3R - 238

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

STANDARD OIL COM #1
Meter/Line ID - 70445

SITE DETAILS

Legals - Twn: 29N **Rng:** 9W **Sec:** 36 **Unit:** N
NMOCD Hazard Ranking: 30 **Land Type:** STATE
Operator: BURLINGTON RESOURCES

PREVIOUS ACTIVITIES

Site Assessment: May-94 **Excavation:** May-94 (60 cy) **Soil Boring:** Sep-95
Monitor Well: Sep-95

1997 ACTIVITIES

Quarterly Groundwater Monitoring - Quarterly groundwater monitoring was initiated on 11/7/96 and has continued into 1997. Groundwater analytical data are presented in Table 1.
Well Point Installation - Groundwater samples were collected from temporary monitoring wells. In addition, groundwater gradient was determined using the temporary monitoring wells.

CONCLUSIONS

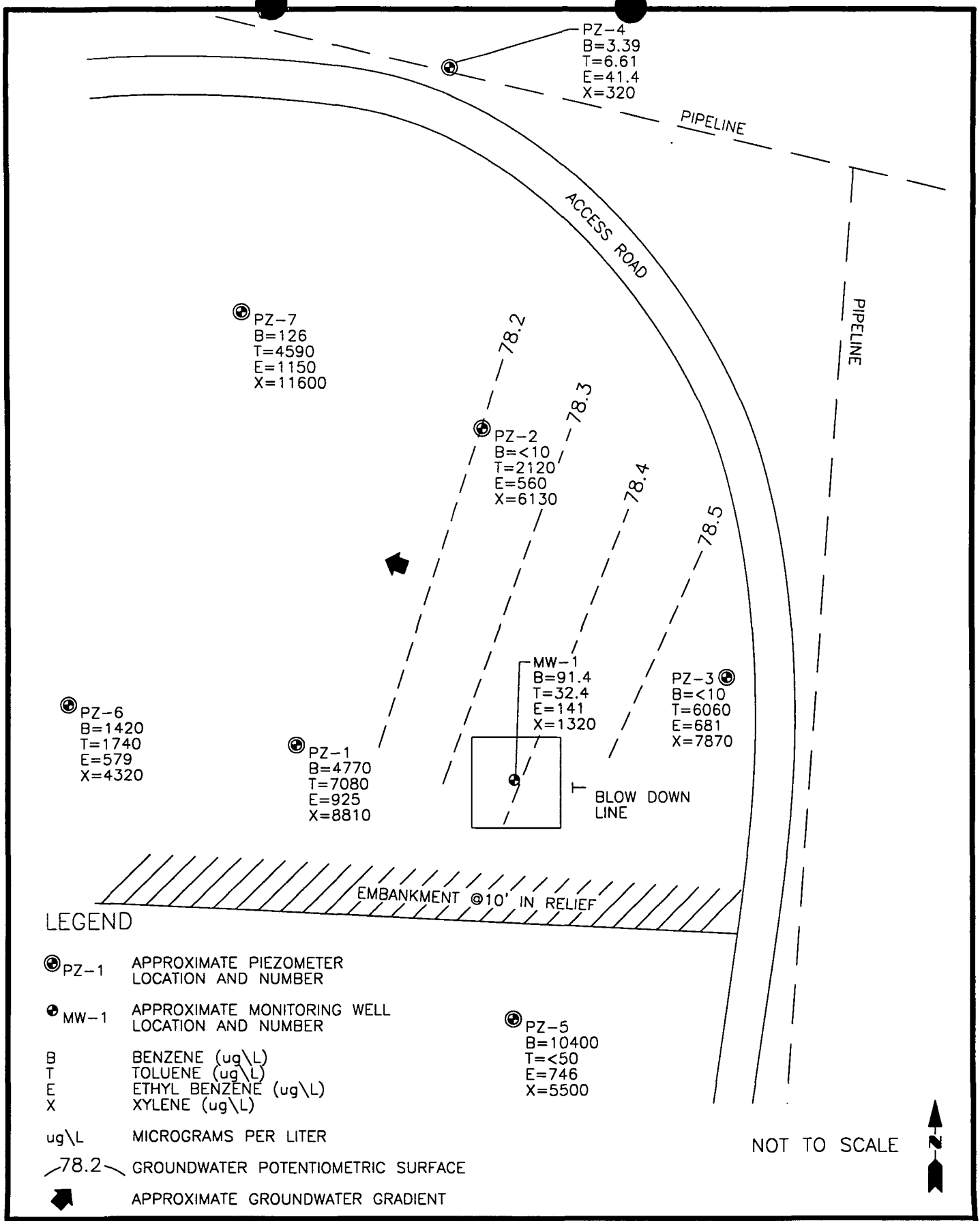
Based on groundwater levels collected from Well Point data, the groundwater flow trends to the northwest on this site, as presented in Figure 1.

Groundwater samples collected from MW-1 have been in excess of standards for benzene, and total xylenes since quarterly sampling was initiated. Seven groundwater samples were collected from temporary monitoring wells up and down-gradient of MW-1.

One sample collected from PZ-5, located up-gradient of MW-1 was in excess of standards for benzene at 10,400 ppb, and total xylenes at 5,500 ppb, indicating a potential second source.

RECOMMENDATIONS

- EPFS proposes to conduct no further action at this site, until the operator commences with remediation of their production pit, which is upgradient of EPFS' pit.



PHILIP SERVICES CORP

TITLE:

STANDARD OIL COM #1

70445

DWN:	DES.:	PROJECT NO.: 17520
TMM	CC	EPFS GW PITS
CHKD:	APPD:	
CC		
DATE:	REV.:	FIGURE 1
1/20/98	0	

COL 17520BD-001

TABLE 1

Sample #	Meter/ Line #	Site Name	Sample Date	MW #	Project	Benzene (PPB)	Toluene (PPB)	Ethyl Benzene (PPB)	Total Xylenes (PPB)	Total BTEX
960926	70445	Standard Oil Com #1	11/07/96	1	Sample 4 - 1st Quarter	277	121	161	1590	2149
970075	70445	Standard Oil Com #1	2/7/97	1	Sample 4 - 2nd Qtr	119	20.2	139	1490	1768
970427	70445	Standard Oil Com #1	5/9/97	1	Sample 4 - 3rd Qtr	105	14.2	145	1480	1740
970832	70445	Standard Oil Com #1	8/8/97	1	Sample 4 - 4th Qtr	82.6	15.6	140	1400	1638
971186	70445	Standard Oil Com #1	11/4/97	1	Sample 4 - 5th Qtr	91.4	32.4	141	1320	1585

03-31 Blanco

RECORD OF SUBSURFACE EXPLORATION

Borehole # BH-1
Well #
Page 1 of 1

Philip Environmental Services Corp.
4000 Monroe Road
Farmington, New Mexico 87401
(606) 326-2262 FAX (606) 326-2388

Project Name EPNG Pits
Project Number 14509 Phase ~~601~~ 6000
Project Location Standard Oil Com No. 1, 70445

Elevation
Borehole Location T29, R9, S.36, N
GWL Depth
Logged By S.Kelly
Drilled By M. Donohue
Date/Time Started 9/5/95, 1145
Date/Time Completed 9/5/95, 1300

Well Logged By S.Kelly
Personnel On-Site M. Donohue, J. O'Keefe
Contractors On-Site
Client Personnel On-Site

Drilling Method 4¼" 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	Drilling Conditions & Blow Counts
0				Backfill to 12'						
5										
10										
15										
20	1	18-20	1.25'/20'	silty SAND, dk. grey, 15-35% silt, fine sand, loose, damp.					6/52	DK 9/5/95 1240. ~~Water~~ Water encountered at 22.5'. after 15 min, water level rose to 20.1'.
25	2	23-25	0/20'	No recovery, cuttings off of auger appear SAA.						
30				TOB - 30.4'						
35										
40										

Comments: 18'-20' sample (SEK79) sent to lab (BTEX & TPH.) Sample was bagged and iced prior to being put in jar. Water level measured at 20.1'. Monitering well installed.

Geologist Signature Sarah Kelly

MONITORING WELL INSTALLATION RECORD

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

Borehole # BH-1
Well #
Page 1 of 1

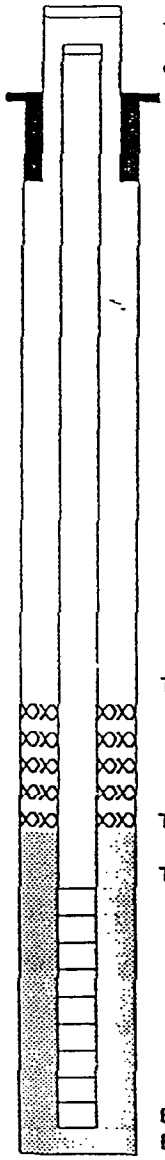
Project Name EPNG Pit Drilling
Project Number 14509 Phase 6000
Project Location Standard Oil Com No. 1
70445
On-Site Geologist S. Kelly
Personnel On-Site M. Donchue, J. O'Keefe
Contractors On-Site
Client Personnel On-Site

Elevation
Well Location T29, R9, S36, N
GWL Depth
Installed By M. Donchue

Date/Time Started 9/5/95, 1300
Date/Time Completed 9/5/95, 1545

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	Type I-II cement w/ 5% bentonite	0.0'
Bottom of Grout	↓	10.0'
Top of Well Riser	4" sch 40. PVC	+2.8'
Bottom of Well Riser	4" Sch. 40 PVC	15.1
Top of Well Screen	4", sch 40, PVC .010 slot	15.1
Bottom of Well Screen	↓	30.4'
Top of ~~Peltonite~~ Bentonite Seal	Enviroplug Med.	10.0'
Bottom of ~~Peltonite~~ Bentonite Seal	2-50# bags ↓	12.2'
Top of Gravel Pack	10-20 CSSI Sand	12.2'
Bottom of Gravel Pack	↓ 10-50# bags	30.4
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		20.1
Total Depth of Borehole		30.4'



Top of Protective Casing
Top of Riser +2.8'
Ground Surface 0.0'

Top of Seal -10.0'

Top of Gravel Pack -12.2'

Top of Screen -15.1'

Bottom of Screen -30.4'
Bottom of Borehole -30.4'

Comments: PVC end cap is 4". (approx. .3')

Geologist Signature Sarah Kelly

WELLPOINTS

RECORD OF SUBSURFACE EXPLORATION

Borehole # PZ-01
Well #
Page of

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

Project Name EPFS GROUND WATER
Project Number 17520 Phase
Project Location STANOLIND OIL COM # 1 70445

Elevation
Borehole Location
GWL Depth 19
Logged By S. POPE
Drilled By K PADILLA
Date/Time Started 1000 7/31/97
Date/Time Completed 1115 7/31/97

Well Logged By S. POPE
Personnel On-Site C. GOMEZ, D. CHARLIE
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 4¼ ID
Air Monitoring Method 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	Drilling Conditions & Blow Counts
0										
5	1	5 7	24	Brown, SAND, Med - Coarse Grained Moist, LOOSE			0	0	0	
10	2	10 12	20	SAA			0	0	0	
15	3	15 17	24	SAA BLACK, SOME SILT & CLAY			0	0	16	Highly Stained w/ HC, Degraded odor Stained Soil to bag. @ 16'
20	4			Grey - DK Grey SAND w/ Some SILT, Fine - Med Grained, SATURATED, LOOSE			0	0	2	▽ 19.0 WL @ [illegible] Drill to [illegible] Set PZ-01
25				TD = 24'						
30										
35										
40										

Comments:

Geologist 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 # PZ-01
Page ____ of ____

Project Name EPFS GROUNDWATER
Project Number 17520 Phase _____
Project Location LARGO WASH

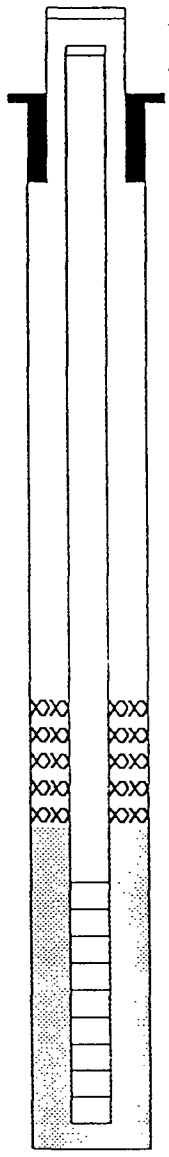
Elevation _____
Well Location STANDARD OIL Com #1 70445
GWL Depth 19
Installed By K. PADILLA

Date/Time Started 1115 7/31/97
Date/Time Completed 1145 7/31/97

On-Site Geologist S. POPE
Personnel On-Site S. Gomez, D. Charlie
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		24
Top of Groundwater		19
Total Depth of Borehole		24



Top of Protective Casing _____
Top of Riser _____
Ground Surface 0
Top of Seal —
Top of Gravel Pack —
Top of Screen 12.6
Bottom of Screen _____
Bottom of Borehole 23.2

Comments: Drill TD 24 Blow'n TO 22.7. Went ahead and Set well @ 23.2

Geologist Signature _____

RECORD OF SUBSURFACE EXPLORATION

Borehole # P2-02
Well #
Page of

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

Project Name EPFS Groundwater
Project Number 17520 Phase
Project Location STANDARD Oil Com #1 70445

Elevation
Borehole Location
GWL Depth
Logged By S. Pope
Drilled By K. Padilla
Date/Time Started 1145 7/31/97
Date/Time Completed 1230 7/31/97

Well Logged By S. Pope
Personnel On-Site C. Gomez, D. Charlie
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 4¼ ID
Air Monitoring Method 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	Drilling Conditions & Blow Counts
0										
5	1	5 7	24	BROWN SAND Trace SILT, FINE - Med Grained, LOOSE, Moist			0	6	0	
10	2	10 12	24	SAA Trace CLAY			0	0	0	
15	3	15 17	24	SAA WET			0	0	0	BLACK Discolored Soil Begin @ 17.0 - Slight Degraded odor. Very degraded Hydrocarbons.
20	4	20 22	24	SAA Gray - DK Gray, Saturated			0	0	35%	Strong HC odor on Sample. Soil Clean up Visual @ 21.0
				TOB - 22						
25										
30										
35										
40										

Comments:

Geologist Signature

MONITORING WELL INSTALLATION RECORD

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

Borehole # FZ-03
Well #
Page ____ of ____

Project Name EPFS GROUNDWATER
Project Number 17520 Phase
Project Location

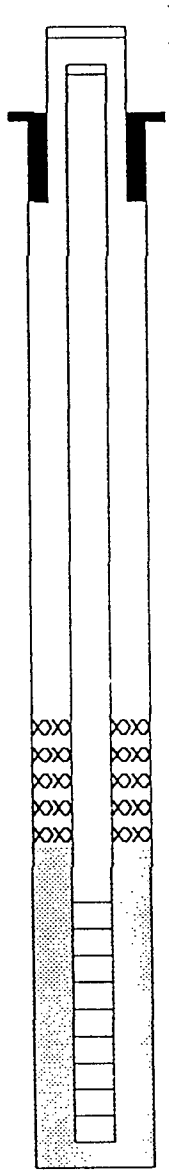
Elevation
Well Location
GWL Depth ≈18.9
Installed By K. PADILLA

Date/Time Started 1230 7/31/97
Date/Time Completed 1300 7/31/97

On-Site Geologist S. Pope
Personnel On-Site P. Chavlie, C. Gomez
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		23.2
Top of Groundwater		19.0
Total Depth of Borehole		23.2



Top of Protective Casing ____
Top of Riser ____
Ground Surface ____

Top of Seal —
Top of Gravel Pack —
Top of Screen 13.8
Bottom of Screen 23.2
Bottom of Borehole 23.2

Comments:

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Borehole # PZ-3
Well #
Page ____ of ____

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

Project Name EPFS GROUNDWATER
Project Number 17520 Phase
Project Location STATE GAS Com #1 70445

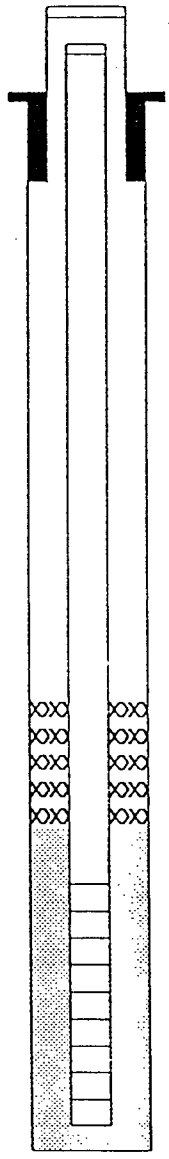
Elevation
Well Location Standard Oil Com #1 70445
GWL Depth 18.9
Installed By K. PADILLA

Date/Time Started 1430 7/31/97
Date/Time Completed 1500 7/31/97

On-Site Geologist S. POPE
Personnel On-Site D. Charlie, C. Gomez
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing ____
Top of Riser ____
Ground Surface ____
Top of Seal ____
Top of Gravel Pack ____
Top of Screen 13.2
Bottom of Screen 23.6
Bottom of Borehole 23.6

Comments: ____

Geologist Signature ____

MONITORING WELL INSTALLATION RECORD

Borehole # PZ-04
Well #
Page ____ of ____

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

Project Name EPFS Groundwater
Project Number 17520 Phase
Project Location STANDARD Oil Com # 1 70445

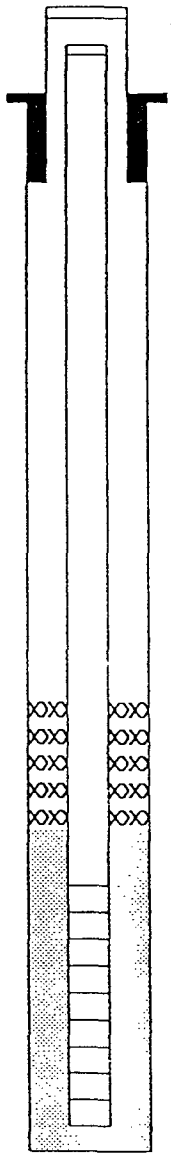
Elevation
Well Location STANDARD Oil Com # 1 70445
GWL Depth 16.4
Installed By K. PADILLA

Date/Time Started 1515 7/31/97
Date/Time Completed 1545 7/31/97

On-Site Geologist S. Pope
Personnel On-Site C. Goomer
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing ____
Top of Riser ____
Ground Surface ____

Top of Seal —
Top of Gravel Pack —
Top of Screen 9.2

Bottom of Screen 19.6
Bottom of Borehole 19.6

Comments: ____

Geologist Signature ____

RECORD OF SUBSURFACE EXPLORATION

Borehole # MW-5
Well #
Page of

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

Project Name EPFS GROUND WATER
Project Number 17520 Phase
Project Location Standard Oil Com #1, 70445

Elevation
Borehole Location
GWL Depth 28.1'
Logged By K. PADILLA
Drilled By
Date/Time Started 900 8/1/97
Date/Time Completed 944 8/1/97

Well Logged By S. POPE
Personnel On-Site C. GOMEZ
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 4¼ ID
Air Monitoring Method 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	Drilling Conditions & Blow Counts
0										
5				BROWN SAND Med-Co GRAINED Trace SILT & CLAY, LOOSE Moist						
10										
15										
20										
25										-Cuttings = NAG -Slight Hydrocarbon odor
30	1	30 32	24	SILTY SAND, Fine Med Grained Saturated, Loose TOB - 32			0	0	728	-Slight Degraded HC odor Head SP
35										
40										

Comments:

Geologist Signature

MONITORING WELL INSTALLATION RECORD

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

Borehole # PZ-05
Well #
Page ____ of ____

Project Name EPFS
Project Number 17520 Phase
Project Location STATE GAS COM #1

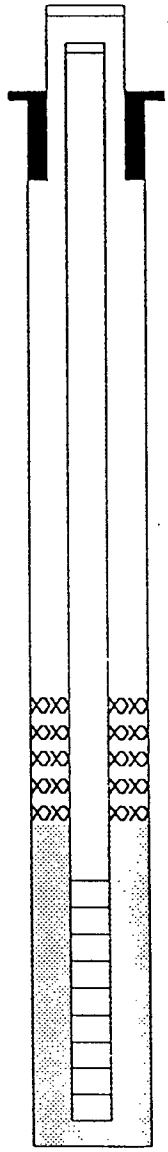
Elevation
Well Location
GWL Depth
Installed By K. PADILLA

Date/Time Started 945 8/1/97
Date/Time Completed 1015 8/1/97

On-Site Geologist S. POPE
Personnel On-Site C. GOMEZ
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		30'
Top of Groundwater		28.5
Total Depth of Borehole		30.0



Top of Protective Casing
Top of Riser
Ground Surface
Top of Seal —
Top of Gravel Pack —
Top of Screen 19.6
Bottom of Screen 30
Bottom of Borehole 30

Comments:

Geologist Signature

RECORD OF SUBSURFACE EXPLORATION

Borehole # PZ-01
Well #
Page of

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

Project Name EPFS GROUNDWATE
Project Number 17520 Phase
Project Location STANDARD GAS COM #1

Elevation
Borehole Location
GWL Depth
Logged By S. Pope
Drilled By K. PADILLA
Date/Time Started 1015 8/1/97
Date/Time Completed 1100 8/1/97

Well Logged By S. Pope
Personnel On-Site C. GOMEZ
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 4¼ ID
Air Monitoring Method 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	Drilling Conditions & Blow Counts
0				BROWN SAND Med-Co Grained Trace Moisture, Loose						
5				BLACK-DK Gray Med-Co SAND Trace, Silt and Clay, Moist Loose						- Noted Contaminated Soil = Begin @ 4' Strong HC Odor
10										- Head space Cuttings = 392 ppm
15										- WATER @ 19.5
20										
25				TOB -23						
30										
35										
40										

Comments:

Geologist Signature

MONITORING WELL INSTALLATION RECORD

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

Borehole # PZ-06
Well #
Page ___ of ___

Project Name EPFS Groundwater
Project Number 17520 Phase
Project Location STANDARD Oil Com #7045

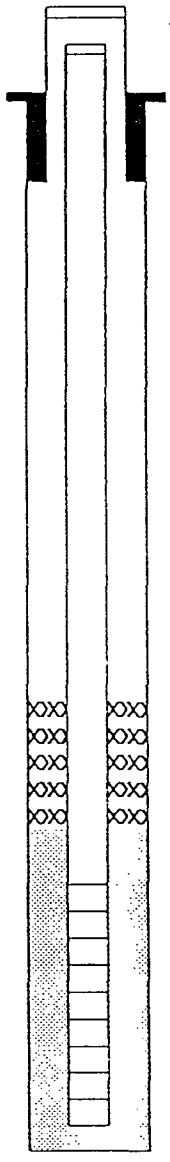
Elevation
Well Location
GWL Depth 19.5
Installed By K. PADILLA

Date/Time Started 1100 8/1/97
Date/Time Completed

On-Site Geologist S. Pope
Personnel On-Site C. Gomez
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		23



Top of Protective Casing ___
Top of Riser ___
Ground Surface ___

Top of Seal ___

Top of Gravel Pack ___

Top of Screen 12.4

Bottom of Screen 23
Bottom of Borehole 23

Comments: ___

Geologist Signature ___

RECORD OF SUBSURFACE EXPLORATION

Borehole # PZ-07
Well #
Page of

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

Project Name EPFS GROUNDWATER
Project Number 17520 Phase
Project Location STANDARD OIL COM #1 70445

Elevation
Borehole Location
GWL Depth 16.0
Logged By S. Pope
Drilled By K. Padilla
Date/Time Started 1125 8/1/97
Date/Time Completed 1215 8/1/97

Well Logged By S. Pope
Personnel On-Site E. Gomez
Contractors On-Site —
Client Personnel On-Site —

Drilling Method HSA 4¼ ID
Air Monitoring Method 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	Drilling Conditions & Blow Counts
0				BROWN SAND Trace SILT and CLAY. Med-Co Grained, Trace Moisture.						
5										
10										
15										
20				TOB 20						- discolored soil Begin @ 14.0 By C. Hings
25										
30										
35										
40										

Comments:

Geologist Signature

MONITORING WELL INSTALLATION RECORD

Borehole # PZ-07
Well #
Page ____ of ____

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

Project Name EPFS GROUNDWATER
Project Number 17520 Phase
Project Location STANDARD OIL COM #1 70465

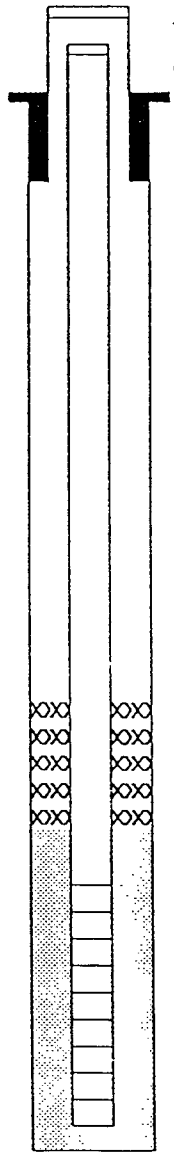
Elevation
Well Location
GWL Depth 16.0
Installed By K. PADILLA

Date/Time Started 1215 8/1/97
Date/Time Completed 1245 8/1/97

On-Site Geologist S. POPE
Personnel On-Site C. GOMEZ
Contractors On-Site —
Client Personnel On-Site —

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		
Bottom of Grout		
Top of Well Riser		
Bottom of Well Riser		
Top of Well Screen		
Bottom of Well Screen		
Top of Peltonite Seal		
Bottom of Peltonite Seal		
Top of Gravel Pack		
Bottom of Gravel Pack		
Top of Natural Cave-In		
Bottom of Natural Cave-In		
Top of Groundwater		
Total Depth of Borehole		



Top of Protective Casing
Top of Riser
Ground Surface
Top of Seal —
Top of Gravel Pack —
Top of Screen 9.6
Bottom of Screen 20
Bottom of Borehole 20

Comments:

Geologist Signature

El Paso Natural Gas Company

Well Points

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Scott T. Pope DATE: 7/31/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970790	7/31/97	1325	WATER	STP-25	2	W		X					PZ-01, Standard Oil Com #1 (70445)
970791	7/31/97	1345	WATER	STP-26	2	W		X					PZ-02, Standard Oil Com #1 (70445)
970792	7/31/97	1540	WATER	STP-27	2	W		X					PZ-03, Standard Oil Com #1 (70445)
970793	7/31/97	1615	WATER	STP-28	2	W		X					PZ-04, Standard Oil Com #1 (70445)
970794	7/31/97			TRIP BLANK	1	W		X					

CONTRACT LABORATORY P. O. NUMBER

REQUESTED ANALYSIS

30°

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Scott T. Pope	7/31/97 1730		Cari Williams	8/4/97 1105	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				8/4/97 1105	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499

505-599-2144 FAX: 505-599-2261

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

FM-08-0565 A (Rev. 05-94)

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP25	970790
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	7/31/97	1325
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/5/97	8/5/97
TYPE | DESCRIPTION:	PZ-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	4770	PPB	50	D		
TOLUENE	7080	PPB	50	D		
ETHYL BENZENE	925	PPB	50	D		
TOTAL XYLENES	8810	PPB	50	D		
TOTAL BTEX	21600	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.2 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 8/8/97

970790.XLS,8/8/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP26	970791
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	7/31/97	1345
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-2	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	<10	PPB	10	D		
TOLUENE	2120	PPB	10	D		
ETHYL BENZENE	560	PPB	10	D		
TOTAL XYLENES	6130	PPB	10	D		
TOTAL BTEX	8810	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 92.8 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 8/8/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP27	970792
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	7/31/97	1540
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-3	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	< 10	PPB	10	D		
TOLUENE	6060	PPB	10	D		
ETHYL BENZENE	681	PPB	10	D		
TOTAL XYLENES	7870	PPB	10	D		
TOTAL BTEX	14600	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.8 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 8/8/97

EL PASO FIELD SERVICES

8/11/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP28	970793
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	7/31/97	1615
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-4	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	3.39	PPB				
TOLUENE	6.61	PPB				
ETHYL BENZENE	41.4	PPB				
TOTAL XYLENES	320	PPB				
TOTAL BTEX	371	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 92.3 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 8/8/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970794
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	7/31/97	1615
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/5/97	8/5/97
TYPE | DESCRIPTION:	Blank	Water

Field Remarks: Trip Blank

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 99.0 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Stubblefield Date: 8/8/97

970794.XLS,8/8/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 970790, 970794-970798, 970804-970807

QA/QC for 8/05/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.9	95.8	75 - 125 %	X	
Toluene	Standard	50.0	48.1	96.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	48.5	97.0	75 - 125 %	X	
m & p - Xylene	Standard	100	96.0	96.0	75 - 125 %	X	
o - Xylene	Standard	50.0	48.9	97.8	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	25.0	24.1	96.4	39 - 150	X	
Toluene	Standard	25.0	24.5	98.0	46 - 148	X	
Ethylbenzene	Standard	25.0	24.7	98.8	32 - 160	X	
m & p - Xylene	Standard	50.0	48.9	97.8	Not Given	X	
o - Xylene	Standard	25.0	25.0	100	Not Given	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0	47.6	95.2	75 - 125 %	X	
Toluene	Standard	50.0	47.4	94.8	75 - 125 %	X	
Ethylenzene	Standard	50.0	47.4	94.8	75 - 125 %	X	
m & p - Xylene	Standard	100	93.1	93.1	75 - 125 %	X	
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0	47.9	95.8	75 - 125 %	X	
Toluene	Standard	50.0	47.6	95.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.3	94.6	75 - 125 %	X	
m & p - Xylene	Standard	100	92.8	92.8	75 - 125 %	X	
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X	

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 970790, 970794-970798, 970804-970807

LABORATORY DUPLICATES:

SAMPLE ID 970804	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970804	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	49.1	98.2	75 - 125 %	X	
Toluene	50	<1	47.6	95.2	75 - 125 %	X	
Ethylbenzene	50	<1	47.8	95.6	75 - 125 %	X	
m & p - Xylene	100	<2	94.1	94.1	75 - 125 %	X	
o - Xylene	50	<1	48.3	96.6	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (Four analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: mda Approved By: [signature] Date: 8/8/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 970791 - 970793, 970808 - 970811

QA/QC for 8/06/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	46.9	93.8	75 - 125 %	X	
Toluene	Standard	50.0	47.1	94.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.4	94.8	75 - 125 %	X	
m & p - Xylene	Standard	100	93.7	93.7	75 - 125 %	X	
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	25.0	23.9	95.6	39 - 150	X	
Toluene	Standard	25.0	24.2	96.8	46 - 148	X	
Ethylbenzene	Standard	25.0	24.3	97.2	32 - 160	X	
m & p - Xylene	Standard	50.0	47.8	95.6	Not Given	X	
o - Xylene	Standard	25.0	24.7	99	Not Given	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.3	94.6	75 - 125 %	X	
Toluene	Standard	50.0	47.2	94.4	75 - 125 %	X	
Ethylenzene	Standard	50.0	47.3	94.6	75 - 125 %	X	
m & p - Xylene	Standard	100	93.1	93.1	75 - 125 %	X	
o - Xylene	Standard	50.0	47.8	95.6	75 - 125 %	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.1	94.2	75 - 125 %	X	
Toluene	Standard	50.0	46.8	93.6	75 - 125 %	X	
Ethylbenzene	Standard	50.0	46.8	93.6	75 - 125 %	X	
m & p - Xylene	Standard	100	91.9	91.9	75 - 125 %	X	
o - Xylene	Standard	50.0	47.4	94.8	75 - 125 %	X	

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 970791 - 970793, 970808 - 970811

LABORATORY DUPLICATES:

SAMPLE ID 970811	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	2.2	2.6	12.94	+/- 20 %	X	
Toluene	Matrix Duplicate	8.3	8.4	1.44	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	3.07	2.60	16.61	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	27.0	25.1	7.30	+/- 20 %	X	
o - Xylene	Matrix Duplicate	6.2	6.23	0.58	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970811	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	2.2	49.7	94.8	75 - 125 %	X	
Toluene	50	8.3	54.4	92.2	75 - 125 %	X	
Ethylbenzene	50	3.07	52.6	99.0	75 - 125 %	X	
m & p - Xylene	100	26.99	118.0	91.0	75 - 125 %	X	
o - Xylene	50	6.19	53.9	95.5	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (Four analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: _____ Approved By: _____ Date: _____

QW0806 Original

El Paso Natural Gas Company

Well POINTS

CHAIN OF CUSTODY RECORD

Page _____ of _____

PROJECT NUMBER	PROJECT NAME
# 24324	Pit Closure Project

SAMPLERS: (Signature) Leon T. Pino DATE: 8/1/97

LAB ID	DATE	TIME	MATRIX	FIELD ID	TOTAL NUMBER OF CONTAINERS	SAMPLE TYPE	TPH EPA 418.1	BTEX EPA 8020	LAB PID			SEQUENCE #	REMARKS
970795	8/1/97	1315	WATER	STP-29	2			X					PZ-05, Standard Oil Com#1, 70445
970796	8/1/97	1355	WATER	STP-30	2			X					PZ06, STANDARD Oil Com#1, 70445
970797	8/1/97	1425	WATER	STP-31	2			X					PZ07, STANDARD Oil Com#1, 70445
970798	8/1/97		WATER	TRIP	1			X					

CONTRACT LABORATORY P. O. NUMBER

RECEIVED SEP - 9 1997

40°

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Leon T. Pino	8/1/97 1600		Cair Williams	8/4/97 1106	
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED OF LABORATORY BY: (Signature)
				8/4/97 1106	Marla Armenta

REQUESTED TURNAROUND TIME:
☐ ROUTINE ☐ RUSH _____

CARRIER CO.

BILL NO.:

SAMPLE RECEIPT REMARKS

CHARGE CODE

RESULTS & INVOICES TO:

FIELD SERVICES LABORATORY
EL PASO NATURAL GAS COMPANY
P. O. BOX 4990
FARMINGTON, NEW MEXICO 87499
505-599-2144 FAX: 505-599-2261

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

FM-08-0565 A (Rev. 05-94)

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP29	970795
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	8/1/97	1315
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-5	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	10400	PPB	50	D		
TOLUENE	< 50	PPB	50	D		
ETHYL BENZENE	746	PPB	50	D		
TOTAL XYLENES	5500	PPB	50	D		
TOTAL BTEX	16700	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95.0 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 8/7/97

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP30	970796
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	8/1/97	1355
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-6	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	1420	PPB	50	D		
TOLUENE	1740	PPB	50	D		
ETHYL BENZENE	579	PPB	50	D		
TOTAL XYLENES	4320	PPB	50	D		
TOTAL BTEX	8060	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 93.8 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Stanko Date: 8/7/97

EL PASO FIELD SERVICES

8/7/97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	STP31	970797
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	8/1/97	1425
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/6/97	8/6/97
TYPE | DESCRIPTION:	PZ-7	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	126	PPB	50	D		
TOLUENE	4590	PPB	50	D		
ETHYL BENZENE	1150	PPB	50	D		
TOTAL XYLENES	11600	PPB	50	D		
TOTAL BTEX	17500	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.1 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Fowler Date: 8/7/97

970797.XLS,8/6/97

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970798
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	8/1/97	1425
PROJECT:	WellPoints	
DATE OF BTEX EXT. | ANAL.:	8/5/97	8/5/97
TYPE | DESCRIPTION:	Blank	Water

Field Remarks: Trip Blank

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 100 for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Gordon Date: 8/7/97

970798.XLS,8/6/97

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

Samples: 970790, 970794-970798, 970804-970807

QA/QC for 8/05/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

SAMPLE NUMBER ICV LA-52589 50 PPB	TYPE	EXPECTED RESULT PPB	ANALYTICAL RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	Standard	50.0	47.9	95.8	75 - 125 %	X	
Toluene	Standard	50.0	48.1	96.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	48.5	97.0	75 - 125 %	X	
m & p - Xylene	Standard	100	96.0	96.0	75 - 125 %	X	
o - Xylene	Standard	50.0	48.9	97.8	75 - 125 %	X	
SAMPLE NUMBER LCS LA-45476 25 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	25.0	24.1	96.4	39 - 150	X	
Toluene	Standard	25.0	24.5	98.0	46 - 148	X	
Ethylbenzene	Standard	25.0	24.7	98.8	32 - 160	X	
m & p - Xylene	Standard	50.0	48.9	97.8	Not Given	X	
o - Xylene	Standard	25.0	25.0	100	Not Given	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0	47.6	95.2	75 - 125 %	X	
Toluene	Standard	50.0	47.4	94.8	75 - 125 %	X	
Ethylenzene	Standard	50.0	47.4	94.8	75 - 125 %	X	
m & p - Xylene	Standard	100	93.1	93.1	75 - 125 %	X	
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X	
SAMPLE NUMBER CCV LA-52589 50 PPB	**TYPE**	**EXPECTED RESULT PPB**	**ANALYTICAL RESULT PPB**	**%R**	**ACCEPTABLE RANGE**	**YES**	**NO**
Benzene	Standard	50.0	47.9	95.8	75 - 125 %	X	
Toluene	Standard	50.0	47.6	95.2	75 - 125 %	X	
Ethylbenzene	Standard	50.0	47.3	94.6	75 - 125 %	X	
m & p - Xylene	Standard	100	92.8	92.8	75 - 125 %	X	
o - Xylene	Standard	50.0	47.9	95.8	75 - 125 %	X	

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB
QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX
Samples: 970790, 970794-970798, 970804-970807

LABORATORY DUPLICATES:

SAMPLE ID 970804	TYPE	SAMPLE RESULT PPB	DUPLICATE RESULT PPB	RPD	ACCEPTABLE RANGE	YES	NO
Benzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Toluene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
Ethylbenzene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	
m & p - Xylene	Matrix Duplicate	<2	<2	0.00	+/- 20 %	X	
o - Xylene	Matrix Duplicate	<1	<1	0.00	+/- 20 %	X	

Narrative: Acceptable.

LABORATORY SPIKES:

SAMPLE ID 2nd Analysis 970804	SPIKE ADDED PPB	SAMPLE RESULT PPB	SPIKE SAMPLE RESULT PPB	%R	ACCEPTABLE RANGE	YES	NO
Benzene	50	<1	49.1	98.2	75 - 125 %	X	
Toluene	50	<1	47.6	95.2	75 - 125 %	X	
Ethylbenzene	50	<1	47.8	95.6	75 - 125 %	X	
m & p - Xylene	100	<2	94.1	94.1	75 - 125 %	X	
o - Xylene	50	<1	48.3	96.6	75 - 125 %	X	

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

AUTO BLANK	SOURCE	PPB	STATUS
Benzene	Boiled Water	<1.0	ACCEPTABLE
Toluene	Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

SOIL VIAL BLANK	SOURCE Lot MB1461	PPB (None analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

CONTAMINATION CARRYOVER CHECK	SOURCE	PPB (Four analyzed with this set)	STATUS
Benzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Toluene	Vial + Boiled Water	<1.0	ACCEPTABLE
Ethylbenzene	Vial + Boiled Water	<1.0	ACCEPTABLE
Total Xylenes	Vial + Boiled Water	<3.0	ACCEPTABLE

Narrative: Acceptable.

Reported By: mda Approved By: [signature] Date: 8/8/97

QW0805.XLS

1997 GROUNDWATER ANALYTICAL

El Paso Natural Gas Company

A 2673

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	HOERFANO PIPELINE			BTXE	GENERAL CHEMISTRY	RCRA METALS	
Samplers: (Signature) Dennis Bird	Date: 11-7-96						

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	11-7-96	1142		X	960926	P-2 G-2	4°C	X	X	X		STANGARD OIL COM #1 MW-1 MC70445
WATER	11-7-96	—		X	—	P-1		X				TRIP BLANK

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	11-7-96 1610				
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:	
		Madonna Hopper	11/8/96 0720		

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

Air Bill No.:

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	960926
MTR CODE | SITE NAME:	70445	Standard Oil Com #1
SAMPLE DATE | TIME (Hrs):	11/7/96	1142
PROJECT:	Sample 4 - 1st Quarter	
DATE OF BTEX EXT. | ANAL.:	11/11/96	11/11/96
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	277	PPB	10	D		
TOLUENE	121	PPB	10	D		
ETHYL BENZENE	161	PPB	10	D		
TOTAL XYLENES	1590	PPB	10	D		
TOTAL BTEX	2150	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 106 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 11/14/96

960920BT.XLS,11/13/96

EL PASO FIELD SERVICES

Field Services Laboratory
Analytical Report

SAMPLE IDENTIFICATION

EPFS LAB ID:	960926
DATE SAMPLED:	11/07/96
TIME SAMPLED (Hrs):	1142
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70445
SAMPLE SITE NAME:	Huerfano Pipeline
SAMPLE POINT:	Standard Oil Com #1 MW-1

FIELD REMARKS: _____

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

PARAMETER	RESULT	UNITS	DATE ANALYZED
Laboratory pH	8.3	Units	11/06/96
Alkalinity as $C0_3$	0.0	PPM	11/06/96
Alkalinity as $HC0_3$	521	PPM	11/06/96
Calcium as Ca	432	PPM	11/07/96
Magnesium as Mg	57	PPM	11/07/96
Total Hardness as $CaC0_3$	1,314	PPM	11/07/96
Chloride as Cl	74	PPM	11/06/96
Sulfate as $S0_4$	2,420	PPM	11/06/96
Fluoride as F	0.6	PPM	11/07/96
Nitrate as $N0_3$-N*	<0.6	PPM	11/06/96
Nitrite as $N0_2$-N	<0.6	PPM	11/06/96
Ammonium as NH_4^+	<0.6	PPM	11/07/96
Phosphate as PO_4	<0.6	PPM	11/06/96
Potassium as K	1.8	PPM	11/07/96
Sodium as Na	710	PPM	11/07/96
Total Dissolved Solids	3,980	PPM	11/06/96
Conductivity	3,940	umhos/cm	11/06/96
Anion/Cation %	3.3%	%, <5.0 Accepted	11/20/96

Lab Remarks:
itrate was analyzed outside of holding limits.

Reported By: Linda

Approved By: John Labrie

Date: 11/20/96

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT

SAMPLE IDENTIFICATION

SAMPLE NUMBER:	960926
SAMPLE DATE:	11/07/96
SAMPLE TIME (Hrs):	1142
SAMPLED BY:	D. Bird
MATRIX:	Water
METER CODE:	70445
SAMPLE SITE NAME:	Huerfano Pipeline
SAMPLE POINT:	Standard Oil Com #1 MW-1

REMARKS: _____

RESULTS

PARAMETER	TOTAL RESULT (mg/L)	N. M. WQCC LIMIT (mg/L)
ARSENIC	<.010	0.100
BARIUM	0.07	1.00
CADMIUM	<.0002	0.010
CHROMIUM	0.003	0.050
LEAD	<.004	0.050
MERCURY	<.00024	0.002
SELENIUM	<.003	0.050
SILVER	<.0005	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: _____ Approved By: _____ Date: 12/18/96

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT

Sample ID: 960926
Date Sampled: 11/07/96

Date Reported: 12/16/96

STANDARD REFERENCE MATERIAL

Analyte	Found Result (µg/L)	Known Value (µg/L)	% Recovery
Arsenic	30.6	32.4	94%
Barium	75.5	64.9	116%
Cadmium	2.75	2.38	116%
Chromium	5.07	4.76	107%
Lead	28.8	29.7	97%
Mercury	4.86	4.59	106%
Selenium	36.3	40.5	90%
Silver	4.81	4.32	111%

DUPLICATE ANALYSIS (mg/L)

Analyte	Original Sample Result	Duplicate Sample Result	% RPD
Arsenic	ND	ND	NA
Barium	0.58	0.55	5.3%
Cadmium	ND	ND	NA
Chromium	0.002	0.002	0.0%
Lead	ND	ND	NA
Mercury	ND	ND	NA
Selenium	ND	ND	NA
Silver	ND	ND	NA

SPIKE ANALYSIS (µg/L)

Analyte	Original Sample Result	Spike Sample Result	Spike Added	Recovery Percent
Arsenic	ND	115	100	105%
Barium	580	1520	1000	94%
Cadmium	ND	9.53	10.0	95%
Chromium	2.3	51.6	50.0	99%
Lead	ND	40.2	50.0	80%
Mercury	ND	1.82	2.00	91%
Selenium	ND	47.9	50.0	96%
Silver	ND	49.6	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 Fowler Date: 12/18/96

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name STANOARD OIL COM #1

Meter Code 70445

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 32.93
Initial Depth to Water (feet) 21.3
Height of Water Column in Well (feet) 11.63
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well Cubic Feet	Water Volume in Well Gallons	Gallons to be Removed
Well Casing		7.7	23.1
Gravel Pack			
Drilling Fluids			
Total			

Instruments

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

Methods of Development

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

☐ Other

Water Disposal

KOTZ SEPARATOR

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 (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-7-96	1053										16.1	5.86	5160		
11-7-96	1100						5.0	5.0			16.5	5.13	5490		
11-7-96	1106						5.0	10.0			16.4	5.81	5480		
11-7-96	1115						5.0	15.0			16.3	5.83	5360		
11-7-96	1121						5.0	20.0			16.5	5.84	5400		
11-7-96	1130						5.0	25.0			16.5	5.79	5430	1.5	

Comments 0.06' SE FREE FLOATING HYDROCARBON. LIGHT HYDROCARBON SMELL.

Developer's Signature Dennis Bird Date 11-7-96 Reviewer Jan Jaeb Date 11/14/96

El Paso Natural Gas Company

A 2220

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	HUERFANO PIPELINE							
Samplers: (Signature) Dennis Bird	Date: 2-7-97							

Matrix	Date	Time	Comp.	GRAB	Sample Number							
WATER	2-7-97	1026		X	970075	G-2	4°C	X				STANDARD OIL COM #1 NC 70445

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	2-7-97 1730				
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 Harper	2/10/97 1010		

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

Air Bill No.:

San Juan repro Form 71-55 A

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970075
MTR CODE | SITE NAME:	70445	Standard Oil Com #1 MW-1
SAMPLE DATE | TIME (Hrs):	2/7/97	1526
PROJECT:	Sample 4 - 2nd Quarter	
DATE OF BTEX EXT. | ANAL.:	2/13/97	2/13/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	119	PPB	5	D		
TOLUENE	20.2	PPB	5	D		
ETHYL BENZENE	139	PPB	5	D		
TOTAL XYLENES	1490	PPB	5	D		
TOTAL BTEX	1770	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

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 2-19-97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name STANDARD OIL COM #1

Meter Code 70445

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 32.93
Initial Depth to Water (feet) 20.96
Height of Water Column in Well (feet) 11.97

Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.9	23.7
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	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					
2-7-97	1443										12.0	6.04	4060		
2-7-97	1448						5.0	5.0			12.6	5.94	3980		
2-7-97	1455						5.0	10.0			12.7	45.89	4410		
2-7-97	1503						5.0	15.0			12.3	6.05	4290		
2-7-97	1509						5.0	20.0			12.6	6.08	4340		
2-7-97	1516						5.0	25.0			12.4	6.14	4570	1.0	

Comments

Developer's Signature Dennis Bird Date 2-7-97 Reviewer John Welch Date 2-19-97

Sample 4 – 3rd Qtr

El Paso Natural Gas Company

A 2454

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis			Remarks
	HOERFANO PIPELINE			BTXE			
Samplers: (Signature) D. Bird	Date: 5-9-97						

Matrix	Date	Time	Comp.	GRAB	Sample Number						
WATER	5-9-97	1525		X	970427	G-2	4°C	X				STANDARD OIL COM #1 MW-1 MC 7044E
WATER	5-9-97	1525		X	970428	G-2	4°C	X				STANDARD OIL COM #1 MW-1 MC 7044E

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
D. Bird	5-9-97 1715				
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:	
		Marion Hopper	5/12/97 1100		

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

Air Bill No.:

EL PASO FIELD SERVICES

6-3-97

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970427
MTR CODE | SITE NAME:	70445	Standard Oil Com #1 MW-1
SAMPLE DATE | TIME (Hrs):	5/9/97	1523
PROJECT:	Sample 4 - 3rd Quarter	
DATE OF BTEX EXT. | ANAL.:	5/14/97	5/14/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	105	PPM	5	D		
TOLUENE	14.2	PPM	5	D		
ETHYL BENZENE	145	PPM	5	D		
TOTAL XYLENES	1480	PPM	5	D		
TOTAL BTEX	1740	PPM				

The Surrogate Recovery was at 95.6 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used
The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Saathoff Date: 5/21/97

970427,5/19/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name STANDARD OIL COM #1

Meter Code 70445

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 32.93
Initial Depth to Water (feet) 20.78
Height of Water Column in Well (feet) 12.15
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well: Cubic Feet	Water Volume in Well: Gallons	Gallons to be Removed
Well Casing		8.0	24.1
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: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulativ	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
5-9-97	1434										18.0	7.05	4270		
5.9.97	1441						50	5.0			17.7	7.10	4280		
5.9.97	1449						50	100			17.5	7.25	4580		
5-9-97	1457						5.0	15.0			17.0	7.37	4710		
59-97	1503						5.0	200			16.7	7.45	4720		
5.9.97	1514						5.0	250			17.1	7.51	4890	0.5	

Comments THE WATER HAD A LIGHT HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 5-9-97 Reviewer John Leach Date 5/12/97

Sample 4- 4th QUARTER

El Paso Natural Gas Company

✓✓ A 2048

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis: BTXE	Remarks
	HOERFAND PIPELINE				

Samplers: (Signature) Dennis Bird Date: 8-8-97

MATRIX	Date	Time	Comp.	GRAB	Sample Number	Type and No. of Sample Containers	Preservation Technique	BTXE	Remarks
WATER	8-8-97	1057		X	970832	G-1	4°C	X	STANDARD DIG COM # MC 70145
WATER	8-8-97	—		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 Bird	8-8-97 1645				
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 Hopper	8/11/97 0810		

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

Air Bill No.:

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	970832
MTR CODE | SITE NAME:	70445	Standard Oil Com #1 MW-1
SAMPLE DATE | TIME (Hrs):	8/8/97	1057
PROJECT:	Sample 4 - 4th Quarter	
DATE OF BTEX EXT. | ANAL.:	8/12/97	8/12/97
TYPE | DESCRIPTION:	Monitor Well	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	82.6	PPB	2	D		
TOLUENE	15.6	PPB	2	D		
ETHYL BENZENE	140	PPB	2	D		
TOTAL XYLENES	1400	PPB	5	D		
TOTAL BTEX	1638	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 94.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: John Fowler Date: 8/27/97

970832BTEX,8/25/97

EPFS
EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name STANDARD OIL COM. #1

Meter Code 70445

Development Criteria

☒ 3 to 5 Casing Volumes of Water Removel
☐ 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) 32.93
Initial Depth to Water (feet) 21.13
Height of Water Column in Well (feet) 11.80
Diameter (inches): Well 4 Gravel Pack

Item	Water Volume in Well		Gallons to be Removed
	Cubic Feet	Gallons	
Well Casing		7.8	23.4
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	Cumulative	Increment	Cumulative					
8-8-97	1010										19.1	7.23	4030		
8-8-97	1016						5.0	5.0			17.7	7.08	3940		
8-8-97	1023						5.0	10.0			17.4	6.60	4090		
8-8-97	1030						5.0	15.0			17.6	6.93	4330		
8-8-97	1036						5.0	20.0			17.5	7.11	4410		
8-8-97	1045						5.0	25.0			17.9	7.52	4640	0.5	

Comments THE WATER HAD A STRONG HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bieck Date 8-8-97 Reviewer John Landi Date 8/25/97

SAMPLE 4 5TH QTR

El Paso Natural Gas Company

A 2124

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Type and No. of Sample Containers	Preservation Technique	Requested Analysis				Remarks
	MC#70445			BTXE				
Samplers: (Signature) Dennis Bird	Date: 11-4-97							

MATRIX	Date	Time	Comp.	GRAB	Sample Number							
WATER	11-4-97	1535		X	971186	G-1	4°C	X				STANDARD OIL COM. #1 MW-1

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Dennis Bird	11-4-97 1727				
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 Hopper	11/5/97 0730		
Carrier Co:		Carrier Phone No.		Date Results Reported / by: (Signature)	
Air Bill No.:					

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

FIELD SERVICES LABORATORY
ANALYTICAL REPORT
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

	Field ID	Lab ID
SAMPLE NUMBER:	N/A	971186
MTR CODE | SITE NAME:	70445	Standard Oil Com. #1
SAMPLE DATE | TIME (Hrs):	11/4/97	1535
PROJECT:	Sample 4 5th Quarter	
DATE OF BTEX EXT. | ANAL.:	11/6/97	11/6/97
TYPE | DESCRIPTION:	MW-1	Water

Field Remarks: _____

RESULTS

PARAMETER	RESULT	UNITS	QUALIFIERS			
			DF	Q		
BENZENE	91.4	PPB	2	D		
TOLUENE	32.4	PPB	2	D		
ETHYL BENZENE	141	PPB	2	D		
TOTAL XYLENES	1320	PPB	2	D		
TOTAL BTEX	1585	PPB				

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

The "D" qualifier indiciates that the analyte calculated is based on a secondary dilution factor.

Narrative:

Approved By: _____ Date: 11/12/97

EL PASO FIELD SERVICES

Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name STANDARD OIL COM #1

Meter Code 70445

Development Criteria

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

Water Volume Calculation

Initial Depth of Well (feet) 32.93
Initial Depth to Water (feet) 20.86
Height of Water Column in Well (feet) 12.07
Diameter (inches): Well 4 Gravel Pack_____

Item	Water Volume in Well Cubic Feet	Water Volume in Well Gallons	Gallons to be Removed
Well Casing		8.0	23.9
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: Pump	Development Method: Bailer	Removal Rate (gal/min)	Intake Depth (feet)	Ending Water Depth (feet)	Water Volume Removed (gal): Increment	Water Volume Removed (gal): Cumulative	Product Volume Removed (gallons): Increment	Product Volume Removed (gallons): Cumulative	Temperature °C	pH	Conductivity µmho/cm	Dissolved Oxygen mg/L	Comments
11-4-97	1453										17.3	6.21	3970		
11-4-97	1458						5.0	5.0			16.0	6.30	4250		
11-4-97	1505						5.0	10.0			15.7	6.66	4610		
11-4-97	1512						5.0	15.0			15.6	6.81	4720		
11-4-97	1518						5.0	20.0			15.5	7.31	4710		
11-4-97	1526						5.0	25.0			15.1	7.36	4830	0.5	

Comments THE WATER HAD A STRONG HYDROGEN SULFIDE SMELL.

Developer's Signature Dennis Bird Date 11-4-97 Reviewer John Loder Date 11/12/97