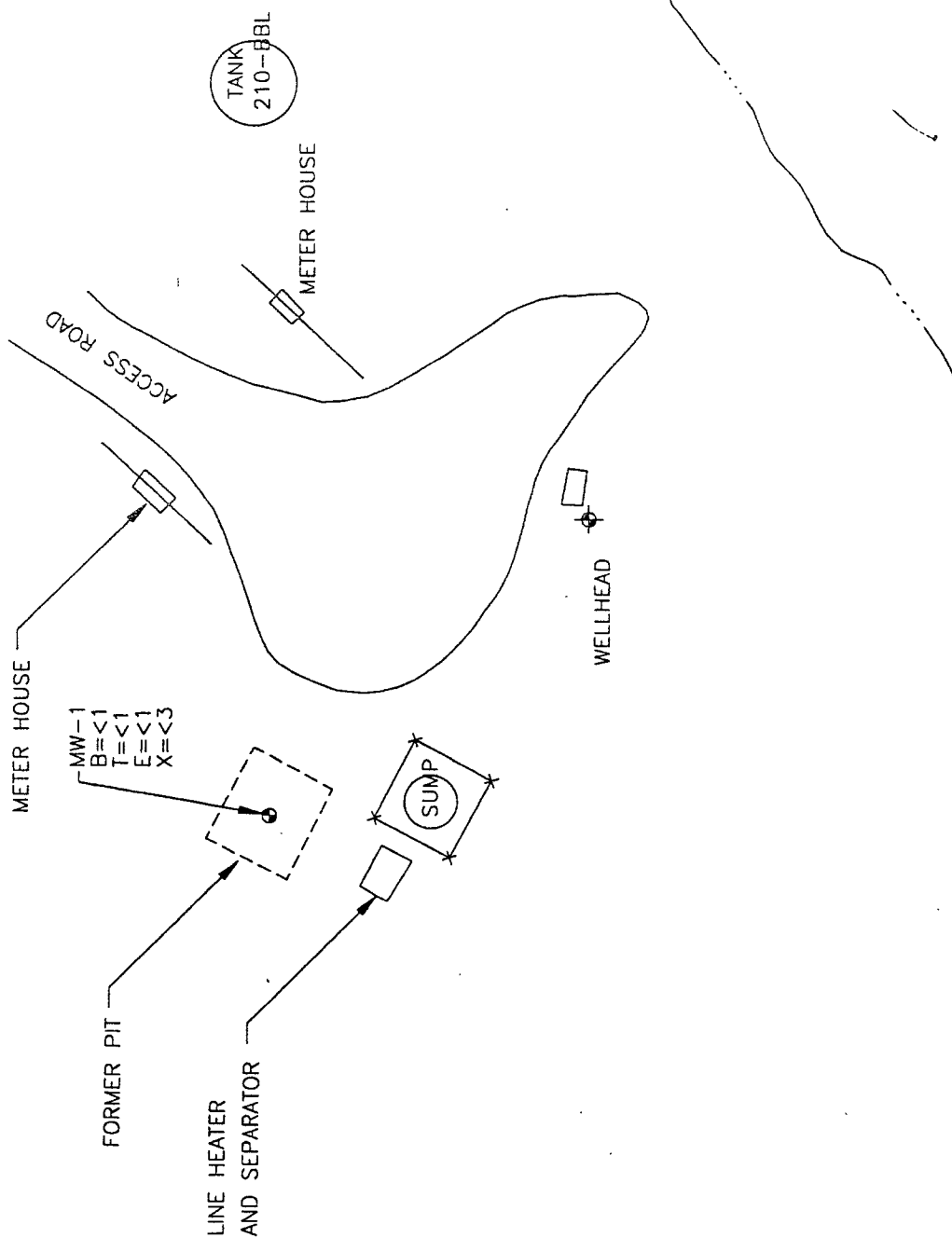
REV.:

11/4/97

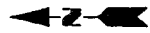
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EPFS GW PITS

FIGURE 1



NOT TO SCALE



FIELD PIT SITE ASSESSMENT FORM

GENERAL	Meter: <u>73034</u> Location: <u>NICKLES #1</u> Operator #: _____ Operator Name: <u>Funk Poto</u> P/L District: <u>KUTZ</u> Coordinates: Letter: <u>K</u> Section <u>11</u> Township: <u>31</u> Range: <u>13</u> Or Latitude _____ Longitude _____ Pit Type: Dehydrator ☒ Location Drip: _____ Line Drip: _____ Other: _____ Site Assessment Date: <u>1.4.95</u> Area: <u>02</u> Run: <u>21</u>	
SITE ASSESSMENT	NMOCD Zone: (From NMOCD Maps) Inside ☒ (1) Outside ☐ (2) Land Type: BLM ☐ (1) State ☐ (2) Fee ☒ (3) Indian _____ 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>LA PLATA RIVER</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>30</u> POINTS	
REMARKS	Remarks : <u>REDLINE 5' TOPO SHOW LOCATION INSIDE V.2. 2 PITS ON LOCATION. 1 IS LINED. THE UNLINED DEHY PIT BELONGS TO EPNG. WILL CLOSE PIT.</u> <u>DIG & HAUL.</u>	

PHASE I EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL	Meter: <u>73034</u> Location: <u>Nickles #1</u> Coordinates: Letter: <u>K</u> Section <u>11</u> Township: <u>31</u> Range: <u>13</u> Or Latitude _____ Longitude _____ Date Started : <u>2-6-95</u> Run: <u>02</u> 3121 <u>2/7/95 BR</u>
FIELD OBSERVATIONS	Sample Number(s): <u>MK 352</u> Sample Depth: <u>12'</u> Feet Final RID Reading <u>206</u> PID Reading Depth <u>12</u> Feet Yes No Groundwater Encountered ☐ ☒ Approximate Depth _____ Feet
CLOSURE	Remediation Method : Excavation ☒ Approx. Cubic Yards <u>40</u> Onsite Bioremediation ☐ Backfill Pit Without Excavation ☐ Soil Disposition: Envirotech ☐ ☒ Tierra Other Facility ☐ Name: _____ Pit Closure Date: <u>2-6-95</u> Pit Closed By: <u>BEI</u>
REMARKS	Remarks : <u>Arrived Took fence down pit look like</u> <u>It has had Fiberglass pit at one time soil was</u> <u>black and HAS strong Hydrocarbon odor all the way down</u>
Signature of Specialist: <u>Morgan Killian</u>	



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	MW 352	946430
MTR CODE SITE NAME:	73034	N/A
SAMPLE DATE TIME (Hrs):	2-6-95	0950
SAMPLED BY:	N/A	
DATE OF TPH EXT. ANAL.:	2-8-95	2-8-95
DATE OF BTEX EXT. ANAL.:	2/7/95	2/8/95
TYPE DESCRIPTION:	VC	Dark Brown fine sand and clay

REMARKS:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	52.5	MG/KG	1.72414		2.32	20
TOLUENE	591	MG/KG	1		1	1
ETHYL BENZENE	75.7	MG/KG	1		1	1
TOTAL XYLENES	781	MG/KG	1		1	1
TOTAL BTEX	1,500	MG/KG				
TPH (418.1)	7310	MG/KG			0.41	28
HEADSPACE PID	206	PPM				
PERCENT SOLIDS	84.6	%				

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

The Surrogate Recovery was at 88.2 % for this sample All QA/QC was acceptable.
ative:

DF = Dilution Factor Used

Approved By: JJ

Date: 2-22-95

BTEX SOIL SAMPLE WORKSHEET

File : 946630A
Soil Mass (g) : 2.32
Extraction vol. (mL) : 20
Shot Volume (uL) : 25

Date Printed : 2/8/95
Multiplier (L/g) : 0.00216
DF (Analytical) : 800
DF (Report) : 1.72414

			Det. Limit
Benzene (ug/L) :	30.47	Benzene (mg/Kg):	52.534 8.621
Toluene (ug/L) :	342.72	Toluene (mg/Kg):	590.897 8.621
Ethylbenzene (ug/L) :	43.91	Ethylbenzene (mg/Kg):	75.707 8.621
p & m-xylene (ug/L) :	374.82	p & m-xylene (mg/Kg):	646.241 17.241
o-xylene (ug/L) :	78.16	o-xylene (mg/Kg):	134.759 8.621
		Total xylenes (mg/Kg):	781.000 25.862
		Total BTEX (mg/Kg):	#####

1,500



CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER # 24324		PROJECT NAME Pit Closure Project		DATE 2-6-95		FIELD ID		TOTAL NUMBERS OF CONTAINERS		SAMPLE TYPE		REQUESTED ANALYSIS				CONTRACT LABORATORY P. O. NUMBER					
LAB ID		DATE		TIME		MATRIX						TPH EPA 418.1		BTX EPA 8020		LAB PID		SEQUENCE #		REMARKS	
		2-6-95	9:50	60.1	MLK 352	1	VC	X	X	X								317	Black soil strong Hydrocarbon odor		
		2-6-95	11:50	60.1	MLK 353	1	VC	X	X	X								318	Brown soil no Hydrocarbon odor		
		2-6-95	12:30	60.1	MLK 354	1	VC	X	X	X								319	grayish brown soil strong Hydrocarbon odor		
		2-6-95	17:00	60.1	MLK 355	1	VC	X	X	X								320	Brown soil slight Hydrocarbon odor		
		2-6-95	17:00	60.1	MLK 356	1	D	X	X	X											
		2-6-95	17:05	60.1	MLK 357	1	B	X	X	X											

RELINQUISHED BY: (Signature) <i>Morgan Killion</i>		DATE/TIME 2-6-95 12:15		RECEIVED BY: (Signature) <i>Morgan Killion</i>		DATE/TIME 2-6-95 12:15		RELINQUISHED BY: (Signature) <i>Morgan Killion</i>		DATE/TIME 2-6-95 12:15		RECEIVED BY: (Signature) <i>Morgan Killion</i>		DATE/TIME 2-6-95 12:15		RELINQUISHED BY: (Signature) <i>Morgan Killion</i>		DATE/TIME 2-6-95 12:15		RECEIVED BY: (Signature) <i>Morgan Killion</i>	
REQUESTED TURNAROUND TIME: ☐ ROUTINE ☐ RUSH		CARRIER CO.		SAMPLE RECEIPT REMARKS		CHARGE CODE		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							

PHASE II SOIL BORING

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 Nickels #1 73034

Elevation _____
Borehole Location T31, R13, S11, K
GWL Depth _____
Logged By Jeff W. Kindley
Drilled By S. Schneider
Date/Time Started 09/21/95 0829
Date/Time Completed 09/21/95 0900

Well Logged By Jeff W. Kindley
Personnel On-Site S. Schneider, D. Roberts, J. Johnson
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			Drilling Conditions & Blow Counts
							BZ	BH	S	
0				Backfill material to 12'						
5										
10										
15	1	15-17	18 2.0	CL, BL CLAY, moist, stiff, high plasticity, hydrocarbon odor						0837 96blows per Foot
20	2	20-22	19 2.0	CL, BL CLAY, wet, very stiff, high plasticity, hydrocarbon odor. Borehole terminated at 22 feet.						• 19 hit groundwater 0845 286blows per Foot
25										
30										
35										
40										

Comments:

Groundwater encountered at 19 feet. Sample collected from 15 to 17 feet (TWK 77). Sample submitted for analysis of BTEX and TPH. All granted to the surface.

Geologist Signature

Jeffrey Kindley



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JWK77	947516
MTR CODE SITE NAME:	73034	Nickels #1 DK
SAMPLE DATE TIME (Hrs):	09/21/95	0837
PROJECT:	Phase II Drilling	
DATE OF TPH EXT. ANAL.:	09/22/95	09/25/95
DATE OF BTEX EXT. ANAL.:	09/22/95	09/25/95
TYPE DESCRIPTION:	VG	Light gray sand & clay

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	6.9	MG/KG				
TOLUENE	30.9	MG/KG				
ETHYL BENZENE	6.1	MG/KG				
TOTAL XYLENES	68.8	MG/KG				
TOTAL BTEX	113	MG/KG				
TPH (418.1)	438	MG/KG			2.09	28
HEADSPACE PID	127	PPM				
PERCENT SOLIDS	81.6	%				

-- 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.
ative:

DF = Dilution Factor Used

Approved By:

John Swales

Date:

7/18/96



Phase I drilling

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

BTEX SOIL SAMPLE WORKSHEET

File : 947516
Soil Mass (g) : 4.98
Extraction vol. (mL) : 10
Shot Volume (uL) : 50

Date Printed : 9/26/95
Multiplier (L/g) : 0.00100
DF (Analytical) : 200
DF (Report) : 0.20080

			Det. Limit
Benzene (ug/L) :	34.50	Benzene (mg/Kg):	6.928 0.502
Toluene (ug/L) :	154.00	Toluene (mg/Kg):	30.924 0.502
Ethylbenzene (ug/L) :	30.20	Ethylbenzene (mg/Kg):	6.064 0.502
p & m-xylene (ug/L) :	285.00	p & m-xylene (mg/Kg):	57.229 1.004
o-xylene (ug/L) :	57.80	o-xylene (mg/Kg):	11.606 0.502
		Total xylenes (mg/Kg):	68.835 1.506
		Total BTEX (mg/Kg):	112.751



Analytical**Technologies**, Inc.

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

ATI I.D. 510301

October 9, 1995

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

Project Name/Number: PIT CLOSURE/PHASE II 24324

Attention: John Lambdin

On 10/03/95, 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.

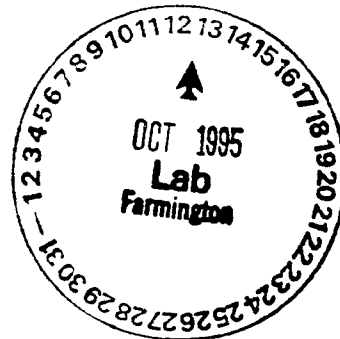
If you have any questions or comments, please do not hesitate to contact us at (505) 344-3777.

Kimberly D. McNeill
Project Manager

MR:jt

Enclosure

H. Mitchell Rubenstein, Ph.D.
Laboratory Manager





Analytical Technologies, Inc.

GAS CHROMATOGRAPHY RESULTS

TEST : EPA 8015 MODIFIED
CLIENT : EL PASO NATURAL GAS ATI I.D.: 510301
PROJECT # : 24324
PROJECT NAME : PIT CLOSURE/PHASE II

SAMPLE ID. #	CLIENT I.D.	MATRIX	DATE SAMPLED	DATE EXTRACTED	DATE ANALYZED	DIL. FACTOR
01	947512	NON-AQ	09/20/95	10/03/95	10/04/95	10
02	947516	NON-AQ	09/21/95	10/03/95	10/04/95	1
03	947524	NON-AQ	09/22/95	10/03/95	10/04/95	10
PARAMETER			UNITS	01	02	03
FUEL HYDROCARBONS			MG/KG	3100	57	2000
HYDROCARBON RANGE				C6-C14	C6-C14	C6-C14
HYDROCARBONS QUANTITATED USING				GASOLINE	GASOLINE	GASOLINE
FUEL HYDROCARBONS			MG/KG	1100	120	250
HYDROCARBON RANGE				C14-C36	C14-C36	C16-C32
HYDROCARBONS QUANTITATED USING				DIESEL	DIESEL	DIESEL
SURROGATE:						
O-TERPHENYL (%)				120	101	110

PHASE III RE-EXCAVATION

FIELD PIT REMEDIATION/CLOSURE FORM/PHASE II

Meter: 73034 Location: Nick Les #1

Coordinates: Letter: K Section 11 Township: 31 Range: 13

Or Latitude _____ Longitude _____

Date Started : 11-27-95 Area: 02 Run: 21

Sample Number(s): 4P89

Sample Depth: 20' Feet

Final PID Reading 197 PID Reading Depth 20' Feet
Yes No

Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth _____ Feet

Final Dimensions: Length 46 Width 35 Depth 20

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 942 LT ^{11/30/95}

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Overburden Cubic Yards 31 LT ^{11/30/95}

Soil Disposition:

Envirotech ☐ (1) ☒ (3) Tierra

Other Facility ☐ (2) Name: _____

Pit Closure Date: 11/28/95 Pit Closed By: Philip Env.

Phase III Used 50 Lbs Fertilizer

Remarks : Dug to 19.5 ft encountered groundwater but it was only a trickle Not enough to pull samples. Took PID N wall 0.3 ppm S wall 0.1 ppm E wall 0.1 ppm W wall 274 ppm Bot 274 ppm

Temp. Samp 197. Stopped digging W wall due to Fiberglass pit & Separator

Signature of Specialist: James J. Fenner



FIELD SERVICES LABORATORY
ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	JP89	947807
MTR CODE SITE NAME:	73034	Nickels #1 DK
SAMPLE DATE TIME (Hrs):	11/27/95	1430
PROJECT:	Phase III Excavation	
DATE OF TPH EXT. ANAL.:	11/30/95	11/30/95
DATE OF BTEX EXT. ANAL.:	11/28/95	11/29/95
TYPE DESCRIPTION:	VG	Brown clay

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q	M(g)	V(ml)
BENZENE	3.7	MG/KG				
TOLUENE	52.6	MG/KG	2	D		
ETHYL BENZENE	6.9	MG/KG				
TOTAL XYLENES	93.1	MG/KG	2	D, D1		
TOTAL BTEX	156	MG/KG				
TPH (418.1)	101	MG/KG			2.05	28
HEADSPACE PID	197	PPM				
PERCENT SOLIDS	79.4	%				

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

The Surrogate Recovery was at 96/102 % for this sample All QA/QC was acceptable.

Notes: results for m/p-xylenes exceeded calibration range (slightly).

DF = Dilution Factor Used

Approved By: John Zander

Date: 7/18/96



Page _____ of _____

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

PHASE IV MONITORING WELL INSTALLATION

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL SERVICES INC.

200 Monroe Road

Albuquerque, 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 NICKLES #1 - 73034

Elevation

Borehole Location 31-RB-S 11-Ltr K

GWL Depth 19' BGS

Logged By D. CESARK

Drilled By M. DONOHUE

Date/Time Started 3/11/97 - 1330

Date/Time Completed 11 - 1400

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

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										
10				TO						
15				19'						
20				GWC 19' BGS (GRAVEL / COBBLES START C 19' BGS)						
25										
30				TD = 27'						
35										
40										

Comments: GW ENCOUNTERED C 19' BGS IN BEGINNING OF GRAVEL / COBBLE ZONE. DRILLED TO AUGER REFUSAL @ 27' BGS. COMPLETED GWMW. NO SAMPLES COLLECTED. PLEASE REFER TO WELL COMP. DIAGRAM.

Geologist 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

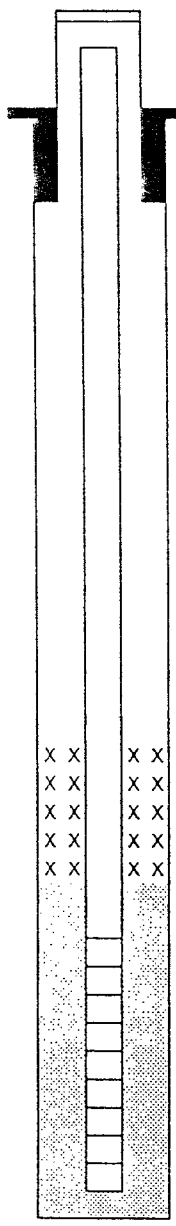
Project Name EPFS GWPITS
Project Number 17520 Phase 6002.77
Site Location NICKLES #1 - 73034

Elevation _____
Well Location T31N-R13W-S11-L1K
GWL Depth 19' BES
Installed By M DONOHUE

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

Date/Time Started 3/11/97 - 1400
Date/Time Completed 11 - 1600

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	"	-12'
Top of Well Screen	1.010 SLOT	-12'
Bottom of Well Screen	"	-27'
Top of Peltonite Seal	ENVIROPLUG	-7'
Bottom of Peltonite Seal	"	-9'
Top of Gravel Pack	10-20 S. SAND	-9'
Bottom of Gravel Pack	"	-27'
Top of Natural Cave-In		-27'
Bottom of Natural Cave-In		-27'
Top of Groundwater		-19'
Total Depth of Borehole		-27'



Top of Protective Casing _____

Top of Riser +3'

Ground Surface 0'

Top of Seal -7'

Top of Gravel Pack -9'

Top of Screen -12'

Bottom of Screen -27'

Bottom of Borehole -27'

Comments: _____

[Signature]



Well Development and Purging Data

Serial No. WDPD-

☐ Development
☐ Purging

Well Number 1

Page 1 of 1

Project Name GW PITS

Project Manager C. CHANCE

Project No. 17520

Client Company EPES

Site Name NICKLES #1

Phase/Task No. 000377

Site Address _____

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) 27' BES
Initial Depth to Water (feet) 16' BES
Height of Water Column in Well (feet) 11'
Diameter (inches): Well 2" Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing			<u>21.5</u>
Gravel Pack			
Drilling Fluids			
Total			<u>21.5</u>

Instruments

- Serial No. (if applicable) _____
☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☐ Other _____

Water Disposal

Water Removal Data

Date	Time	Development Method	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volumes Removed (gallons)		Temperature (°C)	pH	Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Comments
						Increment	Cumulative					
3/28	1110	☒ Pump	<u>125</u>			<u>2.5</u>	<u>2.5</u>	<u>13.9</u>	<u>7.28</u>	<u>225</u>		
"	1120	☒ Bailer	<u>125</u>			<u>2.5</u>	<u>5.0</u>	<u>14.1</u>	<u>7.31</u>	<u>204</u>		
"	1135	☒ Pump	<u>133</u>			<u>5.0</u>	<u>10.0</u>	<u>13.7</u>	<u>7.06</u>	<u>205</u>		<u>well stabilized</u>
"	1150	☒ Bailer	<u>133</u>			<u>5.0</u>	<u>15.0</u>	<u>13.8</u>	<u>7.02</u>	<u>208</u>		
"	1220	☒ Pump				<u>6.5</u>	<u>21.5</u>	<u>13.9</u>	<u>7.16</u>	<u>218</u>		<u>end bailing, had to retrieve, no readings not as consistent</u>

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

Comments _____

Developer's Signature(s) [Signature]

Date 3/28/97

Reviewer _____

Date _____

Water Sampling Data

Location No. MW-1

Serial No. WSD-

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other _____ Date 3/28/97

Project Name EPFS GW PITS Project No. 17520

Project Manager C CHANCE Phase.Task No. 6003.77

Site Name NICKLES #1 - 73034

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) 10' BGS
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)	
3/28	1110	DC	13.9	7.28		225	2.5	.25		✓		
	1120	"	14.1	7.31		204	2.5	.25		✓		
	1135	"	13.7	7.06		205	5.0	.33		✓		
	1150	"	13.8	7.02		208	5.0	.33		✓		
	1220	"	13.9	7.16		218	6.5			✓		

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

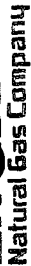
Sample Containers

[illegible]

Filter Type _____ Chain-of-Custody Form Number A 2235

Comments

Signature [Signature] Date 3/28/97 Reviewer _____ Date _____



A 2555

CHAIN OF CUSTODY RECORD

[illegible]



EL PASO FIELD SERVICES



5-22-97

FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC17	970231
MTR CODE SITE NAME:	73034	Nickels #1
SAMPLE DATE TIME (Hrs):	3/28/97	1315
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	4/3/97	4/3/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	30.8	PPB				
TOTAL XYLENES	122	PPB				
TOTAL BTEX	153	PPB				

The Surrogate Recovery was at 106 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. L...

Date:

4/8/97

970231,4/8/97

EL PASO FIELD SERVICES LABORATORY

EPA METHOD 8020 - BTEX

File : C:\LABQUEST\CHROM000\040397-0.010
 Method : C:\LABQUEST\METHODS\0-013197.MET
 Sample ID : 970231 X1
 Acquired : Apr 03, 1997 22:20:04
 Printed : Apr 03, 1997 22:50:33
 User : MARLON

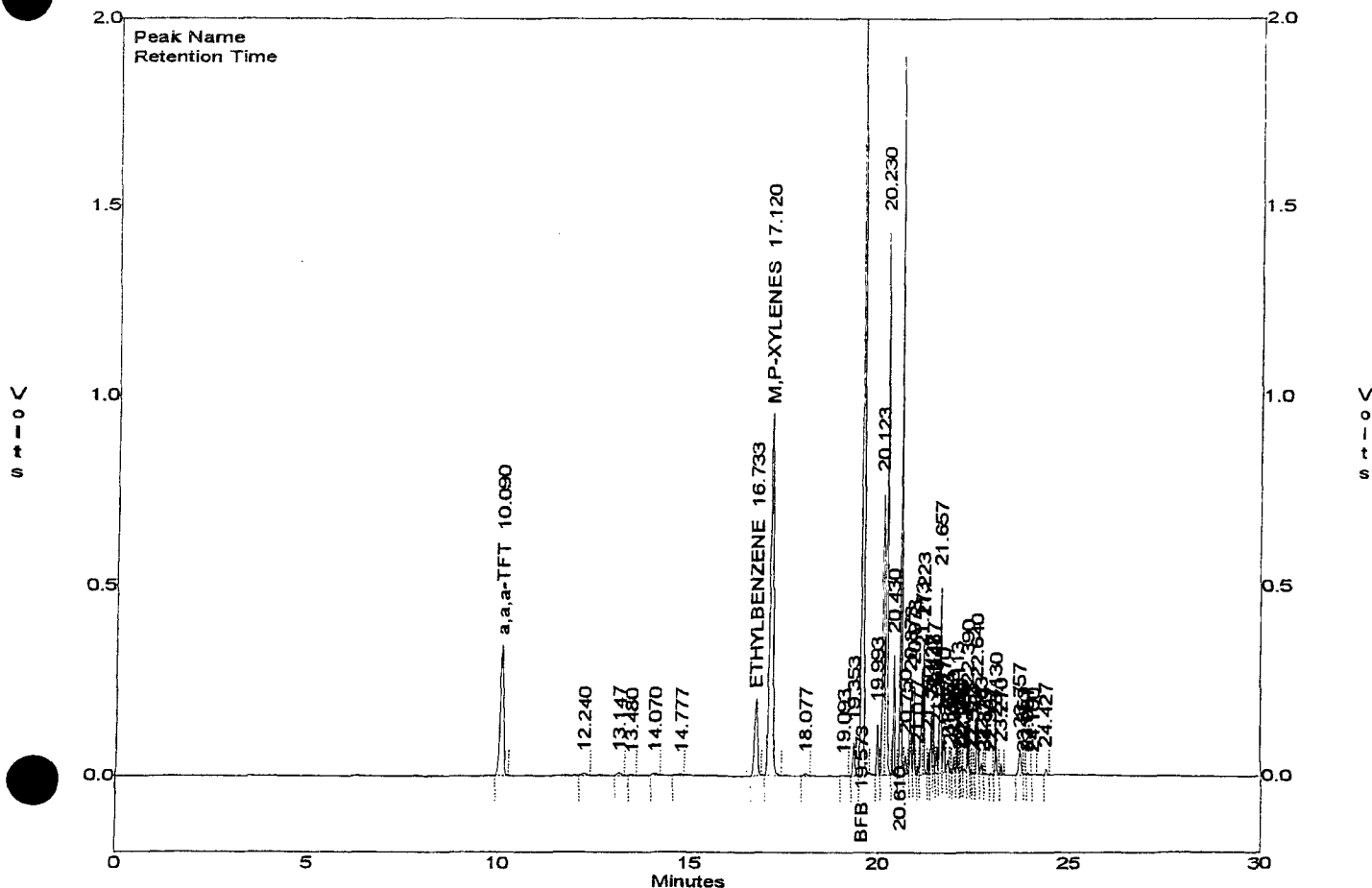
Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.820	0	0.0000
a,a,a-TFT	10.090	2181602	99.7682
TOLUENE	12.470	0	0.0000
ETHYLBENZENE	16.733	1175382	30.8425
M,P-XYLENES	17.120	5607226	122.0674
O-XYLENE	18.250	0	0.0000
BFB	19.573	8657530	105.5879

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		5607226	122.0674

C:\LABQUEST\CHROM000\040397-0.010 -- Channel A





FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	DRC18	970232
MTR CODE SITE NAME:	73034	Nickels #1
SAMPLE DATE TIME (Hrs):	3/28/97	1320
PROJECT:	Phase II Drilling - Initial	
DATE OF BTEX EXT. ANAL.:	4/3/97	4/3/97
TYPE DESCRIPTION:	Duplicate	Water

Field Remarks:

Field Duplicate

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 1	PPB				
TOLUENE	< 1	PPB				
ETHYL BENZENE	30.5	PPB				
TOTAL XYLENES	121	PPB				
TOTAL BTEX	152	PPB				

The Surrogate Recovery was at 102 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

Jon Jacob

Date:

4/8/97

EL PASO FIELD SERVICES LABORATORY

EPA METHOD 8020 - BTEX

File : C:\LABQUEST\CHROM000\040397-0.011
 Method : C:\LABQUEST\METHODS\0-013197.MET
 Sample ID : 970232 X1
 Acquired : Apr 03, 1997 23:00:40
 Printed : Apr 03, 1997 23:31:08
 User : MARLON

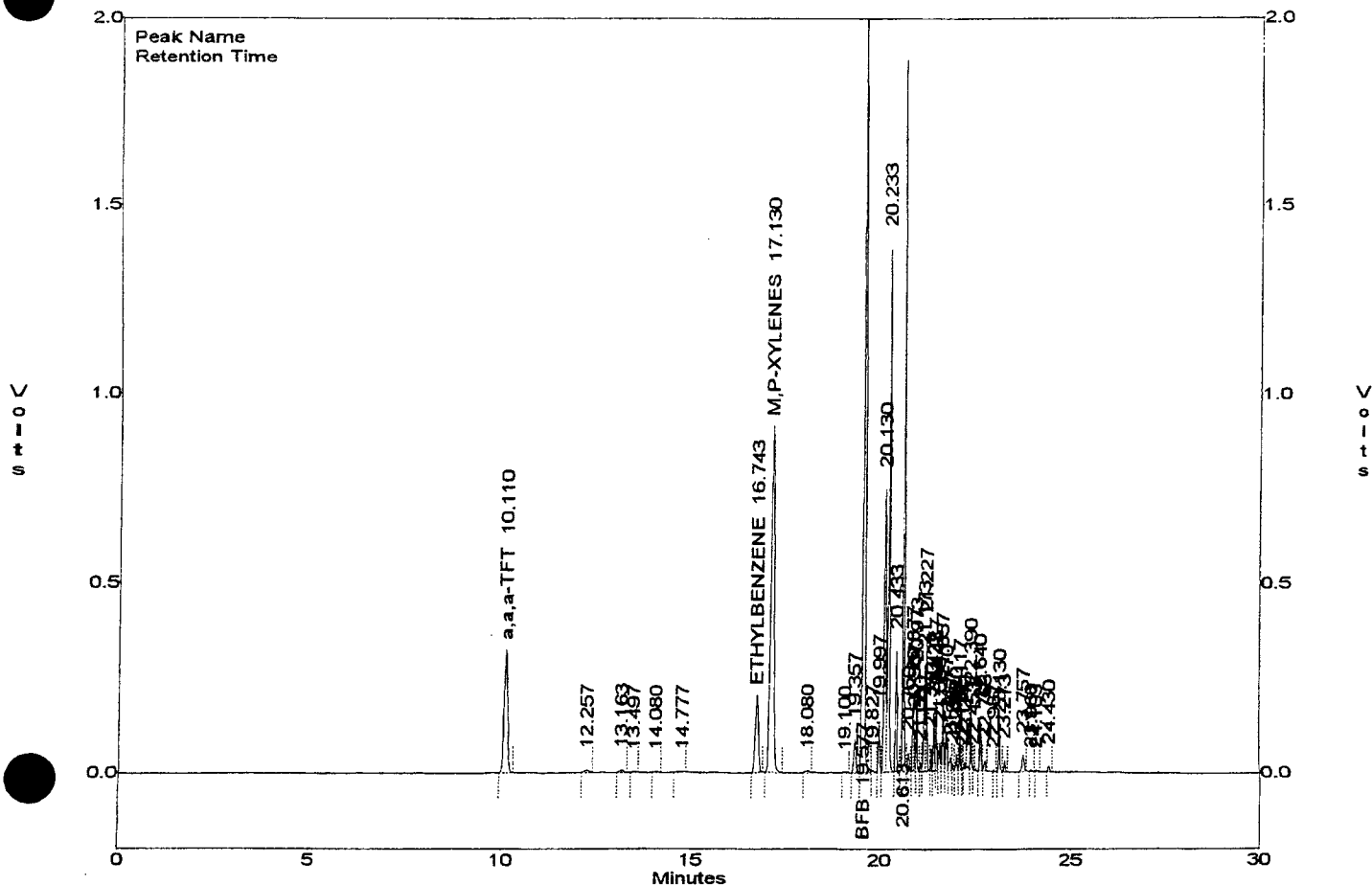
Channel A Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
BENZENE	7.820	0	0.0000
a,a,a-TFT	10.110	2091853	95.6639
TOLUENE	12.470	0	0.0000
ETHYLBENZENE	16.743	1161652	30.5135
M,P-XYLENES	17.130	5578504	121.4269
O-XYLENE	18.250	0	0.0000
BFB	19.577	8389120	102.3143

Channel A Group Results

COMPONENT	RET TIME	AREA	CONC (ug/L)
TOTAL XYLENES		5578504	121.4269

C:\LABQUEST\CHROM000\040397-0.011 -- Channel A



QUARTERLY MONITORING RESULTS

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	S1	Benzene (PPB)	S2	Toluene (PPB)	S3	Ethyl Benzene (PPB)	S4	Total Xylenes (PPB)	S7	Total BTEX
970231	73034	Nickels #1	3/28/97	1	Phase II Drilling - Initial	<	1	<	1	=	30.8	=	122	=	155
970684	73034	Nickels #1	7/17/97	1	Sample 4 - 1st Qtr	<	1	<	1	<	1	<	3	<	6
971150	73034	Nickels #1	10/24/97	1	Sample 4 - 2nd Qtr	<	1	<	1	<	1	<	3	<	6
980012	73034	Nickels #1	1/7/98	1	Sample 4 - 3rd Qtr	<	1	<	1	<	1	<	3	<	6
980319	73034	Nickels #1	4/27/98	1	Sample 4 - 4th Qtr	<	1	<	1	<	1	<	3	<	6



Well Number 19W-1
Meter Code 73034

Site Name *NICKLES #1*

☐	Development
☒	Purging

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 29.95
Initial Depth to Water (feet) 20.08
Height of Water Column in Well (feet) 9.87

Methods of Development

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

☐ Other

Instruments

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

Water Disposal

2107 DELAWARE

Water Removal Data

[illegible]

Comments THE WELL BAILED ONLY P 12.0 GALLONS.

Developer's Signature *Dennis Brad*

Date 1-7-98

John L. Ladd Date 1/21/98



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980012
MTR CODE SITE NAME:	73034	Nickles #1
SAMPLE DATE TIME (Hrs):	1/7/98	1245
PROJECT:	Sample 4 3rd Quarter	
DATE OF BTEX EXT. ANAL.:	1/12/98	1/12/98
TYPE DESCRIPTION:	MW-1	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 103.1 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

J. L. Ladd

Date:

1/21/98

980012BTEXMonitorWell, 1/16/98

CHAIN OF CUSTODY RECORD

[illegible]

Well Development and Purging Data

Site Name *McKEL5* #1

☐	Development
☒	Purging

Well Number NW-1

Meter Code 73034

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) 29.95
Initial Depth to Water (feet) 19.24
Height of Water Column in Well (feet) 10.71

Diameter (inches): Well

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.1	21.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KVTZ SEPAPARTOR

Water Removal Data

[illegible]

Comments THE WELL BAILED DRY @ 150 GALLONS.

Developer's Signature Jennie Bird

Date 4-27-98 Reviewer

John Satchin

Date 5/1/98



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	980319
MTR CODE SITE NAME:	73034	Nickels #1
SAMPLE DATE TIME (Hrs):	4/27/98	1048
PROJECT:	Sample 4 4th Quarter	
DATE OF BTEX EXT. ANAL.:	4/29/98	4/29/98
TYPE DESCRIPTION:	MW-1	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 97.5 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By:

John L. Linder

Date:

5/1/98

980319BTEXMW,4/30/98



El Paso
Natural Gas Company

A 2654

SAMPLE 4 4TH QTR

CHAIN OF CUSTODY RECORD

Project No.		Project Name		Requested Analysis		Remarks	
Samplers: (Signature)		Date: 4-27-98		Type and No. of Sample Containers		Preservation Technique	
Date	Time	Comp.	GRAB	Sample Number			
WATER 4-27-98	1248		X	980319U	5-1 4°C	X	NICKEL 5#1 MW-1
WATER 4-27-98	---		X	---	5-1 4°C	X	TRIP BGAAR
[The following rows are crossed out with a diagonal line]							
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
WATER 4-27-98		4-27-98 1530		WATER 4-27-98		4-27-98 1530	
Relinquished by: (Signature)		Date/Time		Received by: (Signature)		Date/Time	
WATER 4-27-98		---		WATER 4-27-98		---	
Relinquished by: (Signature)		Date/Time		Received for Laboratory by: (Signature)		Remarks:	
WATER 4-27-98		---		M. Martin		4/28/98 0730	
Carrier Co:		Air Bill No.:		Carrier Phone No.		Date Results Reported / by: (Signature)	