

3R - 239

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

STATE GAS COM N #1
Meter/Line ID - 71669

SITE DETAILS

Legals - Twn: 31N Rng: 12W Sec: 16 Unit: H
NMOCD Hazard Ranking: 30 Land Type: STATE
Operator: AMOCO PRODUCTION COMPANY

PREVIOUS ACTIVITIES

Site Assessment: Mar-94
Monitor Well: Oct-95

Excavation: May-94 (80 cy)
Downgradient MW's: Nov-95

Soil Boring: Oct-95

1997 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 12/3/96 and has continued into 1997. Groundwater sampling was discontinued after detecting product in 3 monitoring wells. Groundwater analytical data are presented in Table 1.

Product Removal - Product removal was initiated at MW-2 on 7/7/97, and MW-1 and MW-3 on 7/21/97.

CONCLUSIONS

Based on groundwater levels collected from four monitoring wells, the groundwater flow trends to the southeast on this site, as presented in Figure 1. Product has been measured in all four monitoring wells, but currently exists only in monitoring wells 1-3. Approximately 40 gallons of product has been removed from MW-1, 63 gallons from MW-2, and 11 gallons from MW-3, since product removal was initiated. All product has been disposed of at EPFS's Kutz Separator in Bloomfield, NM. Due in part to the depth to groundwater, and the difficult drilling conditions, the horizontal extent of migration has not been determined. Offsite work will be required to determine the downgradient extent.

RECOMMENDATIONS

- Continue product removal at MW-1, MW-2, and MW-3 as needed.
- Discontinue quarterly sampling until product removal is complete.
- Off-site permission required to complete down-gradient investigation.
- Due to isolated location of site, and lack of potential receptors, following product removal, site may be a candidate for Risk Based Closure.

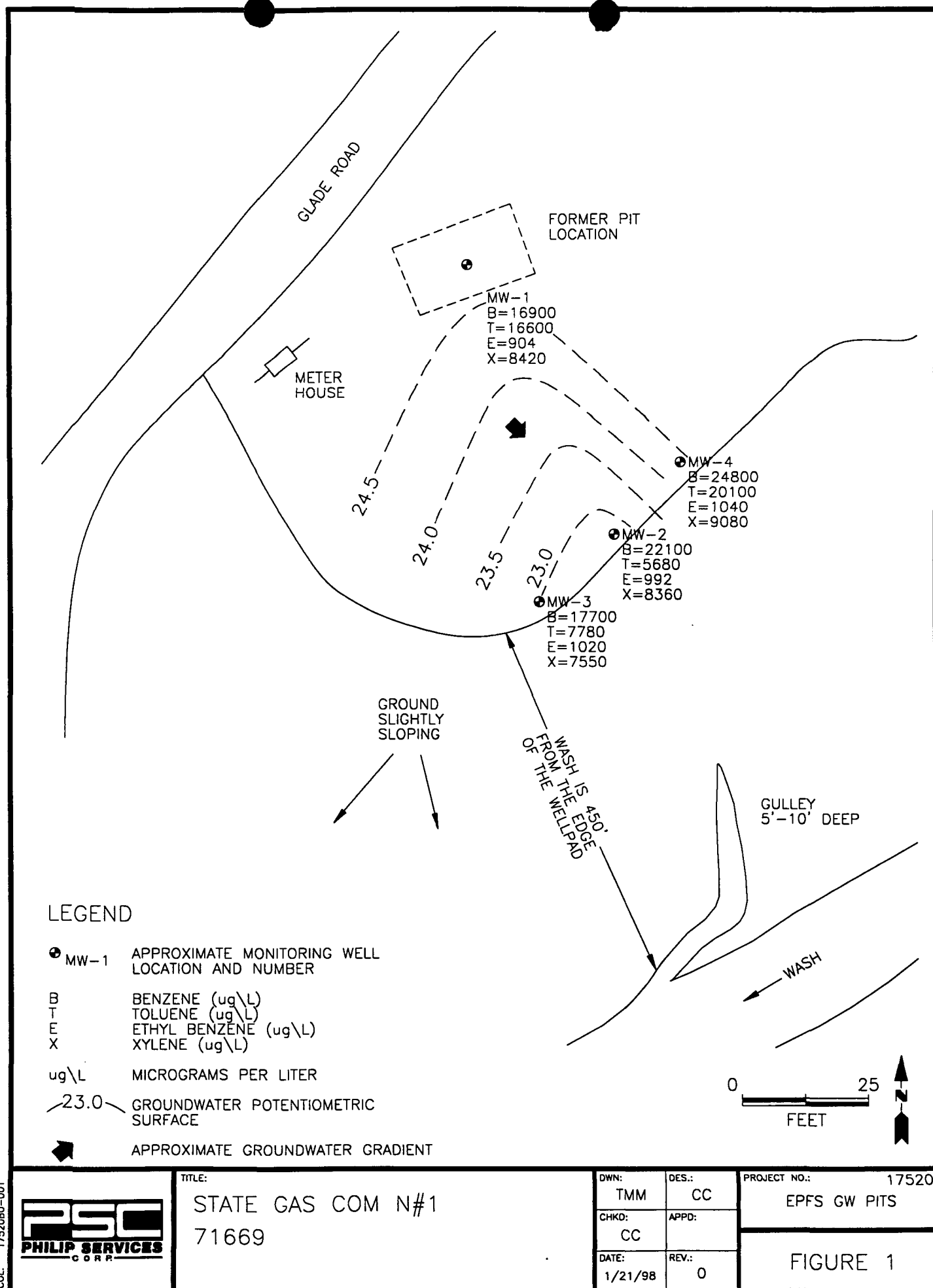


TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
961022	71669	State Gas Corn N #1	12/03/96	1	Sample 4 - 1st Quarter	= 17200	= 15200	= 673	= 6670	= 39743
970185	71669	State Gas Corn N #1	3/7/97	1	Sample 4 - 2nd Quarter	= 16900	= 16600	= 904	= 8420	= 42824
961023	71669	State Gas Corn N #1	12/03/96	2	Sample 4 - 1st Quarter	= 21700	= 5000	= 967	= 8310	= 35977
970186	71669	State Gas Corn N #1	3/7/97	2	Sample 4 - 2nd Quarter	= 22100	= 5680	= 992	= 8360	= 37132
961024	71669	State Gas Corn N #1	12/03/96	3	Sample 4 - 1st Quarter	= 17700	= 7310	= 983	= 7200	= 33193
970187	71669	State Gas Corn N #1	3/7/97	3	Sample 4 - 2nd Quarter	= 17700	= 7780	= 1020	= 7550	= 34050
961025	71669	State Gas Corn N #1	12/03/96	4	Sample 4 - 1st Quarter	= 23600	= 19600	= 1000	= 8600	= 52800
970188	71669	State Gas Corn N #1	3/7/97	4	Sample 4 - 2nd Quarter	= 24800	= 20100	= 1040	= 9080	= 55020

02-73 KUTZ

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole #

BH-1

Well #

Page

1 of 2

Project Name

EPNG Pits

Project Number

14509

Phase

601-6000

Project Location

State Gas Com U#1, 71669

Elevation

Borehole Location T31, R12, S. 16, H

GWL Depth

Logged By

S. Kelly

Drilled By

M. Donohue

Date/Time Started

10/6/95, 1415

Date/Time Completed

10/6/95, 1900

Well Logged By

S. Kelly

Personnel On-Site

J. Long, J. Johnson

Contractors On-Site

Client Personnel On-Site

Drilling Method

4 1/4" ID HSA

Air Monitoring Method

CGI, PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ BH S/H			Drilling Conditions & Blow Counts
0				Backfill						
5				to 12'						
10										
15										
20	1	18-20	21 20'	silty SAND, dk grey, 10-35% silt, fine sand, loose, dry		21			392 886	1425
25	2	23-25	51 20'	silty SAND, black, 10-35% silt, fine sand, loose, dry					386 545	1430
30	3	28-30	21 20'	SAA					210 528	1440
35	4	33-35	451 20'	SAA		36			353 608	1445
40	5	38-40	51 20'	silty SAND, black 15-40% silt, fine sand, trace clay, v. loose, damp					154 490	1452

Comments:

Hit water at 78'. Rose to 76' 73-75' sample (SEK 96) sent to lab.
 (BTEX & TPH) Sample was bagged and iced prior to being put in jar.
 Pulled augers and concealed hole will return to redrill and set well.

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

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

Project Name EPNG Pits
Project Number 14509 Phase 601 6000
Project Location State Gas Com N#1, 71669

Elevation _____
Borehole Location _____
GWL Depth _____
Logged By S. Kelly
Drilled By _____
Date/Time Started _____
Date/Time Completed _____

Well Logged By S. Kelly
Personnel On-Site _____
Contractors On-Site _____
Client Personnel On-Site _____
Drilling Method _____
Air Monitoring Method CGI, PID

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
							BZ	BH	S	
40						41				
45	6	43-45	.75' 2.0'	silty SAND, black- 10-30% silt, fine sand, trace med. sand, loose, damp.		47			416 790	1502
50	7	48-50	.5' 2.0'	SAND, tan, trace silt, med dense, dry		52			316 815	1515
55	8	53-55	.5' 2.0'	CLAY, brown, hard, dry		56			283 628	1525
60	9	58-60	.7' 2.0'	SAND, tan, trace silt, med. dense, dry, fine to med. sand.					672 924	1540
65	10	63-65	.8' 2.0'	SAA					671 948	1605
70	11	68-70	.55' 2.0'	SAA		71			324 1073	1630
75	12	73-75	1.1' 2.0'	clayey SAND- 5-15% clay trace silt, fine to med. grain sand, med. dense, damp.		76			710 756	1650
80	13	78-80	1.4' 2.0'	silty SAND, 5-20% silt, fine, med and trace coarse sand, med. dense, wet.					318	Hit water at 78'. After 10 min 1730 water rose to 76'.

Comments:

TOB- 81.0'

Geologist Signature

Amak H. Albi

MONITORING WELL INSTALLATION RECORD

Mullip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

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

Project Name EPRI Pits
Project Number 14509 Phase 6001
Project Location State Gas Com #1#
On-Site Geologist 711009
Personnel On-Site M. Deneque, J. Long
Contractors On-Site J
Client Personnel On-Site

Elevation
Well Location T31 R12, S16, H
GWL Depth 75.0'
Installed By M. Deneque

Date/Time Started 10/12/05 0830
Date/Time Completed 10/17/05 1700

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing			Top of Protective Casing	<u>N/A</u>
Bottom of Protective Casing			Top of Riser	<u>+2.6'</u>
Top of Permanent Borehole Casing			Ground Surface	<u>0.0</u>
Bottom of Permanent Borehole Casing				
Top of Concrete				
Bottom of Concrete				
Top of Grout		<u>0.0</u>		
Bottom of Grout		<u>-66.5</u>		
Top of Well Riser		<u>+2.6</u>		
Bottom of Well Riser		<u>-71.0</u>		
Top of Well Screen		<u>-71.0</u>		
Bottom of Well Screen		<u>-81.0</u>	Top of Seal	<u>-66.5'</u>
Top of Peltonite Seal		<u>-66.5</u>		
Bottom of Peltonite Seal		<u>-69.0</u>	Top of Gravel Pack	<u>-69.0</u>
Top of Gravel Pack		<u>-69.0</u>	Top of Screen	<u>-71.0</u>
Bottom of Gravel Pack		<u>-81.0</u>		
Top of Natural Cave-In				
Bottom of Natural Cave-In				
Top of Groundwater		<u>-75.0'</u>	Bottom of Screen	<u>-81.0</u>
Total Depth of Borehole		<u>-81.0</u>	Bottom of Borehole	<u>-81.0</u>

Comments: _____

Geologist Signature _____

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # _____
Well # MW-2
Page 1 of 2

Project Name EPNG PHS
Project Number 14509 Phase 6000
Project Location State Geol. N#1 (71669)

Elevation _____
Borehole Location T31 R 12 S. 16. H
GWL Depth 12.85
Logged By S. Pope
Drilled By M. Donohue
Date/Time Started 0900 11/27/95
Date/Time Completed 1500 11/27/95

Well Logged By S. Pope
Personnel On-Site J Long M Donohue
Contractors On-Site N/A
Client Personnel On-Site N/A

Drilling Method H-4 6 1/2 12
Air Monitoring Method FD-332

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ 6H			Drilling Conditions & Blow Counts
0										
5				Brown Sand & silt + fine silt and clay + trace organic						
10				As Above						
15				As Above						
20				As Above	SC					- Fine sand + silt
25				As Above						
30				As Above						- Siderite nodules 6" x 1" x 1" or less 5" x 1" x 1" or less
35				As Above						
40				As Above with increasing clay			17	0	24	- Noted some nodules in cuttings

Comments: Could not install well up gradient due to pits proximity to Main Road.

Geologist Signature

John T. Pope

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole #

Well #

Page

MW-2

2 of 2

Project Name

Project Number

Project Location

EPNG Pits

14509

State Gas Com N#1 (71669)

Phase

6000

Well Logged By

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

S. Pope

M. Dandhu, J. Lane

N/A

N/A

Drilling Method

Air Monitoring Method

HSA 6 1/4 ID

PID, C-7

Elevation

Borehole Location

GWL Depth

Logged By

Drilled By

Date/Time Started

Date/Time Completed

T31R12, S 1, N

72.5

S. Pope

M. Dandhu

0900 11/27/85

1500 11/27/85

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU Change BZ BH Cuttings			Drilling Conditions & Blow Counts
40				Brown-Grey Silty Clay Fine Medium Sand, moist						
45				As Above	SC		0	17	23	
50				As Above			0	10	23	- Side wall restriction add 5 gallons water
55				Brown-Grey Silty Clay		54	0	36	24	
60				As Above			0	55	36	
65				As Above			0	16	6	
70				As Above	CL		0	0	7	
75				As Above			0	4	0	
80										1050 - Nolen Strong HC odor @ 78' and Black discolored cuttings
85										
90										

Comments:

Water @ 73' Well Set (Well @ 91')

Geologist Signature

[Signature]

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # _____
Well # MLW-2
Page 1 of 1

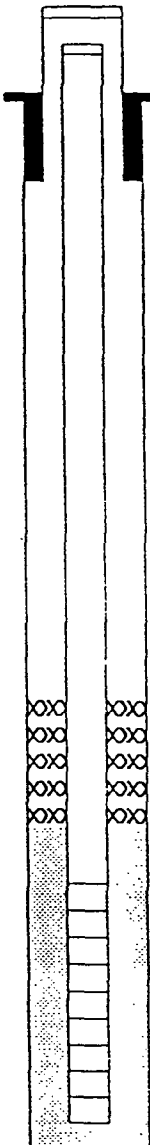
Project Name ERNING PITS
Project Number 14509 Phase 6000
Project Location State Gas Co. A#1 (71669)

Elevation _____
Well Location T31, R12, S16, H
GWL Depth 73.0
Installed By M. Donohue

On-Site Geologist S. Pope
Personnel On-Site M. Donohue, J. Long
Contractors On-Site N/A
Client Personnel On-Site N/A

Date/Time Started 500 11/27/95
Date/Time Completed 1130 11/28/95

Depths in Reference to Ground Surface		
Item	Material	Depth
Top of Protective Casing		
Bottom of Protective Casing		
Top of Permanent Borehole Casing		
Bottom of Permanent Borehole Casing		
Top of Concrete		
Bottom of Concrete		
Top of Grout	Cement/Bentonite	1.0
Bottom of Grout		61.0
Top of Well Riser	4" Sch 40 PVC	+2.3
Bottom of Well Riser		65.6
Top of Well Screen	4" Sch 40 PVC	65.6
Bottom of Well Screen	.010 Slit	81.0
Top of Peltonite Seal	Enviro Plug	61.0
Bottom of Peltonite Seal		63.6
Top of Gravel Pack	10-20 Silica	63.6
Bottom of Gravel Pack		81.0
Top of Natural Cave-In		N/A
Bottom of Natural Cave-In		N/A
Top of Groundwater		73.0
Total Depth of Borehole		81.0



Top of Protective Casing _____

Top of Riser 2.3

Ground Surface 0.0

Top of Seal 61.0

Top of Gravel Pack 63.6

Top of Screen 65.6

Bottom of Screen 81.0

Bottom of Borehole 81.0

Comments: 16 Bags (50lb) Sand, 1 1/2 Bags (50lb) Hole Plug, 17 Bags Cement (54lb) 1 1/2 Bags Bentonite Frac (50lb)
Groundwater @ 73.15' POS After Installation Strong Odor Noted on Probe
* Note: Will complete well @ later date

Geologist Signature

S. Pope

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole #

Well #

Page

MW-3
1 of 2

Project Name

EPNG Leupp

Project Number

14977/14501

Project Location

Leupp Compressor Station, Leupp, AZ

State Gas Com #1, 71669

Well Logged By

S. Kelly

Personnel On-Site

K. O'Brien, M. Donohue, J. Long, H. Liles

Contractors On-Site

Client Personnel On-Site

Drilling Method

Air Rotary 6 3/4" ID HSA

Air Monitoring Method

Elevation

Borehole Location

GWL Depth

Logged By

S. Kelly

Drilled By

K. O'Brien, M. Donohue

Date/Time Started

11/29/95, 0815

Date/Time Completed

11/29/95, 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: NDU			Drilling Conditions & Blow Counts	
							BZ	BH	S	cuttings	
0				clayey SAND, greyish brown 5-15% clay, fine to med. angular sand, moist, are SK loose. 11/29/95							
5				SAA			0	0	0		
10				SAA			0	0	0	Drilling getting tight at 12'.	
15				SAA			0	0	0	Drilling gets easier at 15'	
20				silty SAND, tan, 10-35% silt fine sand, trace med. angular sand, loose, dry.			0	0	0		
25				SAA			0	0	0		
30				SAA			0	0	0		
35				SAA			0	0	1		
40				SAA			0	0	0		

Comments:

Geologist Signature

Sarah Kelly

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # MW-3
Well # 2
Page 2 of 2

Project Name EPNG Leupp
Project Number 14871 Phase 14509
Project Location Leupp Compressor Station, Leupp, AZ
State Gas Com N#1, T1669
Well Logged By S. Kelly H. Liles
Personnel On-Site K. O'Brien, M. Donohue, J. Long
Contractors On-Site _____
Client Personnel On-Site _____
Drilling Method Air Rotary HSA-634"ID
Air Monitoring Method _____

Elevation _____
Borehole Location _____
GWL Depth _____
Logged By S. Kelly
Drilled By K. O'Brien M. Donohue
Date/Time Started _____
Date/Time Completed _____

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ BH S-			Drilling Conditions & Blow Counts Cuttings
40				silty SAND, greyish tan, 10-35% silt, trace clay, fine sand, med. dense, moist.			0	0	0	Drilling is getting harder due to side restriction. and harder material being drilled through starting at approx 38.
45							0	0	0	
50				SAA			0	0	0	
55				clayey SAND, grey-brown 5-10-25% clay, fine to med angular sand, trace silt, dense, moist.			0	0	40	Had to add water at 58' due to side restriction - cuttings not coming up. Added 5-10 gal tap water.
60				sandy CLAY, brown, 15-40% fine to med. angular sand, slightly plastic, soft, moist.			0	30	0	
65				sandy CLAY, grey, 10-25% fine sand, soft, moist.			0	59	0	
70				SAA			0	305	0	Hydro carbon odor at borehole.
75				SAA			0	131	0	
80										water level is at 80.6' in augers, up to 76.5' after 20 min.
80.7'				TOB- 80.7'						

Comments:

Geologist Signature

Sarah Kelly

MONITORING WELL INSTALLATION RECORD

Multip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2368

Borehole #
Well # MW-3
Page 1 of 1

Project Name EPNG-Pit Drilling
Project Number 14509 Phase 6000
Project Location State Gas Com N41, 71669
On-Site Geologist S. Kelly
Personnel On-Site M. Danahue, J. Long, H. Liles
Contractors On-Site
Client Personnel On-Site

Elevation
Well Location
GWL Depth
Installed By M. Danahue

Date/Time Started 11/29/95, 1245
Date/Time Completed 11/29/95, 1630

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing			Top of Protective Casing	
Bottom of Protective Casing			Top of Riser	<u>2.4'</u>
Top of Permanent Borehole Casing			Ground Surface	<u>0.0</u>
Bottom of Permanent Borehole Casing				
Top of Concrete				
Bottom of Concrete				
Top of Grout	Type I-II cement w/ 5% bentonite	0.0'		
Bottom of Grout	17-94# bag cement 1.5-50# bag bentonite	-59.5'		
Top of Well Riser	4" Sch. 40 PVC			
Bottom of Well Riser	" "	-65.3'		
Top of Well Screen	4" Sch. 40, .010 slot PVC	-65.3'		
Bottom of Well Screen	" "	-80.3'		
Top of Peltonite Seal	3/4" Holeplug bentonite pellets	-59.5'	Top of Seal	-59.5'
Bottom of Peltonite Seal	2-50# sacks	-62.8'	Top of Gravel Pack	-62.8'
Top of Gravel Pack	10-20 CSSI sand	-62.8'	Top of Screen	<u>65.7'</u> -65.3' AK 11/29/95
Bottom of Gravel Pack	17-94# bags 16-50# sacks	-80.7'		
Top of Natural Cave-In		N/A		
Bottom of Natural Cave-In		N/A		
Top of Groundwater		-75.15'		
Total Depth of Borehole		-80.7'	Bottom of Screen	-80.3'
			Bottom of Borehole	-80.7'

Comments: .4' PVC end cap.

Geologist Signature

Sarah Kelly

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole #

Well #

Page

MW-4

of

2

Project Name

EPNG Pit Drilling

Project Number

14509

Phase

###

Project Location

State Gas Com A#1, 71669

Elevation

Borehole Location

GWL Depth

Logged By

S. Kelly

Drilled By

M. Donohue

Date/Time Started

11/29/95, 0815

Date/Time Completed

11/30/95, 1315

Well Logged By

S. Kelly

Personnel On-Site

M. Donohue, H. Liles

Contractors On-Site

Client Personnel On-Site

Drilling Method

6 3/4" ID Hollow Stem Auger

Air Monitoring Method

PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU BZ BH sCuttings			Drilling Conditions & Blow Counts
0									
5			OK 11/30/95 Sandy CLAY clayey SAND, brown, 20-35% fine, angular sand, low plasticity, soft, & moist.			0	0	0	
10			SAA			0	0	0	
15			OK 11/30/95 SAA clayey SAND, grey-brown 5-15% clay, fine to med, angular sand, med. dense, moist,			0	4	0	
20			SAA			0	132	7	Drilling getting tight.
25			SAA			0	448	6	
30			SAA			0	163	12	
35			SAA			0	24	0	
40			SAA			0	76	0	
						0	613	0	strong hydrocarbon odor

Comments:

Drilling is slow and vapors and mist are coming out of the borehole,
This "fog" gives the high PID readings. Samples are low probably
because the soil moisture and volatiles are vaporized while coming
up the ^{hot} augers.

Geologist Signature

Sarah Kelly

RECORD OF SUBSURFACE EXPLORATION

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 326-2388

Borehole # _____
Well # MW-4
Page 2 of 2

Project Name EPNG Pit Drilling
Project Number 14509 Phase ###
Project Location State Gas Com N#1, 71669

Elevation _____
Borehole Location _____
GWL Depth _____
Logged By _____
Drilled By M. Donohue
Date/Time Started _____
Date/Time Completed _____

Well Logged By S. Kelly
Personnel On-Site _____
Contractors On-Site _____
Client Personnel On-Site _____

Drilling Method 6 3/4" ID Hollow Stem Auger
Air Monitoring Method PID, CGI

Depth (Feet)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Monitoring Units: NDU			Drilling Conditions & Blow Counts
						BZ	BH	S	
40									
45			clayey SAND, dk grey, 5-15% clay, fine to med., angular sand, dense, moist			0	491	29	strong hydrocarbon odor
50			sandy CLAY, dk grey to black, 5-20% fine med., angular sand, very stiff moist			0	114	16	
55			SAA						
60			SAA						
65			SAA 2K 11/30/95			0	409	-	
70			↑ silty CLAY, grey, 10-25% silt trace fine sand, very stiff wet (added water)						Added water at 68' due to bad side restriction, cuttings not coming up. Approx. 10 gal.
75						0	410	-	Added approx. 10 gal. of water again at 76'
80									
			TOB = 80.7						

Comments:

Geologist Signature

Sam Kelly

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.
4000 Marzac Road
Farmington, New Mexico 87401
(505) 326-2262 FAX (505) 376-2388

Borehole #
Well # MW-4
Page 1 of 1

Project Name EPUG Pit Drilling

Project Number 14509 Phase 6000
Project Location State Gas Com N#1

On-Site Geologist S. Kelly 71689
Personnel On-Site M. Donohue, H. Liles
Contractors On-Site
Client Personnel On-Site

Elevation
Well Location
GWL Depth
Installed By M. Donohue

Date/Time Started 11/30/95, 1330
Date/Time Completed 11/30/95, 1700

Depths in Reference to Ground Surface				
Item	Material	Depth		
Top of Protective Casing			Top of Protective Casing	
Bottom of Protective Casing			Top of Riser	<u>+2.5</u>
Top of Permanent Borehole Casing			Ground Surface	<u>0.0</u>
Bottom of Permanent Borehole Casing				
Top of Concrete				
Bottom of Concrete				
Top of Grout	Type I & II cement w/ 5% bentonite	0.0		
Bottom of Grout		39.5		
Top of Well Riser	4" Sch. 40 PVC	+2.5		
Bottom of Well Riser	" "	65.3		
Top of Well Screen	4" Sch. 40, .010 slot PVC	65.3		
Bottom of Well Screen	" "	80.3		
Top of Peltonite Seal	3/4" Hole plug bentonite pellets	59.5	Top of Seal	<u>-59.5</u>
Bottom of Peltonite Seal	2-50# bags	63.0	Top of Gravel Pack	<u>-63.0</u>
Top of Gravel Pack	10-20 CSSF sand	63.0	Top of Screen	<u>-65.3</u>
Bottom of Gravel Pack	12-50# bags	80.7		
Top of Natural Cave-In		N/A		
Bottom of Natural Cave-In		N/A		
Top of Groundwater		-79.58		
Total Depth of Borehole		-80.7	Bottom of Screen	<u>-80.3'</u>
			Bottom of Borehole	<u>-80.7'</u>

Comments: 4' PVC end cap at bottom of screen. Water level given above was taken at 1630. At 1645 water level was 79.4'

Geologist Signature

Sniah Kelly

**1997 GROUNDWATER
ANALYTICAL**



Natural Gas Company

A 1958

CHAIN OF CUSTODY RECORD

[illegible]



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961022
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-1
SAMPLE DATE TIME (Hrs):	12/3/96	1335
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	12/6/96	12/6/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	17200	PPB	200	D		
TOLUENE	15200	PPB	200	D		
ETHYL BENZENE	673	PPB	200	D		
TOTAL XYLENES	6670	PPB	200	D		
TOTAL BTEX	39700	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 104 % 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 F. L. L.

Date: _____

12/9/96



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	961022
DATE SAMPLED:	12/03/96
TIME SAMPLED (Hrs):	1335
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-1

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.3	Units	12/05/96
Alkalinity as CO ₃	0.0	PPM	12/05/96
Alkalinity as HCO ₃	1653	PPM	12/05/96
Calcium as Ca	407	PPM	12/05/96
Magnesium as Mg	44	PPM	12/05/96
Total Hardness as CaCO ₃	1,197	PPM	12/05/96
Chloride as Cl	355	PPM	12/05/96
Sulfate as SO ₄	5,230	PPM	12/05/96
Fluoride as F	1.3	PPM	12/05/96
Nitrate as NO ₃ -N	<0.6	PPM	12/05/96
Nitrite as NO ₂ -N	<0.6	PPM	12/05/96
Ammonium as NH ₄ ⁺	<0.6	PPM	12/05/96
Phosphate as PO ₄	<0.6	PPM	12/05/96
Potassium as K	4.0	PPM	12/05/96
Sodium as Na	2800	PPM	12/05/96
Total Dissolved Solids	10,200	PPM	12/05/96
Conductivity	9,620	umhos/cm	12/05/96
Anion/Cation %	0.1%	%, <5.0 Accepted	12/06/96

Lab Remarks:

Reported By: Jnde

Approved By: John Furbach

Date: 12/9/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	961022
SAMPLE DATE:	12/03/96
SAMPLE TIME (Hrs):	1335
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-1

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.15	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.002	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	<.003	0.050
SILVER	<.001	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

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:

Inde

Approved By:

John L. Ladd

Date: 1-3-97

QUALITY CONTROL REPORT

Sample ID: 961022 through 961025
Date Sampled: 12/03/96

Date Reported: 01/02/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	32.8	32.4	101%
Barium	65.4	64.9	116%
Cadmium	2.74	2.38	115%
Chromium	5.16	4.76	108%
Lead	33.9	29.7	114%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.35	4.32	101%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.148	0.144	2.7%
Cadmium	ND	ND	NA
Chromium	0.002	0.003	NA*
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

* Results <5X DL.

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	108	100	108%
Barium	148	1060	1000	91%
Cadmium	ND	11.4	10.0	115%
Chromium	2.0	53.8	50.0	104%
Lead	ND	44.6	50.0	86%
Mercury	ND	1.81	2.00	91%
Selenium	ND	52.5	50.0	105%
Silver	ND	50.1	50.0	99%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: John Linder

Date: 1-3-97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961023
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-2
SAMPLE DATE TIME (Hrs):	12/3/96	1502
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	12/6/96	12/6/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	21700	PPB	100	D1,D		
TOLUENE	5000	PPB	100	D		
ETHYL BENZENE	967	PPB	100	D		
TOTAL XYLENES	8310	PPB	100	D		
TOTAL BTEX	36000	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 104 % 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 Zach

Date:

12/7/96



Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	961023
DATE SAMPLED:	12/03/96
TIME SAMPLED (Hrs):	1502
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-2

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.4	Units	12/05/96
Alkalinity as CO ₃	0.0	PPM	12/05/96
Alkalinity as HCO ₃	3210	PPM	12/05/96
Calcium as Ca	391	PPM	12/05/96
Magnesium as Mg	41	PPM	12/05/96
Total Hardness as CaCO ₃	1,146	PPM	12/05/96
Chloride as Cl	407	PPM	12/05/96
Sulfate as SO ₄	3,830	PPM	12/05/96
Fluoride as F	0.5	PPM	12/05/96
Nitrate as NO ₃ -N	0.3	PPM	12/05/96
Nitrite as NO ₂ -N	<0.2	PPM	12/05/96
Ammonium as NH ₄ ⁺	<0.6	PPM	12/05/96
Phosphate as PO ₄	<0.2	PPM	12/05/96
Potassium as K	2.4	PPM	12/05/96
Sodium as Na	2760	PPM	12/05/96
Total Dissolved Solids	9,540	PPM	12/05/96
Conductivity	9,120	umhos/cm	12/05/96
Anion/Cation %	0.3%	%, <5.0 Accepted	12/06/96

Lab Remarks:

Reported By: nda

Approved By: [Signature]

Date: 12/9/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	961023
SAMPLE DATE:	12/03/96
SAMPLE TIME (Hrs):	1502
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-2

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.01	1.00
CADMIUM	<.0004	0.010
CHROMIUM	<.001	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	0.029	0.050
SILVER	0.002	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

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: Indo

Approved By: John Furbili

Date: 1-3-97

QUALITY CONTROL REPORT

Sample ID: 961022 through 961025
Date Sampled: 12/03/96

Date Reported: 01/02/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	32.8	32.4	101%
Barium	65.4	64.9	116%
Cadmium	2.74	2.38	115%
Chromium	5.16	4.76	108%
Lead	33.9	29.7	114%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.35	4.32	101%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.148	0.144	2.7%
Cadmium	ND	ND	NA
Chromium	0.002	0.003	NA*
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

* Results <5X DL.

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	108	100	108%
Barium	148	1060	1000	91%
Cadmium	ND	11.4	10.0	115%
Chromium	2.0	53.8	50.0	104%
Lead	ND	44.6	50.0	86%
Mercury	ND	1.81	2.00	91%
Selenium	ND	52.5	50.0	105%
Silver	ND	50.1	50.0	99%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: John Linder

Date: 1-3-97



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961024
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-3
SAMPLE DATE TIME (Hrs):	12/3/96	1544
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	12/6/96	12/6/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	17700	PPB	100	D		
TOLUENE	7310	PPB	100	D		
ETHYL BENZENE	983	PPB	100	D		
TOTAL XYLENES	7200	PPB	100	D		
TOTAL BTEX	33200	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 103 % 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 Luedke

Date: _____

12/9/96



Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	961024
DATE SAMPLED:	12/03/96
TIME SAMPLED (Hrs):	1544
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-3

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.0	Units	12/05/96
Alkalinity as CO ₃	0.0	PPM	12/05/96
Alkalinity as HCO ₃	3000	PPM	12/05/96
Calcium as Ca	430	PPM	12/05/96
Magnesium as Mg	84	PPM	12/05/96
Total Hardness as CaCO ₃	1,420	PPM	12/05/96
Chloride as Cl	923	PPM	12/05/96
Sulfate as SO ₄	7,420	PPM	12/05/96
Fluoride as F	0.7	PPM	12/05/96
Nitrate as NO ₃ -N	< 1.1	PPM	12/05/96
Nitrite as NO ₂ -N	< 1.1	PPM	12/05/96
Ammonium as NH ₄ ⁺	< 0.6	PPM	12/05/96
Phosphate as PO ₄	< 1.1	PPM	12/05/96
Potassium as K	5.1	PPM	12/05/96
Sodium as Na	4610	PPM	12/05/96
Total Dissolved Solids	15,700	PPM	12/05/96
Conductivity	13,870	umhos/cm	12/05/96
Anion/Cation %	0.2%	%, < 5.0 Accepted	12/06/96

Lab Remarks:

Reported By:

mda

Approved By:

John Feller

Date:

12/9/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	961024
SAMPLE DATE:	12/03/96
SAMPLE TIME (Hrs):	1544
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-3

REMARKS:

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.02	1.00
CADMIUM	<.0004	0.010
CHROMIUM	0.001	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	0.032	0.050
SILVER	<.001	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

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:

inda

Approved By:

John Latch

Date: 1-3-97

QUALITY CONTROL REPORT

Sample ID: 961022 through 961025
Date Sampled: 12/03/96

Date Reported: 01/02/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	32.8	32.4	101%
Barium	65.4	64.9	116%
Cadmium	2.74	2.38	115%
Chromium	5.16	4.76	108%
Lead	33.9	29.7	114%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.35	4.32	101%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.148	0.144	2.7%
Cadmium	ND	ND	NA
Chromium	0.002	0.003	NA*
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

* Results <5X DL.

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	108	100	108%
Barium	148	1060	1000	91%
Cadmium	ND	11.4	10.0	115%
Chromium	2.0	53.8	50.0	104%
Lead	ND	44.6	50.0	86%
Mercury	ND	1.81	2.00	91%
Selenium	ND	52.5	50.0	105%
Silver	ND	50.1	50.0	99%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: John Linder

Date: 1-3-97



FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	961025
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-4
SAMPLE DATE TIME (Hrs):	12/3/96	1625
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. ANAL.:	12/6/96	12/6/96
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	23600	PPB	100	D		
TOLUENE	19600	PPB	100	D		
ETHYL BENZENE	1000	PPB	100	D		
TOTAL XYLENES	8600	PPB	100	D		
TOTAL BTEX	52800	PPB				

—BTEX is by EPA Method 8020 —

The Surrogate Recovery was at 102 % 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 Fuchs

Date: 12/9/96



EL PASO FIELD SERVICES



Field Services Laboratory

Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	961025
DATE SAMPLED:	12/03/96
TIME SAMPLED (Hrs):	1625
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-4

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	7.4	Units	12/05/96
Alkalinity as CO ₃	0.0	PPM	12/05/96
Alkalinity as HCO ₃	3626	PPM	12/05/96
Calcium as Ca	91	PPM	12/05/96
Magnesium as Mg	11	PPM	12/05/96
Total Hardness as CaCO ₃	273	PPM	12/05/96
Chloride as Cl	1,420	PPM	12/05/96
Sulfate as SO ₄	14	PPM	12/05/96
Fluoride as F	<.1	PPM	12/05/96
Nitrate as NO ₃ -N	<0.6	PPM	12/05/96
Nitrite as NO ₂ -N	<0.6	PPM	12/05/96
Ammonium as NH ₄ ⁺	<0.6	PPM	12/05/96
Phosphate as PO ₄	<0.6	PPM	12/05/96
Potassium as K	4.5	PPM	12/05/96
Sodium as Na	2170	PPM	12/05/96
Total Dissolved Solids	5,690	PPM	12/05/96
Conductivity	7,220	umhos/cm	12/05/96
Anion/Cation %	0.1%	%, <5.0 Accepted	12/06/96

Lab Remarks:

Reported By:

mda

Approved By:

John Larcher

Date:

12/9/96



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	961025
SAMPLE DATE:	12/03/96
SAMPLE TIME (Hrs):	1625
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	71669
SAMPLE SITE NAME:	Aztec Pipeline
SAMPLE POINT:	State Gas Com N #1 MW-4

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.01	1.00
CADMIUM	<.0004	0.010
CHROMIUM	0.001	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	0.149	0.050
SILVER	0.001	0.050

NOTE: The sample results have been corrected for volume adjustment associated with Method 3015.

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: Inda

Approved By: John Trevino

Date: 1-3-97

QUALITY CONTROL REPORT

Sample ID: 961022 through 961025
Date Sampled: 12/03/96

Date Reported: 01/02/97

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	32.8	32.4	101%
Barium	65.4	64.9	116%
Cadmium	2.74	2.38	115%
Chromium	5.16	4.76	108%
Lead	33.9	29.7	114%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.35	4.32	101%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.148	0.144	2.7%
Cadmium	ND	ND	NA
Chromium	0.002	0.003	NA*
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

* Results <5X DL.

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	108	100	108%
Barium	148	1060	1000	91%
Cadmium	ND	11.4	10.0	115%
Chromium	2.0	53.8	50.0	104%
Lead	ND	44.6	50.0	86%
Mercury	ND	1.81	2.00	91%
Selenium	ND	52.5	50.0	105%
Silver	ND	50.1	50.0	99%

METHOD BLANK

Analyte	Found Result (µg/L)	Detection Level (µg/L)
Arsenic	ND	10
Barium	ND	10
Cadmium	ND	0.2
Chromium	ND	2
Lead	ND	4
Mercury	ND	0.24
Selenium	ND	3
Silver	ND	0.5

ND: Not Detected at stated detection level.

NA: Not Applicable.

Reported By: mh

Approved By: John Funder

Date: 1-3-97



Well Number 9451
Meter Code 71669

Site Name STATE GAS COM #1

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 83.93
Initial Depth to Water (feet) 72.03
Height of Water Column in Well (feet) 6.9

Diameter (Inches): Well 4 Gravel Pack

Methods of Development

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

Instruments

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

Water Disposal

KUTZ SEPARATOR

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.6	13.7
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments 0.93' OF FREE FLOATING HYDROCARBON. BAILED DRY @ 5.0 GALLONS

Developer's Signature Dennis Birch Date 12-3-96 Reviewer John Kelly Date 12/9/96



Well Development and Purging Data

Well Number MY-2
Meter Code 71669

Site Name STATE GAS COM N #1

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 83.6
Initial Depth to Water (feet) 76.66
Height of Water Column in Well (feet) 6.94

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 NO. 1

Water Disposal

KUTZ SEPARATOR

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.6	13.8
Gravel Pack			
Drilling Fluids			
Total			

Water Removal Data

[illegible]

Comments 1.21' OF FREE FLOATING HYDROCARBON. BAILED DRY @ 5.0 GALLONS.

Developer's Signature Dennis Bird Date 12-3-96 Reviewer John Fells Date 12/9/96



Well Development and Purging Data

Site Name STATE GAS COM #1

Well Number MW-3

Meter Code 71669

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 83.08

Initial Depth to Water (feet) 76.10

Height of Water Column in Well (feet) 6.98

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		44.6	173.8
Gravel Pack			
Drilling Fluids			
Total			

Instruments

- ☒ pH Meter
☐ DO Monitor
☒ Conductivity Meter
☒ Temperature Meter
☒ Other 0.0.0

Water Disposal

KOTZ SEPARATOR

Water Removal Data

[illegible]

Comments 0.84' OF FREE FLOATING HYDROCARBON. BAILED OUT @ 8.0 GALLONS

Developer's Signature Dennis Bird Date 12-3-96 Reviewer John Fack Date 12/9/96



Well Development and Purging Data

Site Name STATE GAS COM #1

Well Number MW-4
Meter Code 71669

☐ Development
☒ Purging

Development Criteria

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

Methods of Development

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

Water Volume Calculation

Initial Depth of Well (feet) 82.26
Initial Depth to Water (feet) 75.80
Height of Water Column in Well (feet) 6.96
Diameter (Inches): Well 4 Gravel Pack _____

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		<u>4.6</u>	<u>13.8</u>
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 (gal/min)	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
						Increment	Cumulative	Increment	Cumulative					
12-3-96	1423									12.9	6.82	11980		
12-3-96	1428					2.0	2.0			13.2	6.79	11760		
12-3-96	1434					3.0	5.0			13.7	6.82	11760		
12-3-96	1448					3.0	8.0			12.8	6.88	11470	1.5	

Comments 0.32' OF FREE FLOATING HYDROCARBON. BAILED DRY @ 8.0 GALLONS.

Developer's Signature Dennis Bird

Date 12-3-96

Reviewer John Lark

Date 12/9/96

STATE GAS COM N#1
KAC# 71669

Re 1022, 961023, 961024, 961025

American Environmental Network, Inc.

AEN I.D. 612316



December 17, 1996

El Paso Field Service
P.O. Box 4990
Farmington, NM 87499

Project Name/Number: STATE GAS COM N#1 (NONE)

Attention: John Lambdin

On 12/06/96, American Environmental Network (NM), Inc., (ADHS License No. AZ0015) received a request to analyze **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.

All analyses were performed by American Environmental Network (FL) Inc., 11 East Olive Road, Pensacola, FL.

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

Kimberly D. McNeill
Project Manager

H. Mitchell Rubenstein, Ph.D.
General Manager

MR:ft

Enclosure

American Environmental Network, Inc.

CLIENT : EL PASO FIELD SERVICE DATE RECEIVED : 12/06/96
PROJECT # : (NONE)
PROJECT NAME : STATE GAS COM N#1 REPORT DATE : 12/17/96

AEN ID: 612316

	AEN ID #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	612316-01	961022 mw-1	AQUEOUS	12/03/96
02	612316-02	961023 mw-2	AQUEOUS	12/03/96
03	612316-03	961024 mw-3	AQUEOUS	12/03/96
04	612316-04	961025 mw-4	AQUEOUS	12/03/96

---TOTALS---

<u>MATRIX</u>	<u>#SAMPLES</u>
AQUEOUS	4

AEN STANDARD DISPOSAL PRACTICE

The samples from this project will be disposed of in thirty (30) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

MW-1

Accession: 612149
 Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
 Project Number: 612316
 Project Name: EL PASO FIELD SERVICES
 Project Location: N/S
 Test: POLYNUCLEAR AROMATICS BY 8310
 Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Matrix: WATER
 QC Level: II

Lab Id: 001 Sample Date/Time: 03-DEC-96 1335
 Client Sample Id: 612316-01 Received Date: 07-DEC-96
 Batch: PAW225 Extraction Date: 09-DEC-96
 Blank: A Dry Weight %: N/A Analysis Date: 11-DEC-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	0.3	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	ND	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	56	1	
PHENANTHRENE	UG/L	ND	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	60	1	E
2-METHYLNAPHTHALENE	UG/L	31	1	
2-CHLOROANTHRACENE	%REC/SURR	94	28-138	
ANALYST	INITIALS	JBT		

Comments:

E = EXCEEDS CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.
 SAMPLE WAS NOT DILUTED AND RE-ANALYZED BECAUSE COMPOUND WAS
 NOT CONSIDERED TO BE A PAH COMPOUND.

Total naphthalenes = 147 ppb WQCC limit = 30 ppb
 Benzo(a)pyrene = < 0.3 ppb WQCC limit = 0.7 ppb

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

MW-2

Accession: 612149
 Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
 Project Number: 612316
 Project Name: EL PASO FIELD SERVICES
 Project Location: N/S
 Test: POLYNUCLEAR AROMATICS BY 8310
 Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Matrix: WATER
 QC Level: II

Lab Id: 002 Sample Date/Time: 03-DEC-96 1502
 Client Sample Id: 612316-02 Received Date: 07-DEC-96
 Batch: PAW225 Extraction Date: 09-DEC-96
 Blank: A Dry Weight %: N/A Analysis Date: 11-DEC-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO (a) ANTHRACENE	UG/L	ND	1	
BENZO (a) PYRENE	UG/L	ND	0.3	
BENZO (b) FLUORANTHENE	UG/L	ND	1	
BENZO (g, h, i) PERYLENE	UG/L	ND	1	
BENZO (k) FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO (a, h) ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	2	1	
FLUORENE	UG/L	3	1	
INDENO (1, 2, 3-cd) PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	100	1	
PHENANTHRENE	UG/L	2	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	190	1	E
2-METHYLNAPHTHALENE	UG/L	120	1	E
2-CHLOROANTHRACENE	%REC/SURR	88	28-138	
ANALYST	INITIALS	JBT		

Comments:

E = EXCEEDS CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.
 SAMPLE WAS NOT DILUTED AND RE-ANALYZED BECAUSE COMPOUND WAS
 NOT CONSIDERED TO BE A PAH COMPOUND.

Total Naphthalene = 410

Benzo (A) Pyrene = 0.3

WQCC Limits = 30 ppb

WQCC Limits = 0.7 ppb

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

Accession: 612149
 Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
 Project Number: 612316
 Project Name: EL PASO FIELD SERVICES
 Project Location: N/S
 Test: POLYNUCLEAR AROMATICS BY 8310
 Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Matrix: WATER
 QC Level: II

MW - 3

Lab Id: 003 Sample Date/Time: 03-DEC-96 1544
 Client Sample Id: 612316-03 Received Date: 07-DEC-96
 Batch: PAW225 Extraction Date: 09-DEC-96
 Blank: A Dry Weight %: N/A Analysis Date: 11-DEC-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	22	1	
ANTHRACENE	UG/L	ND	1	
BENZO(a)ANTHRACENE	UG/L	ND	1	
BENZO(a)PYRENE	UG/L	ND	0.3	
BENZO(b)FLUORANTHENE	UG/L	ND	1	
BENZO(g,h,i)PERYLENE	UG/L	ND	1	
BENZO(k)FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO(a,h)ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	ND	1	
FLUORENE	UG/L	2	1	
INDENO(1,2,3-cd)PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	71	1	
PHENANTHRENE	UG/L	1	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	110	1	
2-METHYLNAPHTHALENE	UG/L	70	1	
2-CHLOROANTHRACENE	%REC/SURR	84	28-138	
ANALYST	INITIALS	JBT		

Comments:

E = EXCEEDS CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.
 SAMPLE WAS NOT DILUTED AND RE-ANALYZED BECAUSE COMPOUND WAS
 NOT CONSIDERED TO BE A PAH COMPOUND.

Total Naphthalenes = 251 ppb WQcc Limit = 30 ppb
Benzo (A) Pyrene = < 0.3 ppb WQcc Limit = 0.7 ppb

American Environmental Network, Inc.

"FINAL REPORT FORMAT - SINGLE"

MW-4

Accession: 612149
 Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
 Project Number: 612316
 Project Name: EL PASO FIELD SERVICES
 Project Location: N/S
 Test: POLYNUCLEAR AROMATICS BY 8310
 Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
 Matrix: WATER
 QC Level: II

Lab Id: 004 Sample Date/Time: 03-DEC-96 1625
 Client Sample Id: 612316-04 Received Date: 07-DEC-96
 Batch: PAW225 Extraction Date: 09-DEC-96
 Blank: A Dry Weight %: N/A Analysis Date: 11-DEC-96

Parameter:	Units:	Results:	Rpt Lmts:	Q:
ACENAPHTHENE	UG/L	ND	1	
ACENAPHTHYLENE	UG/L	ND	1	
ANTHRACENE	UG/L	ND	1	
BENZO (a) ANTHRACENE	UG/L	ND	1	
BENZO (a) PYRENE	UG/L	ND	0.3	
BENZO (b) FLUORANTHENE	UG/L	ND	1	
BENZO (g, h, i) PERYLENE	UG/L	ND	1	
BENZO (k) FLUORANTHENE	UG/L	ND	1	
CHRYSENE	UG/L	ND	1	
DIBENZO (a, h) ANTHRACENE	UG/L	ND	1	
FLUORANTHENE	UG/L	2	1	
FLUORENE	UG/L	2	1	
INDENO (1, 2, 3-cd) PYRENE	UG/L	ND	1	
NAPHTHALENE	UG/L	94	1	
PHENANTHRENE	UG/L	3	1	
PYRENE	UG/L	ND	1	
1-METHYLNAPHTHALENE	UG/L	180	1	
2-METHYLNAPHTHALENE	UG/L	110	1	
2-CHLOROANTHRACENE	%REC/SURR	90	28-138	
ANALYST	INITIALS	JBT		

Comments:

E = EXCEEDS CALIBRATION CURVE; THEREFORE, RESULTS ARE ESTIMATED.
 SAMPLE WAS NOT DILUTED AND RE-ANALYZED BECAUSE COMPOUND WAS
 NOT CONSIDERED TO BE A PAH COMPOUND.

Total Naphthalenes = 384 ppb

WQC Limit = 30 ppb

Benzo (a) Pyrene = < 0.3 ppb

WQC Limit = 0.7 ppb

American Environmental Network, Inc.

"Method Report Summary"

Accession Number: 612149
Client: AMERICAN ENVIRONMENTAL NETWORK OF NEW MEXICO
Project Number: 612316
Project Name: EL PASO FIELD SERVICES
Project Location: N/S
Test: POLYNUCLEAR AROMATICS BY 8310

Client Sample Id:	Parameter:	Unit:	Result:
612316-01	NAPHTHALENE	UG/L	56
	1-METHYLNAPHTHALENE	UG/L	60
	2-METHYLNAPHTHALENE	UG/L	31
612316-02	FLUORANTHENE	UG/L	2
	FLUORENE	UG/L	3
	NAPHTHALENE	UG/L	100
	PHENANTHRENE	UG/L	2
	1-METHYLNAPHTHALENE	UG/L	190
	2-METHYLNAPHTHALENE	UG/L	120
612316-03	ACENAPHTHYLENE	UG/L	22
	FLUORENE	UG/L	2
	NAPHTHALENE	UG/L	71
	PHENANTHRENE	UG/L	1
	1-METHYLNAPHTHALENE	UG/L	110
	2-METHYLNAPHTHALENE	UG/L	70
612316-04	FLUORANTHENE	UG/L	2
	FLUORENE	UG/L	2
	NAPHTHALENE	UG/L	94
	PHENANTHRENE	UG/L	3
	1-METHYLNAPHTHALENE	UG/L	180
	2-METHYLNAPHTHALENE	UG/L	110

American Environmental Network, Inc.

"QC Report"

Title: Water Blank
Batch: PAW225
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Blank Id: A Date Analyzed: 10-DEC-96 Date Extracted: 09-DEC-96

Parameters:	Units:	Results:	Reporting Limits:
ACENAPHTHENE	UG/L	ND	1
ACENAPHTHYLENE	UG/L	ND	1
ANTHRACENE	UG/L	ND	1
BENZO (a) ANTHRACENE	UG/L	ND	1
BENZO (a) PYRENE	UG/L	ND	1
BENZO (b) FLUORANTHENE	UG/L	ND	1
BENZO (g, h, i) PERYLENE	UG/L	ND	1
BENZO (k) FLUORANTHENE	UG/L	ND	1
CHRYSENE	UG/L	ND	1
DIBENZO (a, h) ANTHRACENE	UG/L	ND	1
FLUORANTHENE	UG/L	ND	1
FLUORENE	UG/L	ND	1
INDENO (1, 2, 3-cd) PYRENE	UG/L	ND	1
NAPHTHALENE	UG/L	ND	1
PHENANTHRENE	UG/L	ND	1
PYRENE	UG/L	ND	1
1-METHYLNAPHTHALENE	UG/L	ND	1
2-METHYLNAPHTHALENE	UG/L	ND	1
2-CHLOROANTHRACENE	%REC/SURR	89	28-138
ANALYST	INITIALS	JBT	

Comments:

12/18/96

American Environmental Network, Inc.

"QC Report"

Title: Water Reagent
Batch: PAW225
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

RS Date Analyzed: 10-DEC-96
RSD Date Analyzed: 10-DEC-96

RS Date Extracted: 09-DEC-96
RSD Date Extracted: 09-DEC-96

Parameters:	Spike Added	Sample Conc	RS Conc	RS %Rec	RSD Conc	RSD %Rec	RPD	Rec Lmts	Rec Lmts
ACENAPHTHYLENE	10.0	<1	5.7	57	4.6	46	21	46	46-110
BENZO(k) FLUORANTHENE	10.0	<1	9.5	95	7.8	78	20	30	58-128
CHRYSENE	10.0	<1	9.4	94	7.6	76	21	29	62-129
PHENANTHRENE	10.0	<1	9.2	92	7.9	79	15	28	61-116
PYRENE	10.0	<1	9.0	90	7.5	75	18	26	62-120

Surrogates:									
2-CHLOROANTHRACENE				105		90			28-138

Comments:

Notes:

N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.

* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE
PROGRAM AND REFERENCED METHOD.

12/18/96

American Environmental Network, Inc.

"QC Report"

Title: Water Matrix
Batch: PAW225
Analysis Method: 8310/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.
Extraction Method: 3510/Test Methods for Evaluating Solid and Haz Waste, SW-846, 3rd Ed.

Dry Weight %: N/A
Sample Spiked: 612150-1

MS Date Analyzed: 11-DEC-96
MSD Date Analyzed: 11-DEC-96

MS Date Extracted: 10-DEC-96
MSD Date Extracted: 10-DEC-96

Parameters:	Spike Added	Sample Conc	MS Conc	MS %Rec	MSD Conc	MSD %Rec	RPD	Rec Lmts
ACENAPHTHYLENE	10.0	264	90	-174092	-17201	51	18-146	
BENZO(k) FLUORANTHENE	10.0	15.9	14.4	-15*	10.4	-55*	114*40	26-137
CHRYSENE	10.0	8.1	12.4	43	9.9	18	82*	69 16-156
PHENANTHRENE	10.0	52	22	-300*17	-350*15	36	30-145	
PYRENE	10.0	28.9	14.0	-149*10.4	-185*22	41	39-137	

Surrogates:
2-CHLOROANTHRACENE

247* 115 28-138

Comments:

MATRIX SPIKE/MATRIX SPIKE DUPLICATE HAD RECOVERY(S) AND/OR RPD(S) OUTSIDE ACCEPTANCE LIMITS DUE TO MATRIX INTERFERENCE. REFER TO REAGENT SPIKE/REAGENT SPIKE DUPLICATE DATA.

Notes:

N/S = NOT SUBMITTED N/A = NOT APPLICABLE D = DILUTED OUT
UG/L = PARTS PER BILLION. < = LESS THAN REPORTING LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS.
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

12/18/96

American Environmental Network, Inc. Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

AEN/GC/FID

AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

AEN/GC/FIX

AEN GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

AEN/GC/FPD

AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

AEN/GC/PID

AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

AEN/GC/TCD

AEN GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

SW = STEVE WILHITE
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
KS = KENDALL SMITH
KK = KERRY LEMONT
RP = ROB PEREZ
JBT = JENNIFER TORRANCE
LP = LAVERNE PETERSON
PLD = PAULA DOUGHTY



American Environmental Network
Albuquerque, New Mexico

Interlab Chain of Custody

DATE: 12/6 PAGE: 1 OF 1

NETWORK PROJECT MANAGER: KIMBERLY D. MCNEILL

COMPANY: American Environmental Network
ADDRESS: 2709-D Pan American Freeway, NE
Albuquerque, NM 87107

CLIENT PROJECT MANAGER: *Walt Held Times*
Kim McNeill

SAMPLE ID DATE TIME MATRIX LAB ID

612316-01 12/3/96 1335 A&C

-02 1502
-03 1544
-04 1625

Metals - TAL
Metals - PP List
Metals - RCRA
RCRA Metals by TCLP (1311)

TOX
TOC
Gen Chemistry

Oil and Grease
BOD
COD
Pesticides/PCB (608/8080)
Herbicides (615/8150)
Base/Neutral Acid Compounds GC/MS (625/8270)
Volatile Organics GC/MS (624/8240)
Polynuclear Aromatics (610/8310)

8240 (TCLP 1311) ZHE
8270 (TCLP 1311)

TO-14
Gross Alpha/Beta

NUMBER OF CONTAINERS

PROJECT INFORMATION

SAMPLE RECEIPT

SAMPLES SENT TO:

RELINQUISHED BY:

RELINQUISHED BY:

PROJECT NUMBER: 612316

TOTAL NUMBER OF CONTAINERS

SAN DIEGO

Signature: *John McNeill* Date: 12/6/96

Signature: Time

PROJECT NAME: *El Paso Field Services*

CHAIN OF CUSTODY SEALS

PARAGON

Printed Name: Date: 12/6/96

Printed Name: Date

QC LEVEL: *STD* IV

INTACT?

RENTON

Signature: *John McNeill* Date: 12/6/96

Signature: Time

QC REQUIRED: MS MSD BLANK

RECEIVED GOOD COND./COLD

PENSACOLA

Signature: *John McNeill* Date: 12/6/96

Signature: Time

QC REQUIRED: *RUSH*

LAB NUMBER

PHOENIX

Signature: *John McNeill* Date: 12/6/96

Signature: Time

DUE DATE: *Week (12/13/96)*

RECEIVED BY: 1.

Signature: *John McNeill* Date: 12/6/96

Signature: Time

RUSH SURCHARGE: *50%*

RECEIVED BY: 2.

Signature: *John McNeill* Date: 12/6/96

Signature: Time

CREDIT DISCOUNT

RECEIVED BY: 1.

Signature: *John McNeill* Date: 12/6/96

Signature: Time

SPECIAL CERTIFICATION REQUIRED: [] YES [] NO

Signature: *John McNeill* Date: 12/6/96

Signature: Time

Signature: Time

Signature: *John McNeill* Date: 12/6/96

Signature: Time

Signature: Time

Signature: Time

CHAIN OF CUSTODY

DATE: 12-3-96 PAGE: 1 OF 1

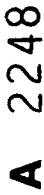
AEN LAB I.D.

612316 / 6123149

SHADED AREAS ARE FOR LAB USE ONLY.

PLEASE FILL THIS FORM IN COMPLETELY.

PROJECT MANAGER: JAHAN BAHMAN		COMPANY: 421300 HISEO SERVICE ADDRESS: 5902 49th PHONE: (505) 599-8144 FAX: (505) 599-2261 BILL TO: JAHAN BAHMAN COMPANY: ADDRESS:	
PROJECT INFORMATION		ANALYSIS REQUEST	
PROJ NO: PROJ NAME: STAFFS GAS CON #1 PO NO: SHIPPED VIA: FEDEX NO. CONTAINERS: 8 CUSTODY SEALS: ① NINA RECEIVED INTACT: 1/5 BLUE ICE/ICE: 40	PRIOR AUTHORIZATION IS REQUIRED FOR RUSH PROJECTS (RUSH) ☐ 24hr ☐ 48hr ☒ 72hr ☐ 1 WEEK (NORMAL) ☐ CERTIFICATION REQUIRED: ☐ NM ☐ SDWA ☐ OTHER METHANOL PRESERVATION ☐ COMMENTS: FIXED FEE ☐ CHARGES: # 6138-6113-6115-92002-515 LOW LEVEL BEU80 (M) PREPARE < 0.7996	Petroleum Hydrocarbons (418.1) TRPH (MOD.8015) Diesel/Direct/Inject (M8015) Gas/Purge & Trap Gasoline/BTEX & MTBE (M8015/8020) BTEX/MTBE (8020) BTEX & Chlorinated Aromatics (602/8020) BTEX/MTBE/EDC & EDB (8020/8010/Short) Chlorinated Hydrocarbons (601/8010) 504 EDB ☐ / DBCP ☐ Polynuclear Aromatics (610/8310) Volatile Organics (624/8240) GC/MS Volatile Organics (8260) GC/MS Pesticides/PCB (608/8080) Herbicides (615/8150) Base/Neutral/Acid Compounds GC/MS (625/8270) General Chemistry: Priority Pollutant Metals (13) Target Analyte List Metals (23) RCRA Metals (8) RCRA Metals by TCLP Method (131) Metals:	
RELINQUISHED BY: 1. Signature: <i>Jahan Bahman</i> Time: 1810 Printed Name: Jahan Bahman Date: 12-3-96 Company: DENNIS BIRD		RELINQUISHED BY: 2. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____	
RECEIVED BY: 1. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____		RECEIVED BY: (LAB) 2. Signature: _____ Time: _____ Printed Name: _____ Date: _____ Company: _____	

[illegible]



4-8-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970185
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-1
SAMPLE DATE TIME (Hrs):	3/7/97	1308
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	3/10/97	3/10/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	16900	PPB	200	D		
TOLUENE	16600	PPB	200	D		
ETHYL BENZENE	904	PPB	200	D		
TOTAL XYLENES	8420	PPB	200	D		
TOTAL BTEX	42800	PPB				

The Surrogate Recovery was at 101 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:

4/4/97



EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970186
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-2
SAMPLE DATE TIME (Hrs):	3/7/97	1359
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	3/10/97	3/10/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	22100	PPB	200	D		
TOLUENE	5680	PPB	200	D		
ETHYL BENZENE	992	PPB	200	D		
TOTAL XYLENES	8360	PPB	200	D		
TOTAL BTEX	37100	PPB				

The Surrogate Recovery was at 102 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



FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970187
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-3
SAMPLE DATE TIME (Hrs):	3/7/97	1457
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	3/10/97	3/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks:

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	17700	PPB	200	D		
TOLUENE	7780	PPB	200	D		
ETHYL BENZENE	1020	PPB	200	D		
TOTAL XYLENES	7550	PPB	200	D		
TOTAL BTEX	34100	PPB				

The Surrogate Recovery was at 102 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 Larcher

Date:

4/5/97

EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970188
MTR CODE SITE NAME:	71669	State Gas Com N #1 MW-4
SAMPLE DATE TIME (Hrs):	3/7/97	1511
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. ANAL.:	3/10/97	3/11/97
TYPE DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	24800	PPB	200	D		
TOLUENE	20100	PPB	200	D		
ETHYL BENZENE	1040	PPB	200	D		
TOTAL XYLENES	9080	PPB	200	D		
TOTAL BTEX	55000	PPB				

The Surrogate Recovery was at 101 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: _____

970188,4/3/97



KUTZ SEPARATOR



Well Number MW-2
Meter Code 71669

Continued

Developer's Signature Dennis Bird Date 3-7-97 Reviewer Tom Lach Date 4/5/97



Well Number MW-3
Meter Code 71669

Site Name STATE GAS CO. N#1

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) 83.08
Initial Depth to Water (feet) 75.42
Height of Water Column in Well (feet) 7.66

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume In Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		5.1	15.2
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Water Disposal

KUTZ SEPARATOR

Water Removal Data

[illegible]

Comments

0.23' OF FREE FLOATING HYDROCARBON. BASED ON 7.5 GALLONS. STRONG HYDROCARBON SMELL

Developer's Signature

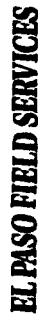
Dennis Bied

Date 5-20-71

Reviewer

Dr. Fuchs

Date 4/5/97



Well Number 7W-4
Meter Code 71669

Site Name STATE GAS COM. N#1

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

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

Initial Depth of Well (feet) 82.76
Initial Depth to Water (feet) 73.92
Height of Water Column in Well (feet) 6.84

Diameter (Inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		4.5	13.6
Gravel Pack			
Drilling Fluids			
Total			

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

Water Disposal
KUTZ SEPARATOR

[illegible]

Comments	BAKED AT 07.5 GALLONS. Developed product after Purging (Measured 2 inches)
----------	--

Developer's Signature Dennis Bird Date 3-7-97 Reviewer J. B. Baker Date 4/5/97