3R - 226

REPORTS

DATE:
1997

EL PASO ENERGY

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

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,

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

NICKLES #1
Meter/Line ID - 73034

SITE DETAILS

Legals - Twn: 31N **Rng:** 13W **Sec:** 11 **Unit:** K
NMOCD Hazard Ranking: 30 **Land Type:** FEE
Operator: FULLER PETROLEUM INC.

PREVIOUS ACTIVITIES

Site Assessment: Jan-95 **Excavation:** Feb-95 (40 cy) **Soil Boring:** Sep-95
Re-Excavation: Nov-95 (942 cy) **Monitor Well:** Mar-97

1997 ACTIVITIES

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

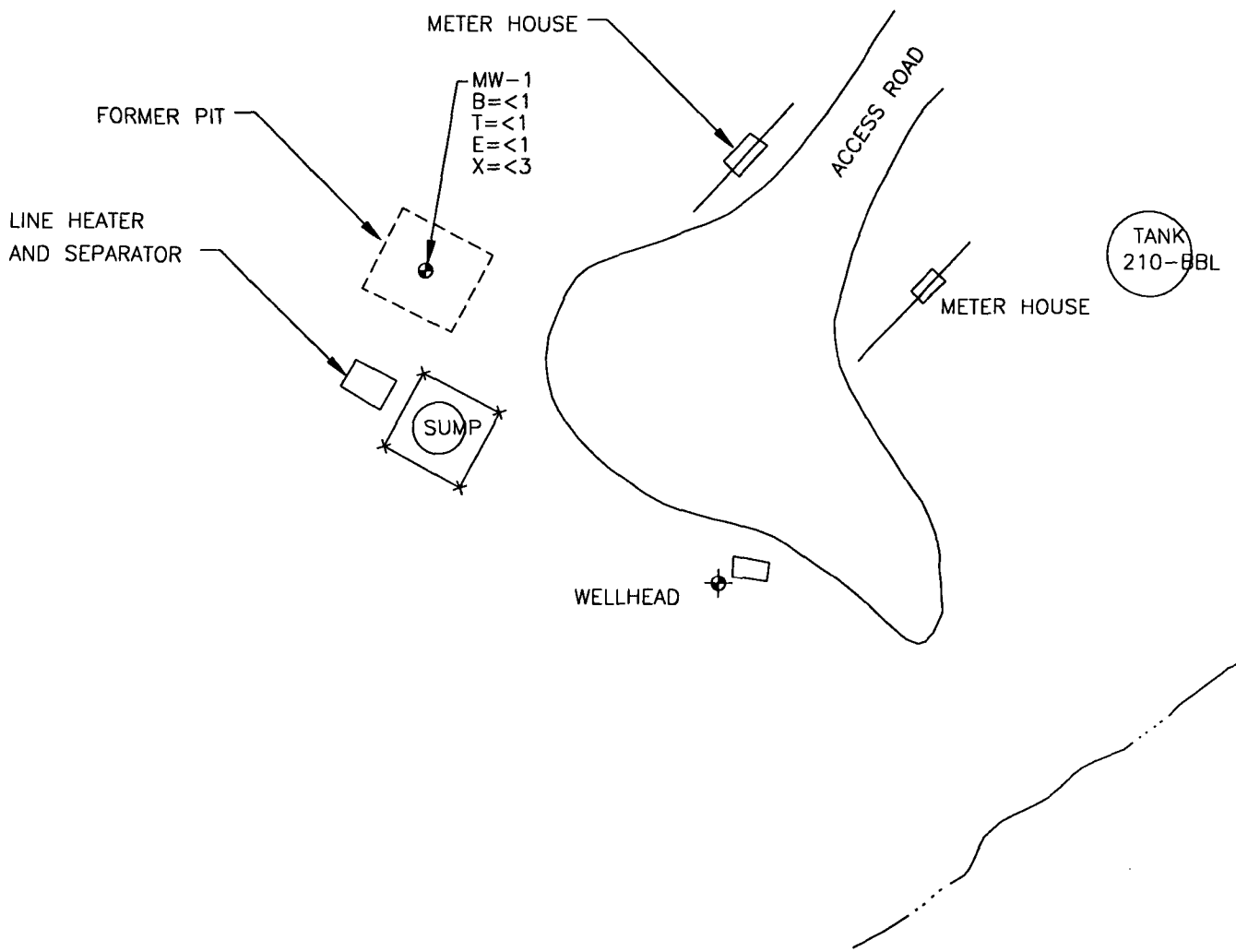
Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 7/17/97. Groundwater analytical data are presented in Table 1. A site map is presented in Figure 1.

CONCLUSIONS

Initial groundwater analytical data were reported as Non Detect for BTEX. Based on initial groundwater analytical there appears to have been minimal impact to groundwater 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.



LEGEND

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

NOT TO SCALE

N

PHILIP SERVICES CORP.

TITLE:

NICKELS No. 1 DK
METER 73034

DWN: TMM	DES.: CC	PROJECT NO.: 17520	
CHKD: CC	APPD:	EPFS GW PITS	
DATE: 11/4/97	REV.: 0	FIGURE 1	

COL. 17520V-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	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

RECORD OF SUBSURFACE EXPLORATION

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

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 NICKLES #1 — 73034

Elevation
Borehole Location T31-R13-S11-Ltr K
GWL Depth 19' BGS
Logged By D CESARK
Drilled By M DONOHUE
Date/Time Started 3/11/97 — 1230
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 BZ	BH	S	Drilling Conditions & Blow Counts
0				BACKFILL						
5										
				TO						
10				19'						
15										
▽ 20				GWC 19' BGS (GRAVEL/COBBLES START C 19' BGS)						
25				TD = 27'						
30										
35										
40										

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

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Borehole # 2
Well # 1
Page 1 of 1

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

Project Name EPFS GW PITS
Project Number 17520 Phase 6002.77
Site Location NICKLES #1 — 73034

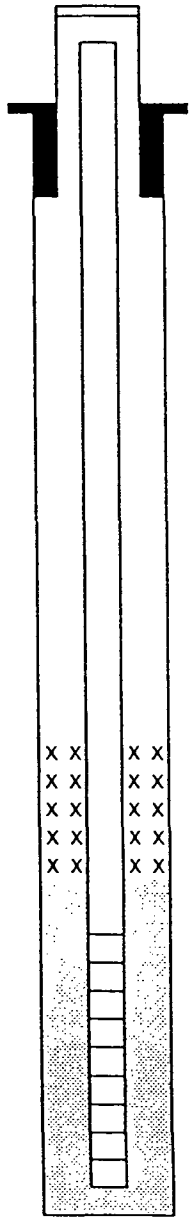
Elevation
Well Location T31N-R13W-S11-L'K'
GWL Depth 19' BGS
Installed By M DONOHUE

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	.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. SND.	-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:

Geologist Signature

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

A 2235

CHAIN OF CUSTODY RECORD

Project No.	Project Name
17520	EPFS GW PITS

Samplers: (Signature)

Date: 3/28/97

SEQ	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTEX				Remarks
2235	3/28	1315		BM	DRC 17	VV/2	HCL	X				NICKELS #1 - 73034 (MW-1)
2335	"	1320		D	DRC 18	VV/2	HCL	X				* DUPLICATE
~~15~~	~~"~~	~~1320~~		~~B~~	~~DRC 19~~ Lab 3/31/97	VV/1	—	X				~~N/A~~
2336	"	1510		G	DRC 20	VV/2	HCL	X				JOHNSON #1E - 93357 (MW-1)
2234	3/28	1315			Trip Blank	1	HCL	X				TB

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
	3/28 1605			4/1/97 1413	
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
				4-1-97 1413	Marla Armenta
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	

Carrier Co: | Carrier Phone No. | Date Results Reported / by: (Signature)

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 Fadler Date: 4/8/97

PHILIP ENVIRONMENTAL Well Development and Purging Data

☐ Development ☐ Purging Well Number 1

Serial No. WDPD-

Page 1 of 2

Project Name GW PITS Project Manager C CHANCE Project No. 17520

Client Company EPFS Phase.Task No. 6003.77

Site Name NICKLES #1 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' BGS

Initial Depth to Water (feet) 16' BGS

Height of Water Column in Well (feet) 11'

Diameter (inches): Well 2" Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing			21.5 ☒
Gravel Pack			
Drilling Fluids			
Total			21.5 ☒

Instruments

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

Water Disposal

Water Removal Data

Date	Time	Development Method: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gallons): Increment	Water Volume Removed (gallons): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature (°C)	pH	Conductivity (µmhos/cm)	Dissolved Oxygen (mg/L)	Comments
3/28	1110		✓	.25			2.5	2.5			13.9	7.28	225		
"	1120		✓	.25			2.5	5.0			14.1	7.31	204		
"	1135		✓	.33			5.0	10.0			13.7	7.06	205		→ well stabilized
"	1150		✓	.33			5.0	15.0			13.8	7.02	208		
"	1220		✓				6.5	21.5			13.9	7.16	218		→ lost bailer, had to retrieve, no readings not as consistent

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

Comments

Developer's Signature(s) Date 3/28/97 Reviewer Date

Form A0101 Rev. 03/21/94

PHILIP ENVIRONMENTAL 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) 16' BGS

Nonaqueous Liquids Present (Describe)

Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

Sample Containers

Container Type: G = Clear Glass; A = Amber Glass; P = Plastic; V = VOA Vial (Glass); O = Other (Specify)

Preservatives: H = HCl; N = HNO_3; S = H_2SO_4; A = NaOH; O = Other (Specify); — = None

Analytical Parameter List	Container: Number	Type	Volume (mL)	Field Filtered: Yes	No	Preserved	Cooled During Collection: Yes	No	Comments
BTEX	DRC17	VV	40		✓	Y			GRAB
"	DRC18	"	"		✓	Y			DUP.
"	DRC19	"	"		✓	Y			BLK.

Filter Type

Chain-of-Custody Form Number A2235

Comments

Signature Date 3/28/97 Reviewer Date

Form A0202 Rev. 02/24/94

Sample 4 - 1st Quarter

El Paso Natural Gas Company

A 2030

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	AZTEC PIPELINE			BTXE	GENERAL CHEMISTRY	RCRA 8 METALS		
Samplers: (Signature) Dennis Bird	Date: 7-17-97							
Matrix / Date / Time / Comp. / GRAB / Sample Number								
WATER 7-17-97 1117	X 970684	2-4	4°C	X	X	X		NICKLES #1 MW1 MC 730 84
WATER 7-17-97 —	X —	6-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	7-17-97 1445				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marlon Klapper	7/18/97 0715		
Carrier Co:		Carrier/Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970684
MTR CODE | SITE NAME:	73034	Nickles #1 MW-1
SAMPLE DATE | TIME (Hrs):	7/17/97	1117
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	7/17/97	7/17/97
TYPE | DESCRIPTION:	Monitor Well	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 98.3 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Leach Date: 7/31/97

970684.XLS,7/29/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	970684
SAMPLE DATE:	07/17/97
SAMPLE TIME (Hrs):	1117
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	73034
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	Nickles #1 MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	0.008	0.100
BARIUM	0.21	1.00
CADMIUM	<0.0002	0.010
CHROMIUM	0.014	0.050
LEAD	<0.003	0.050
MERCURY	<0.0002	0.002
SELENIUM	<0.011	0.050
SILVER	0.0016	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: mh Approved By: John Turner Date: 9-8-97

EL PASO FIELD SERVICES

8/7/97

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	970684
DATE SAMPLED:	07/17/97
TIME SAMPLED (Hrs):	1117
SAMPLED BY:	Dennis Bird
MATRIX:	Water
METER CODE:	73034
SAMPLE SITE NAME:	Nickles #1
SAMPLE POINT:	MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.1	Units	07/18/97
Alkalinity as $C0_3$	0.0	PPM	07/18/97
Alkalinity as $HC0_3$	1111	PPM	07/18/97
Calcium as Ca	410	PPM	07/21/97
Magnesium as Mg	148	PPM	07/21/97
Total Hardness as $CaC0_3$	1,633	PPM	07/21/97
Chloride as Cl	163	PPM	07/17/97
Sulfate as $S0_4$	1,640	PPM	07/17/97
Fluoride as F	1.2	PPM	07/21/97
Nitrate as $N0_3$-N	<1.1	PPM	07/17/97
Nitrite as $N0_2$-N	<1.1	PPM	07/17/97
Ammonium as NH_4^+	<0.3	PPM	07/21/97
Phosphate as PO_4	<1.1	PPM	07/17/97
Potassium as K	6.2	PPM	07/21/97
Sodium as Na	417	PPM	07/21/97
Total Dissolved Solids	3,340	PPM	07/21/97
Conductivity	3,780	umhos/cm	07/17/97
Anion/Cation %	5.7%	%, <5.0 Accepted	07/29/97

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 7/31/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 970684
Date Reported: 08/28/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (mg/L)	Known Value (mg/L)	% Recovery
Arsenic	0.031	0.032	94.4%
Barium	0.061	0.065	94.6%
Cadmium	0.0012	0.0012	103%
Chromium	0.008	0.007	103%
Lead	0.013	0.012	108%
Mercury	0.0041	0.0046	89.3%
Selenium	0.040	0.041	98.8%
Silver	0.0066	0.0068	97.6%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	0.0078	0.0077	1.3%
Barium	0.222	0.216	2.7%
Cadmium	ND	ND	NA
Chromium	0.014	0.014	2.6%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	0.0004	0.0002	NA

SPIKE ANALYSIS (mg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	0.0078	0.118	0.100	110%
Barium	0.222	1.247	1.00	94.2%
Cadmium	ND	0.0101	0.010	101%
Chromium	0.014	0.064	0.050	101%
Lead	ND	0.044	0.050	88.3%
Mercury	ND	0.0018	0.0020	89.0%
Selenium	ND	0.060	0.050	117%
Silver	ND	0.0550	0.050	110%

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	0.0002
Selenium	ND	0.011
Silver	ND	0.0004

ND: Not Detected at stated detection level. NA: Not Applicable.

Reported By: mh Approved By: John Fowler Date: 9-8-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name MCKLES #1

Meter Code 73034

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removed
☐ 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) 29.95
Initial Depth to Water (feet) 20.17
Height of Water Column in Well (feet) 9.78
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.5	19.4
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth	Ending Water Depth	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)	(feet)	(feet)	Increment	Cumulativ	Increment	Cumulative					
7-17-97	0954										17.9	6.18	4590		
7-17-97	1002						5.0	5.0			16.4	6.54	4580		
7-17-97	1011						5.0	10.0			16.8	6.65	3980		
7-17-97	1038						3.0	13.0			18.6	6.65	3840	4.0	

Comments THE WELL BAILED DRY @ 13.0 GALLONS.

Developer's Signature Dennis Bird Date 7-17-97 Reviewer John Stalker Date 7/31/97

SAMPLE 4 2ND QTR

El Paso Natural Gas Company

A 2120

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Samplers: (Signature)	Date
	MC #73034	Dennis Bied	10-24-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE				Remarks
WATER	10-24-97	1159		X	971150	G-1	4°C	X				NICKLOS #1 MW-1
WATER	10-24-97	—		X	—	G-1	4°C	X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bied	10-24-97 1572				
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time	Remarks:	
		Marsha Happer	10/27/97 0715		

Carrier Co:

Carrier Phone No.

Air Bill No.:

Date Results Reported / by: (Signature)

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971150
MTR CODE | SITE NAME:	73034	Nickles #1
SAMPLE DATE | TIME (Hrs):	10/24/97	1159
PROJECT:	Sample 4 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	10/24/97	10/24/97
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 96.8 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:
Tolune was detected in the associated vial blank at a concentration of 1.6 ppb

Approved By: _____ Date: 11/7/97

971150BTEXMW,11/4/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name NICKLES #1

Meter Code 73034

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ Stabilization of Indicator Parameters
☐ Other_____

Water Volume Calculation

Initial Depth of Well (feet) 27.95
Initial Depth to Water (feet) 20.85
Height of Water Column in Well (feet) 9.10
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		6.0	18.0
Gravel Pack			
Drilling Fluids			
Total			

Instruments

☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other D.O. CHEMETS KIT

Methods of Development

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

☐ Other_____

Water Disposal

KUTZ SEPARATOR

Water Removal Data

Date	Time	Development Method		Removal Rate	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal)		Product Volume Removed (gallons)		Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
		Pump	Bailer	(gal/min)			Increment	Cumulative	Increment	Cumulative					
10-24-97	1102										12.0	6.56	4330		
10-24-97	1109						5.0	5.0			11.6	6.55	4200		
10-24-97	1125						5.0	10.0			10.0	6.79	4030	4.0	

Comments THE WELL BAILED DRY @ 10.0 GALLONS.

Developer's Signature Dennis Bird Date 10-24-97 Reviewer John Fuller Date 11/10/97