

3R - 211

# 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 Lisse, 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**  
**Pit Closure Report**

**March 1998**

**Prepared For**

**El Paso Field Services**  
**Farmington, New Mexico**

**Project 17520**



# EPFS GROUNDWATER PITS

## 1997 ANNUAL GROUNDWATER REPORT

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**LAT H-37 DRIP Y-3**  
**Meter/Line ID - LD002**

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### SITE DETAILS

Legals - Twn: 31N      Rng: 13W      Sec: 1      Unit: F  
NMOCD Hazard Ranking: 10      Land Type: FEE  
Operator: EL PASO FIELD SERVICES

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### PREVIOUS ACTIVITIES

Site Assessment: Mar-94      Excavation: Apr-94 (35 cy)      Soil Boring: Sep-95  
Monitor Well: Sep-95

The pit was excavated to 12 feet beneath ground surface (bgs) and one soil sample was collected from the pit bottom. The headspace soil reading from the excavation bottom was 235 ppm. Soil analytical were as follows; benzene – 50.6 mg/kg, total BTEX – 768 mg/kg, TPH – 2,470.

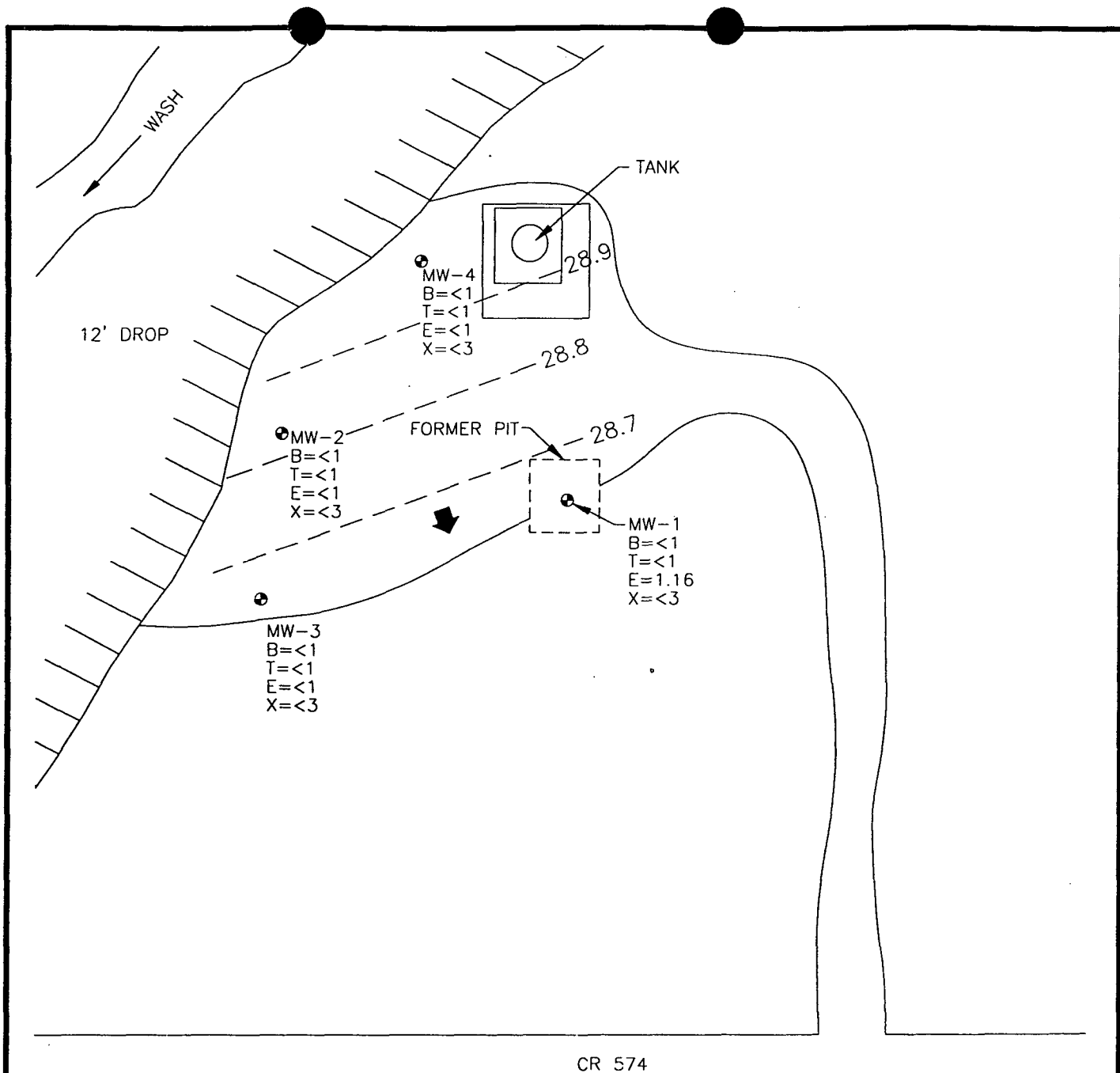
One soil boring was drilled in the center of the former pit and a monitoring well was installed. One soil sample was collected from 27-35 feet bgs. Soil analytical were as follows; benzene – 0.9 mg/kg, total BTEX – 3.6 mg/kg, TPH – 19 mg/kg. Quarterly groundwater samples have been below standards since the second quarter as presented in Table 1. Three additional monitoring wells were installed on the assumed downgradient edge of the well pad, and were sampled on a quarterly basis. Analytical for all three wells has been below standards since quarterly sampling was initiated. Of the three additional wells, only MW-3 is slightly downgradient of MW-1. MW-2 is cross-gradient, and MW-4 is up-gradient of MW-1. On 11/25/96 a "Nutrient Sock" was installed in MW-1, and was pulled approximately 30 days (as per OCD request) prior to each quarterly sampling event.

### CONCLUSIONS

Groundwater samples have been below standards in all monitor wells since quarterly sampling was initiated. Minimal impact to groundwater has occurred at this site.

### RECOMMENDATIONS

- EPFS requests closure at this site.
- Following OCD approval for closure, MW-1 through MW-4 will be abandoned following OCD approved abandonment procedures.



## LEGEND

⊕ MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER

B BENZENE (ug\L)  
T TOLUENE (ug\L)  
E ETHYL BENZENE (ug\L)  
X XYLENE (ug\L)

ug\L MICROGRAMS PER LITER

—28.7— GROUNDWATER POTENTIOMETRIC SURFACE

➔ APPROXIMATE GROUNDWATER GRADIENT

0 20  
FEET



COL 17520AJ-001



TITLE:

LAT H-37 DRIP Y-3  
LD002  
2/4/97

DWN:

TMM

DES.:

CC

PROJECT NO.:

17520

EPFS GW PITS

CHKD:

CC

APPD:

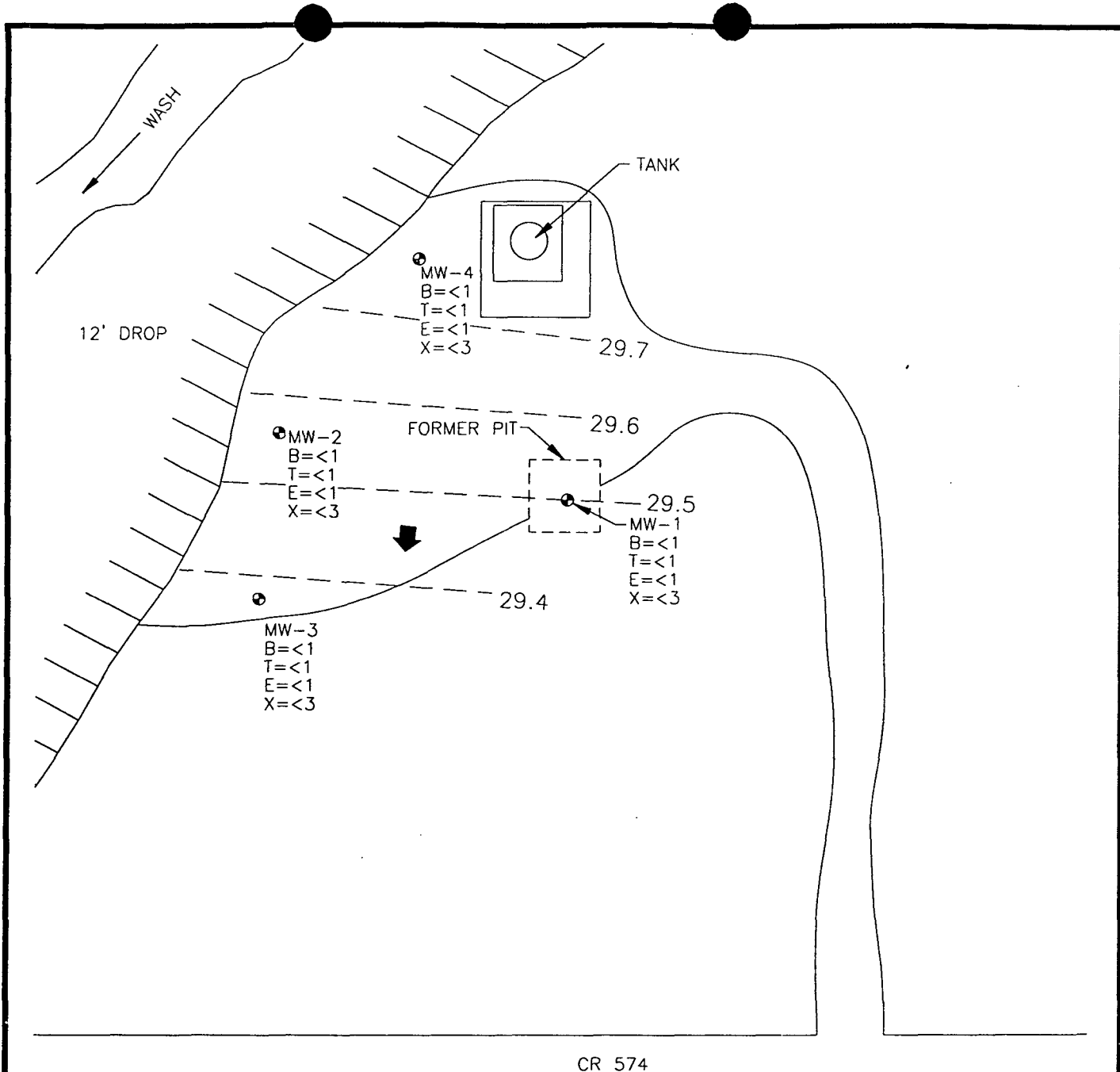
DATE:

1/20/98

REV.:

0

FIGURE 1



## LEGEND

● MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER

B BENZENE (ug\L)  
T TOLUENE (ug\L)  
E ETHYL BENZENE (ug\L)  
X XYLENE (ug\L)

ug\L MICROGRAMS PER LITER

28.7 GROUNDWATER POTENTIOMETRIC SURFACE

➔ APPROXIMATE GROUNDWATER GRADIENT

0 20  
FEET

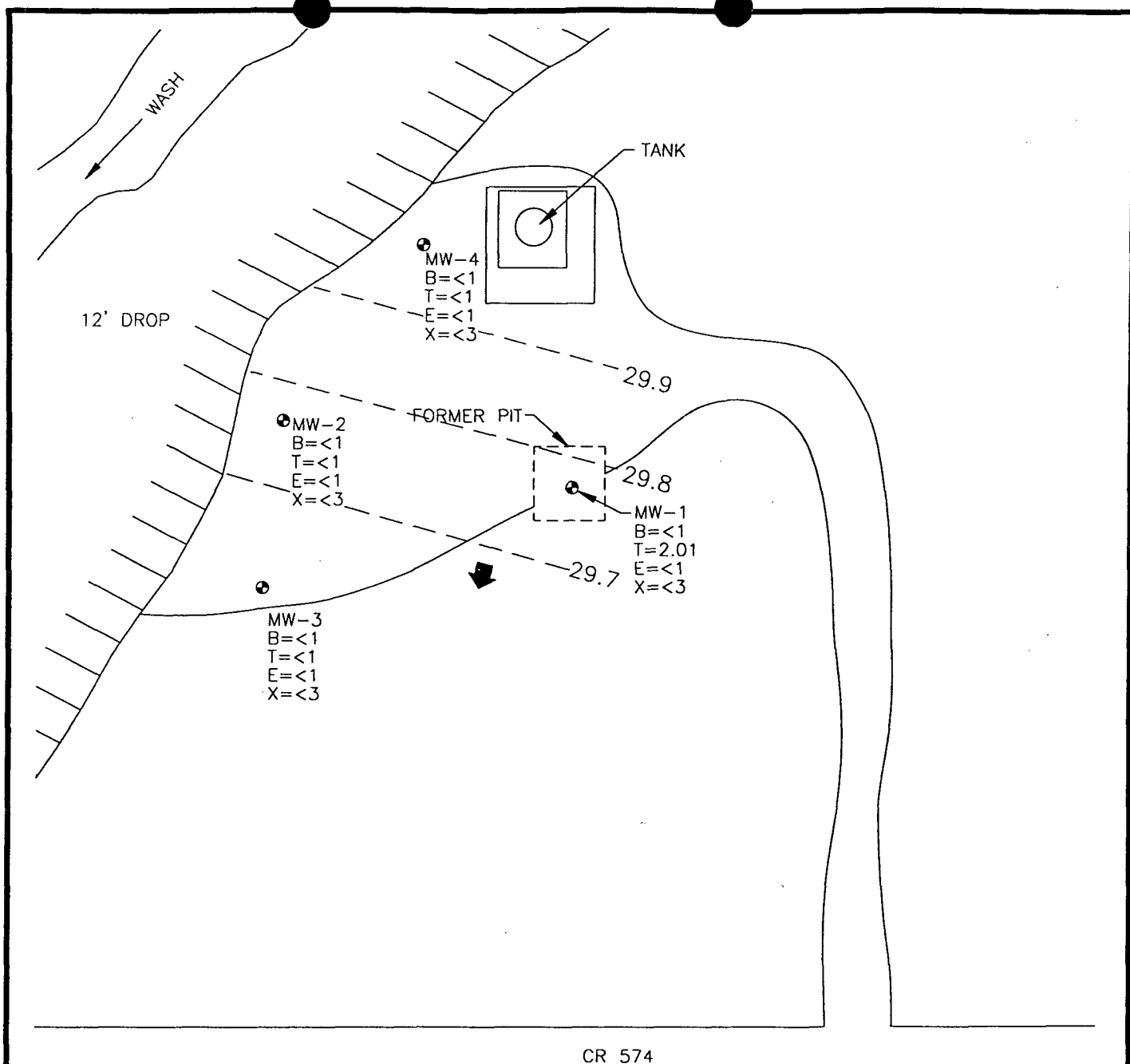


TITLE:  
LAT H-37 DRIP Y-3  
LD002  
4/23/97

|                  |             |
|------------------|-------------|
| DWN:<br>TMM      | DES.:<br>CC |
| CHKD:<br>CC      | APPD:       |
| DATE:<br>1/20/98 | REV.:<br>0  |

PROJECT NO.: 17520  
EPFS GW PITS

FIGURE 2



## LEGEND

● MW-1 APPROXIMATE MONITORING WELL LOCATION AND NUMBER

B BENZENE (ug\L)  
T TOLUENE (ug\L)  
E ETHYL BENZENE (ug\L)  
X XYLENE (ug\L)

ug\L MICROGRAMS PER LITER

—28.7— GROUNDWATER POTENTIOMETRIC SURFACE

➔ APPROXIMATE GROUNDWATER GRADIENT

0 20  
FEET



COL. 17520AJ-003



TITLE:

LAT H-37 DRIP Y-3  
LD002  
7/18/97

DWN:

TMM

DES.:

CC

PROJECT NO.:

17520

EPFS GW PITS

CHKD:

CC

APPD:

DATE:

1/20/98

REV.:

0

FIGURE 3

# FIELD PIT SITE ASSESSMENT FORM

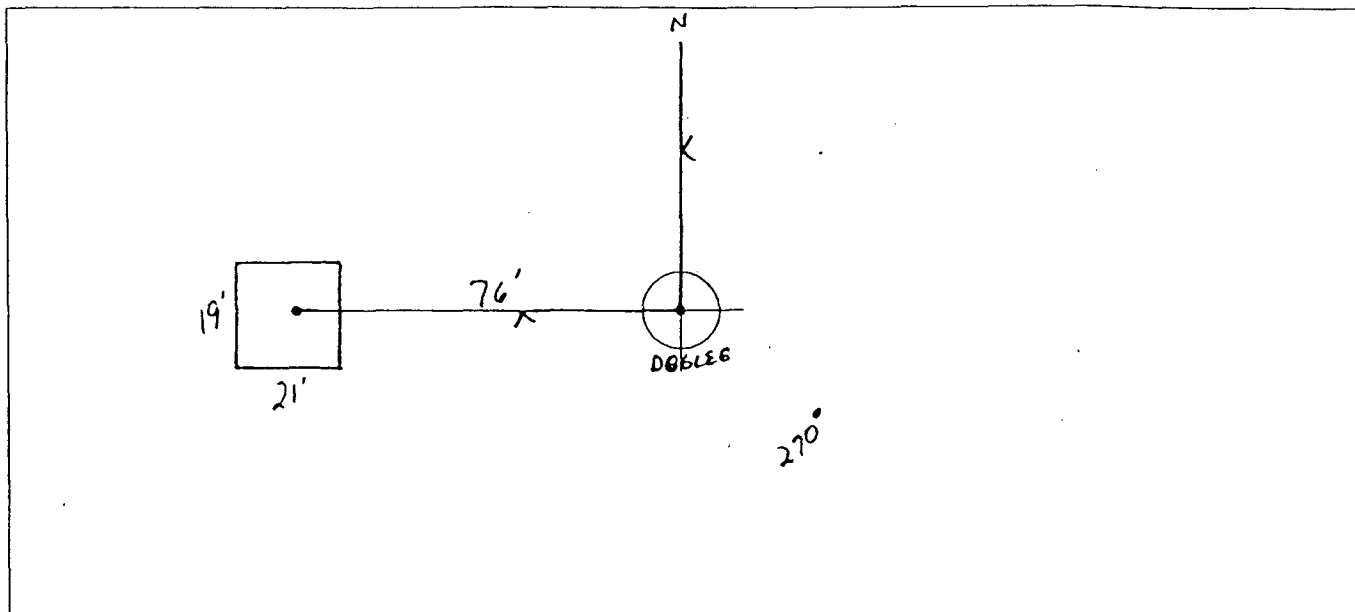
|         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GENERAL | <p>F013113</p> <p>Meter: <u>LAT. H-37</u> Location: <u>LAT. H-37 DRIP Y-3</u></p> <p>Operator #: _____ Operator Name: <u>EPNG</u> P/L District: <u>KUTZ</u></p> <p>Coordinates: Letter: <u>E</u> Section: <u>1</u> Township: <u>31</u> Range: <u>13</u></p> <p>Or Latitude _____ Longitude _____</p> <p>Pit Type: Dehydrator _____ Location Drip: _____ Line Drip: <u>X</u> Other: _____</p> <p>Site Visit Date: <u>3-31-94</u> Run: <u>02</u> <u>21</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|         | <p>NMOCD Zone: Inside Land Type: BLM <input type="checkbox"/></p> <p>(From NMOCD Vulnerable State <input type="checkbox"/></p> <p>Maps) Zone <input checked="" type="checkbox"/> Fee <input checked="" type="checkbox"/></p> <p>Outside <input type="checkbox"/> Indian _____</p> <p>Depth to Groundwater</p> <p>Less Than 50 Feet (20 points) <input type="checkbox"/></p> <p>50 Ft to 99 Ft (10 points) <input type="checkbox"/></p> <p>Greater Than 100 Ft (0 points) <input checked="" type="checkbox"/></p> <p>Wellhead Protection Area :</p> <p>Is it less than 1000 ft from wells, springs, or other sources of fresh water extraction? , or ; Is it less than 200 ft from a private domestic water source? <input type="checkbox"/> YES (20 points) <input checked="" type="checkbox"/> NO (0 points)</p> <p>Horizontal Distance to Surface Water Body</p> <p>Less Than 200 Ft (20 points) <input type="checkbox"/></p> <p>200 Ft to 1000 Ft (10 points) <input checked="" type="checkbox"/></p> <p>Greater Than 1000 Ft (0 points) <input type="checkbox"/></p> <p>Name of Surface Water Body <u>MCDERMOTT ARROYO</u></p> <p>(Surface Water Body : Perennial Rivers, Major Wash, Streams, Creeks, Irrigation Canals, Ditches, Lakes, Ponds)</p> <p>TOTAL HAZARD RANKING SCORE: <u>10</u> POINTS</p> |
| REMARKS | <p>Remarks : <u>ONLY PIT ON LOCATION. PIT IS DRY.</u></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |



ORIGINAL PIT LOCATION

## ORIGINAL PIT LOCATION

Original Pit : a) Degrees from North <sup>RT</sup>3-31-94 270° Footage to Wellhead 76'  
b) Degrees from North 270° Footage to Dogleg 76'  
Dogleg Name PAN AMERICAN STATE CO  
c) Length : 21' Width : 19' Depth : 4'



REMARKS

Remarks :

STARTED TAKING PICTURES AT 9:28 A.M.END DUMP

Completed By:

Robert Thompson  
Signature

3-31-94

Date

TABLE 1

| Sample # | Meter/<br>Line # | Site Name         | Sample Date | MW # | Project                | Benzene<br>(PPB) | Toluene<br>(PPB) | Ethyl<br>Benzene<br>(PPB) | Total Nylenes<br>(PPB) | Total BTEX |
|----------|------------------|-------------------|-------------|------|------------------------|------------------|------------------|---------------------------|------------------------|------------|
| 960340   | LD002            | Lat H-37 Drip Y-3 | 04/17/96    | 1    | Sample 4 - 1st Qtr     | 93               | 10               | 73.4                      | 228                    | 404        |
| 960629   | LD002            | Lat H-37 Drip Y-3 | 07/18/96    | 1    | Sample 4 - 2nd Qtr     | 5.86             | 1                | 44.3                      | 23                     | 74         |
| 960859   | LD002            | Lat H-37 Drip Y-3 | 10/16/96    | 1    | Sample 4 - 3rd Quarter | < 1              | < 1              | 13.5                      | 2.92                   | 18         |
| 970059   | LD002            | Lat H-37 Drip Y-3 | 2/4/97      | 1    | Sample 4 - 4th Quarter | < 1              | < 1              | 1.16                      | 3                      | 6          |
| 970341   | LD002            | Lat H-37 Drip Y-3 | 4/23/97     | 1    | Sample 4 - 5th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970686   | LD002            | Lat H-37 Drip Y-3 | 7/18/97     | 1    | Sample 4 - 6th Quarter | < 1              | 2.01             | < 1                       | 3                      | 6          |
|          |                  |                   |             |      |                        |                  |                  |                           |                        |            |
| 960341   | LD002            | Lat H-37 Drip Y-3 | 04/17/96    | 2    | Sample 4 - 1st Qtr     | < 1              | < 1              | < 1                       | 3                      | 6          |
| 960630   | LD002            | Lat H-37 Drip Y-3 | 07/18/96    | 2    | Sample 4 - 2nd Qtr     | < 1              | < 1              | < 1                       | 3                      | 6          |
| 960861   | LD002            | Lat H-37 Drip Y-3 | 10/16/96    | 2    | Sample 4 - 3rd Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970061   | LD002            | Lat H-37 Drip Y-3 | 2/4/97      | 2    | Sample 4 - 4th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970342   | LD002            | Lat H-37 Drip Y-3 | 4/23/97     | 2    | Sample 4 - 5th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970687   | LD002            | Lat H-37 Drip Y-3 | 7/18/97     | 2    | Sample 4 - 6th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
|          |                  |                   |             |      |                        |                  |                  |                           |                        |            |
| 960342   | LD002            | Lat H-37 Drip Y-3 | 04/17/96    | 3    | Sample 4 - 1st Qtr     | < 1              | < 1              | < 1                       | 3                      | 6          |
| 960631   | LD002            | Lat H-37 Drip Y-3 | 07/18/96    | 3    | Sample 4 - 2nd Qtr     | < 1              | < 1              | < 1                       | 3                      | 6          |
| 960862   | LD002            | Lat H-37 Drip Y-3 | 10/16/96    | 3    | Sample 4 - 3rd Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970062   | LD002            | Lat H-37 Drip Y-3 | 2/4/97      | 3    | Sample 4 - 4th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970343   | LD002            | Lat H-37 Drip Y-3 | 4/23/97     | 3    | Sample 4 - 5th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970688   | LD002            | Lat H-37 Drip Y-3 | 7/18/97     | 3    | Sample 4 - 6th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
|          |                  |                   |             |      |                        |                  |                  |                           |                        |            |
| 960343   | LD002            | Lat H-37 Drip Y-3 | 04/17/96    | 4    | Sample 4 - 1st Qtr     | < 1              | < 1              | < 1                       | 3                      | 6          |
| 960632   | LD002            | Lat H-37 Drip Y-3 | 07/18/96    | 4    | Sample 4 - 2nd Qtr     | < 1              | < 1              | < 1                       | 3                      | 6          |
| 960863   | LD002            | Lat H-37 Drip Y-3 | 10/16/96    | 4    | Sample 4 - 3rd Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970063   | LD002            | Lat H-37 Drip Y-3 | 2/4/97      | 4    | Sample 4 - 4th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970344   | LD002            | Lat H-37 Drip Y-3 | 4/23/97     | 4    | Sample 4 - 5th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |
| 970689   | LD002            | Lat H-37 Drip Y-3 | 7/18/97     | 4    | Sample 4 - 6th Quarter | < 1              | < 1              | < 1                       | 3                      | 6          |

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# **PHASE I EXCAVATION**

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# FIELD PIT REMEDIATION/CLOSURE FORM

GENERAL

Meter: Lat. 4-37 Location: Lat. 4-37 Drip Y-3

Coordinates: Letter: F Section 1 Township: 31 Range: 13

Or Latitude \_\_\_\_\_ Longitude \_\_\_\_\_

Date Started : 4-22-94 Area: 02 Run: 21

FIELD OBSERVATIONS

Sample Number(s): VW27

Sample Depth: 12 Feet

Final PID Reading 235 PID Reading Depth 12 Feet

Yes No

VW 4-22-94

Groundwater Encountered ☐ (1) ☒ (2) Approximate Depth 35 Feet

CLOSURE

Remediation Method :

Excavation ☒ (1) Approx. Cubic Yards 35

Onsite Bioremediation ☐ (2)

Backfill Pit Without Excavation ☐ (3)

Soil Disposition:

Envirotech ☐ (1) ☒ (3) Tierra

Other Facility ☐ (2) Name: \_\_\_\_\_

Pit Closure Date: 4-22-94 Pit Closed By: BEZ

REMARKS

Remarks : Soil started getting pretty wet. No markers on location.

Signature of Specialist: Val Wilson

[illegible]



RE RUN  
BTEX

FIELD SERVICES LABORATORY

ANALYTICAL REPORT

PIT CLOSURE PROJECT - Soil

Drig V-3

SAMPLE IDENTIFICATION

|                            | Field ID      | Lab ID        |
|----------------------------|---------------|---------------|
| SAMPLE NUMBER:             | VW27          | 945006        |
| MTR CODE   SITE NAME:      | LAT H-37      | N/A           |
| SAMPLE DATE   TIME (Hrs):  | 4/22/94       | 1210          |
| SAMPLED BY:                | Phase I       | N/A           |
| DATE OF TPH EXT.   ANAL.:  | NIA (5/28/94) | NIA (5/28/94) |
| DATE OF BTEX EXT.   ANAL.: | 5/6/94        | 5/6/94        |
| TYPE   DESCRIPTION:        | NIA           | NIA           |

See attached  
Pg.

REMARKS: Re-extract for BTEX at 0.5g/20ml

RESULTS

| PARAMETER      | RESULT                                            | UNITS | QUALIFIERS |   |      |       |
|----------------|---------------------------------------------------|-------|------------|---|------|-------|
|                |                                                   |       | DF         | Q | M(g) | V(ml) |
| BENZENE        | 50.6                                              | MG/KG |            |   |      |       |
| TOLUENE        | <sup>47.7</sup><br><del>52.2</del> <sup>Ind</sup> | MG/KG |            |   |      |       |
| ETHYL BENZENE  | 52.2                                              | MG/KG |            |   |      |       |
| TOTAL XYLENES  | <sup>29.6+</sup><br>188                           | MG/KG |            |   |      |       |
| TOTAL BTEX     | 768                                               | MG/KG | 0.03704    |   | .54  | 20    |
| TPH (418.1)    | 2470                                              | MG/KG |            |   |      |       |
| HEADSPACE PID  | 235                                               | PPM   |            |   |      |       |
| PERCENT SOLIDS | 76.3                                              | %     |            |   |      |       |

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

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

11

= Dilution Factor Used

Approved By: John Sanchez

Date: 5/21/94

**TPH CONTROL REPORT**  
TPH by Modified 418.1 by Infrared

Date of Analysis: April 28, 1994

**LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS**

| SAMPLE ID                                                 | SOURCE | TRUE VALUE (PPM) | FOUND (MG/KG) | %R   | ACCEPTABLE RANGE 75-125 %R<br>YES NO |
|-----------------------------------------------------------|--------|------------------|---------------|------|--------------------------------------|
| INITIAL CALIBRATION VERIF.<br>"B" Heavy Oil (Lot MOR9480) | HORIBA | 300              | 254           | 84.7 | X                                    |

Narrative: Acceptable.

**LABORATORY DUPLICATES:**

| SAMPLE NUMBER | TYPE        | SAMPLE RESULT (S)MG/KG | DUPLICATE RESULT (D)MG/KG | RPD  | ACCEPTABLE RANGE + / - 35%<br>YES NO |
|---------------|-------------|------------------------|---------------------------|------|--------------------------------------|
| 945000        | 2nd Extract | 303                    | 148                       | 68.7 | X                                    |
| 945011        | 2nd Extract | 887                    | 1020                      | 13.9 | X                                    |
| 945027        | 2nd Extract | 656                    | 651                       | 0.8  | X                                    |

Narrative : Acceptable for 945011 and 945027. 945000 exhibiting non-homogeneity.

**LABORATORY SPIKES:**

| SAMPLE NUMBER | SPIKE ADDED (SA)MG/KG | SAMPLE RESULT (S)MG/KG | SPIKE SAMPLE RESULT (SR)MG/KG | %R  | ACCEPTABLE RANGE 75-125 %R<br>YES NO |
|---------------|-----------------------|------------------------|-------------------------------|-----|--------------------------------------|
| 945000        | 4000                  | 303                    | 5470                          | 129 | X                                    |
| 945011        | 3360                  | 887                    | 4760                          | 115 | X                                    |
| 945027        | 3460                  | 656                    | 4880                          | 122 | X                                    |

Narrative: Acceptable for 945011 and 945027.

Spike amount added exceeded sample value by greater than 4X for 945000.

**REFERENCE SOIL (Laboratory Control Sample):**

| SAMPLE ID                                | SOURCE                         | KNOWN VALUE (MG/KG) | SAMPLE RESULT FOUND (MG/KG) | MFG SPECIFIED RANGE | ACCEPTABLE<br>YES NO |
|------------------------------------------|--------------------------------|---------------------|-----------------------------|---------------------|----------------------|
| ERA TPH STANDARD #1<br>LOT # 91022       | ENVIRONMENTAL<br>RESOURCE ASS. | 1820                | 985                         | 1090 - 2280         | X                    |
| ERA TPH STANDARD #2 w/int<br>LOT # 91024 | ENVIRONMENTAL<br>RESOURCE ASS. | 1690                | 1090                        | 1010 - 2110         | X                    |

Narrative: Acceptable for TPH Standard #2.

**LABORATORY REAGENT BLANK:**

| SAMPLE ID                      | SOURCE                  | TPH LEVEL (MG/KG) | STATUS                   |
|--------------------------------|-------------------------|-------------------|--------------------------|
| Freon Solvent<br>Reagent Blank | Mallinkroft<br>EPNG Lab | < 10.0<br>< 10.0  | ACCEPTABLE<br>ACCEPTABLE |

Narrative: Acceptable.

Approved By:

*John Swadlow*

Date: 14-May-94

Extracted: 4/28/94

# EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

PIT SOIL EXTRACTS

INCLUDES 5/6/94 RERUNS  
QA/QC for 5/14/94 Sample Set

## LABORATORY DUPLICATES:

| SAMPLE<br>NUMBER | TYPE    | SAMPLE<br>RESULT<br>(S) (PPB) | DUPLICATE<br>RESULT<br>(D) (PPB) | RPD  | ACCEPTABLE |    |
|------------------|---------|-------------------------------|----------------------------------|------|------------|----|
|                  |         |                               |                                  |      | YES        | NO |
| 945000           |         |                               |                                  |      | RANGE      |    |
| Benzene          | 2nd Ext | <2.0                          | <2.0                             | 0.0  | +/- 35 %   | X  |
| Toluene          | 2nd Ext | 5.7                           | 8.2                              | 35.5 | +/- 35 %   | X  |
| Ethyl benzene    | 2nd Ext | 6.5                           | 8.6                              | 27.9 | +/- 35 %   | X  |
| Total Xylenes    | 2nd Ext | 152.7                         | 201.0                            | 27.3 | +/- 35 %   | X  |

Narrative: Acceptable.

## LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

| SAMPLE<br>NUMBER    | TYPE     | KNOWN<br>RESULT<br>(PPB) | FOUND<br>RESULT<br>(PPB) | XR    | ACCEPTABLE |    |
|---------------------|----------|--------------------------|--------------------------|-------|------------|----|
|                     |          |                          |                          |       | YES        | NO |
| ICV<br>50 PPB std   |          |                          |                          |       | RANGE      |    |
| Benzene             | Standard | 50.0                     | 48.6                     | 97.2  | 75 - 125 % | X  |
| Toluene             | Standard | 50.0                     | 49.2                     | 98.4  | 75 - 125 % | X  |
| Ethyl benzene       | Standard | 50.0                     | 50.1                     | 100.2 | 75 - 125 % | X  |
| Total Xylenes       | Standard | 150                      | 164                      | 109.6 | 75 - 125 % | X  |
| LCS F0565<br>50 PPB |          |                          |                          |       | RANGE      |    |
| Benzene             | Standard | 50.0                     | 51.0                     | 102.0 | 39 - 150   | X  |
| Toluene             | Standard | 50.0                     | 49.6                     | 99.2  | 46 - 148   | X  |
| Ethyl benzene       | Standard | 50.0                     | 50.2                     | 100.4 | 32 - 160   | X  |
| Total Xylenes       | Standard | 200                      | 222                      | 110.9 | Not Given  | X  |

Narrative: Acceptable!

## LABORATORY SPIKES:

| SAMPLE<br>NUMBER | SPIKE<br>ADDED<br>(SA) PPB | SAMPLE<br>RESULT<br>(S) (PPB) | SPIKE<br>SAMPLE<br>RESULT<br>(SR) (PPB) | XR  | ACCEPTABLE |    |
|------------------|----------------------------|-------------------------------|-----------------------------------------|-----|------------|----|
|                  |                            |                               |                                         |     | YES        | NO |
| 94500            |                            |                               |                                         |     | RANGE      |    |
| Benzene          | 50.0                       | 0.0                           | 47.8                                    | 96  | 75 - 125 % | X  |
| Toluene          | 50.0                       | 5.7                           | 55.9                                    | 100 | 75 - 125 % | X  |
| Ethyl benzene    | 50.0                       | 6.5                           | 57.6                                    | 102 | 75 - 125 % | X  |
| Total Xylenes    | 150.0                      | 152.7                         | 313                                     | 107 | 75 - 125 % | X  |

Narrative: Acceptable.

## LABORATORY , REAGENT AND TRIP BLANKS:

| SAMPLE ID     | SOURCE          | Component (PPB) | STATUS     |
|---------------|-----------------|-----------------|------------|
| Benzene       | EPNG Water/MeOH | <2.5            | ACCEPTABLE |
| Toluene       | EPNG Water/MeOH | <2.5            | ACCEPTABLE |
| Ethyl benzene | EPNG Water/MeOH | <2.5            | ACCEPTABLE |
| Total Xylenes | EPNG Water/MeOH | <2.5            | ACCEPTABLE |

Narrative: Acceptable!

Approved By:

*John T. Smith*

Date: 1-Jul-94



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## **PHASE II SOIL BORING**

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02-21 KUTZ

## RECORD OF SUBSURFACE EXPLORATION

## PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH-1

Well #

Page 1 of 1

Project Name EPNG Pits

Project Number 14509 Phase 6000.77

Project Location LAT H-37 DRIP Y-3  
12013113

Well Logged By Jeff W. Kindley

Personnel On-Site

S. Snider, D. Roberts, J. Johnson

Contractors On-Site

Client Personnel On-Site

Drilling Method 4 1/4 ID HSA

Air Monitoring Method PID, CGI

Elevation

Borehole Location T31, R13, S1, F

GWL Depth

Logged By Jeff W. Kindley

Drilled By S. Snider

Date/Time Started 09/21/95 1012

Date/Time Completed 09/21/95 1350

| Depth<br>(Feet) | Sample<br>Number | Sample<br>Interval | Sample<br>Type &<br>Recovery<br>(Inches) | Sample Description<br>Classification System: USCS                              | USCS<br>Symbol | Depth<br>Lithology<br>Change<br>(feet) | Air Monitoring<br>Units: PPM |          |   | Drilling Conditions<br>& Blow Counts                     |
|-----------------|------------------|--------------------|------------------------------------------|--------------------------------------------------------------------------------|----------------|----------------------------------------|------------------------------|----------|---|----------------------------------------------------------|
|                 |                  |                    |                                          |                                                                                |                |                                        | BZ                           | BH       | S |                                                          |
| 0               |                  |                    |                                          | Backfill<br>material<br>to 12                                                  |                |                                        |                              |          |   |                                                          |
| 15              | 1                | 15-17              | .4<br>2.0                                | CL, BR CLAY, moist, very<br>stiff, medium plasticity,<br>hydrocarbon odor      |                |                                        |                              | 82<br>78 |   | 1025<br>29 blows per<br>Foot                             |
| 20              | 2                | 20-22              | .4<br>2.0                                | S. AT                                                                          |                |                                        |                              | 77<br>72 |   | 1030<br>30 blows per Foot                                |
| 25              | 3                | 25-27              | .9<br>2.0                                | CL, BR CLAY wet, very stiff,<br>high plasticity, hydrocarbon<br>odor (slight). |                |                                        |                              | 0<br>5   |   | 1040<br>17 blows per Foot<br>• GROUNDWATER<br>AT 25 feet |
| 30              |                  |                    |                                          | SW, BR SAND, coarse-grained<br>loose, wet.                                     |                |                                        |                              |          |   |                                                          |
| 35              |                  |                    |                                          | Boring terminated at 35'                                                       |                |                                        |                              |          |   |                                                          |
| 40              |                  |                    |                                          |                                                                                |                |                                        |                              |          |   |                                                          |

## Comments:

No samples collected from 27 to 35 feet. Log is based on cuttings from 27 to 35 feet.  
 Sample collected at 20 to 22 feet (JWK 79). Sample analyzed for BTEX/TPH.  
 BH terminated into a non-aqueous phase liquid.

# RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH-2

Well # MW-2

Page 1 of 1

Project Name EPNG PITS

Project Number 14509 Phase 6000 77

Project Location Lat H-37 Drilling V-3

Elevation \_\_\_\_\_

Borehole Location QF-S1-T31-R13

GWL Depth 24.5'

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 12/11/95-0910

Date/Time Completed 12/11/95-1020

Well Logged By CM Chance

Personnel On-Site K Padilla, F. Rivera, L. Phillips

Contractors On-Site \_\_\_\_\_

Client Personnel On-Site \_\_\_\_\_

Drilling Method 8 1/4" ID HSA

Air Monitoring Method PID, CGI

| Depth<br>(feet) | Sample<br>Number | Sample<br>Interval | Sample<br>Type &<br>Recovery<br>(inches) | Sample Description<br>Classification System: USCS | USCS<br>Symbol | Depth<br>Lithology<br>Change<br>(feet) | Air Monitoring |    |         | Drilling Conditions<br>& Blow Counts |
|-----------------|------------------|--------------------|------------------------------------------|---------------------------------------------------|----------------|----------------------------------------|----------------|----|---------|--------------------------------------|
|                 |                  |                    |                                          |                                                   |                |                                        | Units: PPM     |    |         |                                      |
|                 |                  |                    |                                          |                                                   |                |                                        | BZ             | BH | S<br>HS |                                      |
| 0               |                  |                    |                                          |                                                   |                |                                        |                |    |         | No sampling<br>Log Cuttings          |
| 5               |                  |                    |                                          | Br SILT, loose, dry                               |                |                                        | D              | D  | D       |                                      |
| 10              |                  |                    |                                          | A/A                                               |                |                                        | D              | D  | D       |                                      |
| 15              |                  |                    |                                          | A/A                                               |                |                                        | D              | D  | D       | hard drilling                        |
| 20              |                  |                    |                                          | OK Br CLAY, high plastic, dry                     |                |                                        | D              | D  | D       |                                      |
| 25              |                  |                    |                                          | A/A                                               |                |                                        | D              | D  | D       | GW @ 24.5' BGS                       |
| 30              |                  |                    |                                          | Br clayey SAND, saturated, fine med               |                |                                        |                |    |         |                                      |
| 35              |                  |                    |                                          | A/A                                               |                |                                        |                |    |         |                                      |
| 40              |                  |                    |                                          | TDBGS                                             |                |                                        |                |    |         |                                      |

Comments:

Will set well @ 34.5' BGS

# RECORD OF SUBSURFACE EXPLORATION

## PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # B-3

Well # RAW-3

Page 1 of 1

Project Name EPNG PITS

Project Number 14509 Phase 6000 77

Project Location Lat H-37 Drip Y-3

Elevation \_\_\_\_\_

Borehole Location QF - S1 - T31 - R13

GWL Depth 24.5'

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 12/11/95 - 1300

Date/Time Completed 12/11/95 - 1410

Well Logged By CM Chance

Personnel On-Site K Padilla, F. Rivera, L. Phillips

Contractors On-Site \_\_\_\_\_

Client Personnel On-Site \_\_\_\_\_

Drilling Method 8 1/4" ID HSA

Air Monitoring Method PID, CGI

| Depth<br>(Feet) | Sample<br>Number | Sample<br>Interval | Sample<br>Type &<br>Recovery<br>(inches) | Sample Description<br>Classification System: USCS | USCS<br>Symbol | Depth<br>Lithology<br>Change<br>(feet) | Air Monitoring<br>Units: PPM |    |    | Drilling Conditions<br>& Flow Counts |
|-----------------|------------------|--------------------|------------------------------------------|---------------------------------------------------|----------------|----------------------------------------|------------------------------|----|----|--------------------------------------|
|                 |                  |                    |                                          |                                                   |                |                                        | BZ                           | RH | HS |                                      |
| 0               |                  |                    |                                          |                                                   |                |                                        |                              |    |    | Log Corings<br>No Samples            |
| 5               |                  |                    |                                          | Br SILT, dry, loose                               |                |                                        | 0                            | 0  | 0  |                                      |
| 10              |                  |                    |                                          | A/A                                               |                |                                        | 0                            | 0  | 0  |                                      |
| 15              |                  |                    |                                          | A/A                                               |                |                                        | 0                            | 0  | 0  |                                      |
| 20              |                  |                    |                                          | DK Br CLAY, high plastic, dry                     |                |                                        | 0                            | 0  | 0  | - hard drilling                      |
| 25              |                  |                    |                                          | AA                                                |                |                                        | 0                            | 0  | 0  | - GW @ 24.5'                         |
| 30              |                  |                    |                                          | Br clayey SAND, F-med sand,<br>saturated          |                |                                        | 0                            | 0  | 0  |                                      |
| 35              |                  |                    |                                          | AA                                                |                |                                        | 0                            | 0  | 0  |                                      |
| 40              |                  |                    |                                          | TDB35                                             |                |                                        |                              |    |    |                                      |

Comments:

Will set well @ 34.5' BGS

# RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL

4000 Monroe Road

Farmington, New Mexico 87401

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

Borehole # BH4

Well # MW-4

Page 1 of 1

Project Name EPNG PITS

Project Number 14509 Phase 6000 77

Project Location LAT H-37 Pipe Y-3

Elevation \_\_\_\_\_

Borehole Location QF-S1-TJ1-R12

GWL Depth 24.5'

Logged By CM CHANCE

Drilled By K Padilla

Date/Time Started 12/12/95 1142

Date/Time Completed 12/12/95 1422

Well Logged By CM Chance

Personnel On-Site K Padilla, F. Rivera

Contractors On-Site \_\_\_\_\_

Client Personnel On-Site \_\_\_\_\_

Drilling Method 4 1/4" ID HSA

Air Monitoring Method PID, CGI

| Depth<br>(Feet) | Sample<br>Number | Sample<br>Interval | Sample<br>Type &<br>Recovery<br>(inches) | Sample Description<br>Classification System: USCS | USCS<br>Symbol | Depth<br>Lithology<br>Change<br>(feet) | Air Monitoring<br>Units: PPM |     |         | Drilling Conditions<br>& Blow Counts |
|-----------------|------------------|--------------------|------------------------------------------|---------------------------------------------------|----------------|----------------------------------------|------------------------------|-----|---------|--------------------------------------|
|                 |                  |                    |                                          |                                                   |                |                                        | BZ                           | Bri | S<br>HS |                                      |
| 0               |                  |                    |                                          |                                                   |                |                                        |                              |     |         | log cuttings<br>No sampling          |
| 5               |                  |                    |                                          | lt Br SILT, loose, dry                            |                |                                        | 0                            | 0   | 0       |                                      |
| 10              |                  |                    |                                          | A/A                                               |                |                                        | 0                            | 0   | 0       |                                      |
| 15              |                  |                    |                                          | A/A                                               |                |                                        | 0                            | 0   | 0       |                                      |
| 20              |                  |                    |                                          | Br CLAY, high plastic, dry                        |                |                                        | 0                            | 0   | 0       |                                      |
| 25              |                  |                    |                                          | Br sandy CLAY, vF-F sand, med<br>plastic, moist   |                |                                        | 0                            | 0   | 0       | -GW 24.5'                            |
| 30              |                  |                    |                                          | AA                                                |                |                                        | 0                            | 0   | 0       |                                      |
| 35              |                  |                    |                                          | Br clayey SAND, vF-F sand,<br>saturated           |                |                                        |                              |     |         |                                      |
| 40              |                  |                    |                                          | TOB-35.0'                                         |                |                                        |                              |     |         |                                      |

Comments:

Per EPNG's request, well location is 20' away from pipeline, which puts it 40' away from MW-2. Will set well @ 25' BGS

| PROJECT NUMBER<br>14509                                                                                                                                                                                                                                                    |          | PROJECT NAME<br>Pit Closure Project # 24324 |        | CONTACT LABORATORY P. O. NUMBER                                                                                               |                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| SAMPLERS: (Signature)<br>Jeffrey Knudsen                                                                                                                                                                                                                                   |          | DATE: September 21, 1995                    |        |                                                                                                                               |                           |
| LAB ID                                                                                                                                                                                                                                                                     | DATE     | TIME                                        | MATRIX | SAMPLE NUMBER                                                                                                                 |                           |
| 516                                                                                                                                                                                                                                                                        | 09/21/95 | 0837                                        | Soil   | JWK 77                                                                                                                        |                           |
| 517                                                                                                                                                                                                                                                                        | 09/21/95 | 0935                                        | Soil   | JWK 78                                                                                                                        |                           |
| 518                                                                                                                                                                                                                                                                        | 09/21/95 | 1030                                        | Soil   | JWK 79                                                                                                                        |                           |
| 519                                                                                                                                                                                                                                                                        | 09/21/95 | 1710                                        | Soil   | JWK 80                                                                                                                        |                           |
| <div style="display: flex; justify-content: space-between;"> <div> <p>TPH EPA 418.1</p> <p>BTEX EPA 8020</p> </div> <div> <p>REQUESTED ANALYSIS</p> </div> </div>                                                                                                          |          |                                             |        |                                                                                                                               |                           |
| TOTAL NUMBERS OF CONTAINERS                                                                                                                                                                                                                                                |          | SAMPLE TYPE                                 |        | REMARKS                                                                                                                       |                           |
| 1                                                                                                                                                                                                                                                                          | 1        | V6                                          | ✓      | 127                                                                                                                           | Nickels #1 73034          |
| 1                                                                                                                                                                                                                                                                          | 1        | V6                                          | ✓      | 0                                                                                                                             | Hancock #1A 90056         |
| 1                                                                                                                                                                                                                                                                          | 1        | V6                                          | ✓      | 72                                                                                                                            | Lat H-37 feet             |
| 1                                                                                                                                                                                                                                                                          | 1        | V6                                          | ✓      | 7                                                                                                                             | 20-22 feet LD002          |
| 1                                                                                                                                                                                                                                                                          | 1        | V6                                          | ✓      | 7                                                                                                                             | Nickels #1-M 93907, 93908 |
| 1                                                                                                                                                                                                                                                                          | 1        | V6                                          | ✓      | 7                                                                                                                             | 35-37 feet                |
| <div style="display: flex; justify-content: space-between;"> <div> <p>RELINQUISHED BY: (Signature)<br/>Jeffrey Knudsen</p> <p>RELINQUISHED BY: (Signature)</p> </div> <div> <p>RECEIVED BY: (Signature)<br/>Julie Diddle</p> <p>RECEIVED BY: (Signature)</p> </div> </div> |          |                                             |        |                                                                                                                               |                           |
| REQUESTED TURNAROUND TIME:<br><input type="checkbox"/> ROUTINE <input type="checkbox"/> RUSH                                                                                                                                                                               |          | DATE/TIME<br>09/21/95 1825                  |        | DATE/TIME<br>9/22/95 9:20                                                                                                     |                           |
| CARRIER CO.                                                                                                                                                                                                                                                                |          | DATE/TIME                                   |        | RECEIVED OF LABORATORY BY: (Signature)<br>Julie Diddle                                                                        |                           |
| BILL NO.:                                                                                                                                                                                                                                                                  |          | SAMPLE RECEIPT REMARKS                      |        | RESULTS & INVOICES TO:                                                                                                        |                           |
|                                                                                                                                                                                                                                                                            |          |                                             |        | <p>505-599-2144</p> <p>505-599-2261</p> <p>FAX: 505-599-2261</p>                                                              |                           |
|                                                                                                                                                                                                                                                                            |          |                                             |        | <p>FIELD SERVICES LABORATORY</p> <p>EL PASO NATURAL GAS COMPANY</p> <p>P. O. BOX 4990</p> <p>FARMINGTON, NEW MEXICO 87499</p> |                           |



## FIELD SERVICES LABORATORY

## ANALYTICAL REPORT

## PIT CLOSURE PROJECT - Soil Samples Inside the GWV Zone

## SAMPLE IDENTIFICATION

Field ID

Lab ID

SAMPLE NUMBER:

JWK79

947518

MTR CODE | SITE NAME:

LD002

Lat H-37 Drip Y-3

SAMPLE DATE | TIME (Hrs):

09-21-95

1030

PROJECT:

Phase II Drilling

DATE OF TPH EXT. | ANAL.:

9-22-95

DATE OF BTEX EXT. | ANAL.:

9/22/95

9/25/95

TYPE | DESCRIPTION:

V6

Dark brown sand &amp; clay

Field Remarks:

## RESULTS

| PARAMETER      | RESULT | UNITS | QUALIFIERS |   |      |       |
|----------------|--------|-------|------------|---|------|-------|
|                |        |       | DF         | Q | M(g) | V(ml) |
| BENZENE        | 0.9    | MG/KG |            |   |      |       |
| TOLUENE        | 2.7    | MG/KG |            |   |      |       |
| ETHYL BENZENE  | < 0.5  | MG/KG |            |   |      |       |
| TOTAL XYLENES  | < 1.5  | MG/KG |            |   |      |       |
| TOTAL BTEX     | 3.6    | MG/KG |            |   |      |       |
| TPH (418.1)    | 19     | MG/KG |            |   | 2.09 | 28    |
| HEADSPACE PID  | 72     | PPM   |            |   |      |       |
| PERCENT SOLIDS | 80.2   | %     |            |   |      |       |

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

The Surrogate Recovery was at

97%

for this sample All QA/QC was acceptable.

Narrative:

# QUALITY CONTROL REPORT

TPH by Modified 418.1 by Infrared

Date of Analysis: September 22, 1995

12 Pit Samples

## LABORATORY CONTROL SAMPLES: CALIBRATION CHECKS

| SAMPLE ID                                                 | SOURCE | TRUE VALUE (PPM) | FOUND (MG/KG) | %R  | ACCEPTABLE RANGE 75-125 %R<br>YES NO |
|-----------------------------------------------------------|--------|------------------|---------------|-----|--------------------------------------|
| INITIAL CALIBRATION VERIF.<br>"B" Heavy Oil (Lot M3G9616) | HORIBA | 300              | 306           | 102 | X                                    |

Narrative: Acceptable.

## LABORATORY DUPLICATES:

| SAMPLE NUMBER | TYPE        | SAMPLE RESULT (S)MG/KG | DUPLICATE RESULT (D)MG/KG | RPD  | ACCEPTABLE RANGE + / - 35%<br>YES NO |
|---------------|-------------|------------------------|---------------------------|------|--------------------------------------|
| 947506        | 2nd Extract | 619                    | 572                       | 7.9  | X                                    |
| 947509        | 2nd Extract | 750                    | 856                       | 13.2 | X                                    |

Narrative: Acceptable.

## LABORATORY SPIKES:

| SAMPLE NUMBER | SPIKE ADDED (SA)MG/KG | SAMPLE RESULT (S)MG/KG | SPIKE SAMPLE RESULT (SR)MG/KG | %R  | ACCEPTABLE RANGE 75-125 %R<br>YES NO |
|---------------|-----------------------|------------------------|-------------------------------|-----|--------------------------------------|
| 947506        | 2800                  | 619                    | 3820                          | 114 | X                                    |
| 947509        | 2510                  | 750                    | 3860                          | 124 | X                                    |

Narrative: Acceptable.

## REFERENCE SOIL (Laboratory Control Sample):

| SAMPLE ID                              | SOURCE                         | KNOWN VALUE (MG/KG) | SAMPLE RESULT FOUND (MG/KG) | MFG SPECIFIED RANGE | ACCEPTABLE<br>YES NO |
|----------------------------------------|--------------------------------|---------------------|-----------------------------|---------------------|----------------------|
| RA TPH STANDARD #1<br>OT # 91030       | ENVIRONMENTAL<br>RESOURCE ASS. | 2920                | 3110                        | 1900 - 3360         | X                    |
| RA TPH STANDARD #2 w/int<br>OT # 91030 | ENVIRONMENTAL<br>RESOURCE ASS. | 1150                | 1240                        | 750 - 1320          | X                    |

Narrative: Acceptable.

## LABORATORY REAGENT BLANK:

| SAMPLE ID                      | SOURCE   | TPH LEVEL (MG/KG) | STATUS     |
|--------------------------------|----------|-------------------|------------|
| Freon Solvent<br>Reagent Blank | EPNG Lab | < 10.0            | ACCEPTABLE |
|                                | EPNG Lab | < 10.0            | ACCEPTABLE |

Narrative: Acceptable.

Approved By:

*John L. Latta*

Date: 26-Sep-95

Extracted: 09/22/95



EL PASO NATURAL GAS - FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

Samples: 947503

Page 1 of 2

QA/QC for 9/22/95 Sample Set

LABORATORY CALIBRATION CHECKS, LABORATORY CONTROL SAMPLES:

| SAMPLE<br>NUMBER | TYPE     | EXPECTED<br>RESULT | ANALYTICAL<br>RESULT | %R    | ACCEPTABLE |    |
|------------------|----------|--------------------|----------------------|-------|------------|----|
| ICV LA-45473     |          | PPB                | PPB                  |       | YES        | NO |
| 50 PPB           |          |                    |                      |       | RANGE      |    |
| Benzene          | Standard | 50.0               | 46.9                 | 93.8  | 75 - 125 % | X  |
| Toluene          | Standard | 50.0               | 49.5                 | 99.0  | 75 - 125 % | X  |
| Ethyl benzene    | Standard | 50.0               | 50.1                 | 100.2 | 75 - 125 % | X  |
| m & p - Xylene   | Standard | 100                | 103                  | 102.6 | 75 - 125 % | X  |
| o - Xylene       | Standard | 50.0               | 51.6                 | 103.2 | 75 - 125 % | X  |
| SAMPLE<br>NUMBER | TYPE     | EXPECTED<br>RESULT | ANALYTICAL<br>RESULT | %R    | ACCEPTABLE |    |
| LCS LA-45476     |          | PPB                | PPB                  |       | YES        | NO |
| 25 PPB           |          |                    |                      |       | RANGE      |    |
| Benzene          | Standard | 25.0               | 26.9                 | 107.6 | 39 - 150   | X  |
| Toluene          | Standard | 25.0               | 29.0                 | 116.0 | 46 - 148   | X  |
| Ethyl benzene    | Standard | 25.0               | 27.4                 | 109.6 | 32 - 160   | X  |
| m & p - Xylene   | Standard | 50                 | 57                   | 113.2 | Not Given  | X  |
| o - Xylene       | Standard | 25.0               | 28.2                 | 112.8 | Not Given  | X  |
| SAMPLE<br>NUMBER | TYPE     | EXPECTED<br>RESULT | ANALYTICAL<br>RESULT | %R    | ACCEPTABLE |    |
| CCV LA-45473     |          | PPB                | PPB                  |       | YES        | NO |
| 50 PPB           |          |                    |                      |       | RANGE      |    |
| Benzene          | Standard | 50.0               | 49.9                 | 99.8  | 75 - 125 % | X  |
| Toluene          | Standard | 50.0               | 50.3                 | 100.6 | 75 - 125 % | X  |
| Ethyl benzene    | Standard | 50.0               | 48.8                 | 97.6  | 75 - 125 % | X  |
| m & p - Xylene   | Standard | 100                | 100                  | 99.7  | 75 - 125 % | X  |
| o - Xylene       | Standard | 50.0               | 50.1                 | 100.2 | 75 - 125 % | X  |

Narrative: Acceptable.

LABORATORY DUPLICATES:

| SAMPLE<br>NUMBER | TYPE                              | SAMPLE<br>RESULT | DUPLICATE<br>RESULT | RPD | ACCEPTABLE |    |
|------------------|-----------------------------------|------------------|---------------------|-----|------------|----|
| 947503           | (Analysis, Portion,<br>or Sample) | PPB              | PPB                 |     | YES        | NO |
|                  |                                   |                  |                     |     | RANGE      |    |
| Benzene          | 2nd Analysis                      | <2.5             | <2.5                | 0   | +/- 20 %   | X  |
| Toluene          | 2nd Analysis                      | <2.5             | <2.5                | 0   | +/- 20 %   | X  |
| Ethyl benzene    | 2nd Analysis                      | <2.5             | <2.5                | 0   | +/- 20 %   | X  |
| m & p - Xylene   | 2nd Analysis                      | <5.0             | <5.0                | 0   | +/- 20 %   | X  |
| o - Xylene       | 2nd Analysis                      | <2.5             | <2.5                | 0   | +/- 20 %   | X  |

Narrative: Acceptable.

EL PASO NATURAL GAS - FIELD SERVICES LAB

Page 2 of 2

QUALITY CONTROL REPORT  
EPA METHOD 8020 - BTEX  
Samples: 947503

LABORATORY SPIKES:

| SAMPLE<br>NUMBER       | SPIKE<br>ADDED | SAMPLE<br>RESULT | SPIKE<br>SAMPLE<br>RESULT | 2R  | ACCEPTABLE<br>YES NO |
|------------------------|----------------|------------------|---------------------------|-----|----------------------|
| 2nd Analysis<br>947503 | PPB            | PPB              | PPB                       |     | RANGE                |
| Benzene                | 50.0           | <2.5             | 51.0                      | 102 | 75 - 125 % X         |
| Toluene                | 50.0           | <2.5             | 49.8                      | 100 | 75 - 125 % X         |
| Ethyl benzene          | 50.0           | <2.5             | 48.4                      | 97  | 75 - 125 % X         |
| m & p - Xylene         | 100.0          | <5.0             | 98.7                      | 99  | 75 - 125 % X         |
| o - Xylene             | 50.0           | <2.5             | 51.3                      | 103 | 75 - 125 % X         |

Narrative: Acceptable.

ADDITIONAL ANALYTICAL BLANKS:

| SAMPLE ID<br>AUTO BLANK | SOURCE       | PPB  | STATUS     |
|-------------------------|--------------|------|------------|
| Benzene                 | Boiled Water | <2.5 | ACCEPTABLE |
| Toluene                 | Boiled Water | <2.5 | ACCEPTABLE |
| Ethyl benzene           | Boiled Water | <2.5 | ACCEPTABLE |
| Total Xylenes           | Boiled Water | <7.5 | ACCEPTABLE |

Narrative: Acceptable.

| SAMPLE ID<br>SOIL VIAL BLANK | SOURCE              | PPB  | STATUS     |
|------------------------------|---------------------|------|------------|
| Benzene                      | Vial + Boiled Water | <2.5 | ACCEPTABLE |
| Toluene                      | Vial + Boiled Water | <2.5 | ACCEPTABLE |
| Ethyl benzene                | Vial + Boiled Water | <2.5 | ACCEPTABLE |
| Total Xylenes                | Vial + Boiled Water | <7.5 | ACCEPTABLE |

Narrative: Acceptable.

REAGENT BLANKS:

| SAMPLE ID<br>BOILED WATER | SOURCE       | PPB  | STATUS |
|---------------------------|--------------|------|--------|
| Benzene                   | Boiled Water | <2.5 | NA     |
| Toluene                   | Boiled Water | <2.5 | NA     |
| Ethyl benzene             | Boiled Water | <2.5 | NA     |
| Total Xylenes             | Boiled Water | <7.5 | NA     |

Narrative: Acceptable.

| SAMPLE ID<br>METHANOL CHECK | SOURCE<br>Lot H18318 | PPB<br>(Not performed with this set) | STATUS |
|-----------------------------|----------------------|--------------------------------------|--------|
| Benzene                     | MeOH/Boiled Water    | <2.5                                 | NA     |
| Toluene                     | MeOH/Boiled Water    | <2.5                                 | NA     |
| Ethyl benzene               | MeOH/Boiled Water    | <2.5                                 | NA     |
| Total Xylenes               | MeOH/Boiled Water    | <7.5                                 | NA     |

Narrative: Acceptable.

Approved By:

*John Saville*

Date:

22-Sep-95

# MONITORING WELL INSTALLATION RECORD

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

Borehole # \_\_\_\_\_  
Well # \_\_\_\_\_  
Page \_\_\_\_\_ of \_\_\_\_\_

Project Name EPNG DRIP PITS

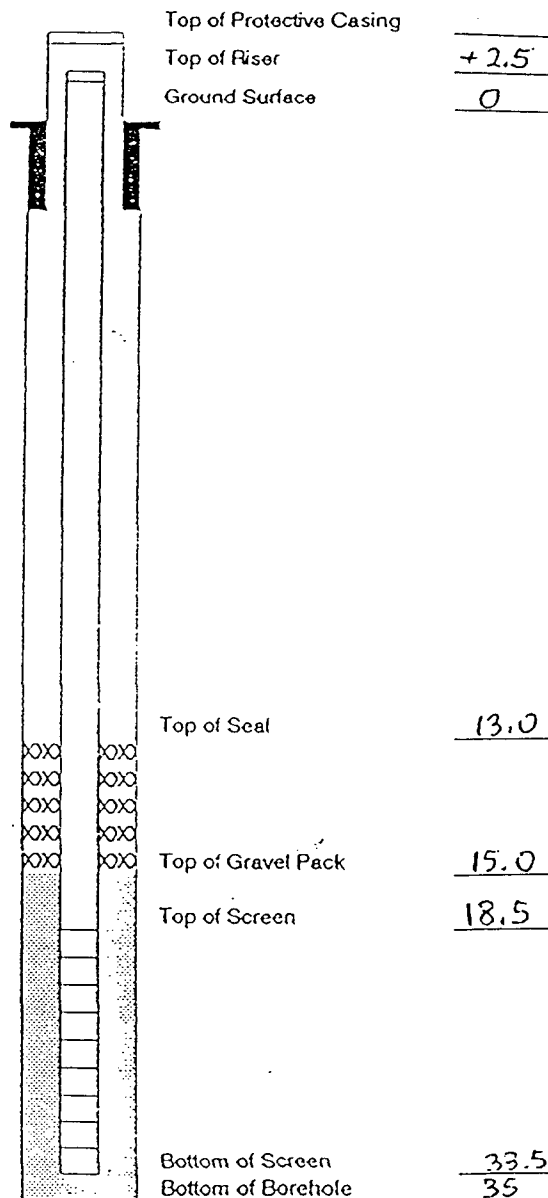
Project Number 14509 Phase 6000.77  
Project Location Lat H-37 DRIP Y-3  
F013113

On-Site Geologist J. Frey Kindley  
Personnel On-Site S. Snider, D. Roberts, J. Johnson  
Contractors On-Site \_\_\_\_\_  
Client Personnel On-Site \_\_\_\_\_

Elevation \_\_\_\_\_  
Well Location T31, R13, S1, F  
GWL Depth: \_\_\_\_\_  
Installed By S. Snider

Date/Time Started 09/21/95 1012  
Date/Time Completed 09/21/95 1350

| Depths in Reference to Ground Surface |                                          |       |                          |  |
|---------------------------------------|------------------------------------------|-------|--------------------------|--|
| Item                                  | Material                                 | Depth |                          |  |
| Top of Protective Casing              |                                          |       | Top of Protective Casing |  |
| Bottom of Protective Casing           |                                          |       | Top of Riser             |  |
| Top of Permanent Borehole Casing      |                                          |       | Ground Surface           |  |
| Bottom of Permanent Borehole Casing   |                                          |       |                          |  |
| Top of Concrete                       |                                          |       |                          |  |
| Bottom of Concrete                    |                                          |       |                          |  |
| Top of Grout                          | Cement Slurry                            | 5     |                          |  |
| Bottom of Grout                       | Cement Slurry                            | 13    |                          |  |
| Top of Well Riser                     | 4 inch schedule 40                       | +2.5  |                          |  |
| Bottom of Well Riser                  | PVC                                      | 18.5  |                          |  |
| Top of Well Screen                    | 4 inch .010 inch slot schedule 40 screen | 18.5  |                          |  |
| Bottom of Well Screen                 |                                          | 33.5  |                          |  |
| Top of Peltonite Seal                 | Enviroplug                               | 13    |                          |  |
| Bottom of Peltonite Seal              | "                                        | 15    |                          |  |
| Top of Gravel Pack                    | CS-1 1020 Silica Sand                    | 15    |                          |  |
| Bottom of Gravel Pack                 | "                                        | 33.5  |                          |  |
| Top of Natural Cave-In                |                                          | 33.5  |                          |  |
| Bottom of Natural Cave-In             |                                          | 35.0  |                          |  |
| Top of Groundwater                    |                                          | 15.0  |                          |  |
| Total Depth of Borehole               |                                          | 35.0  |                          |  |



Comments: \_\_\_\_\_

Geologist Signature

J. Frey Kindley

# MONITORING WELL INSTALLATION RECORD

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

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

Project Name EPNG PITS

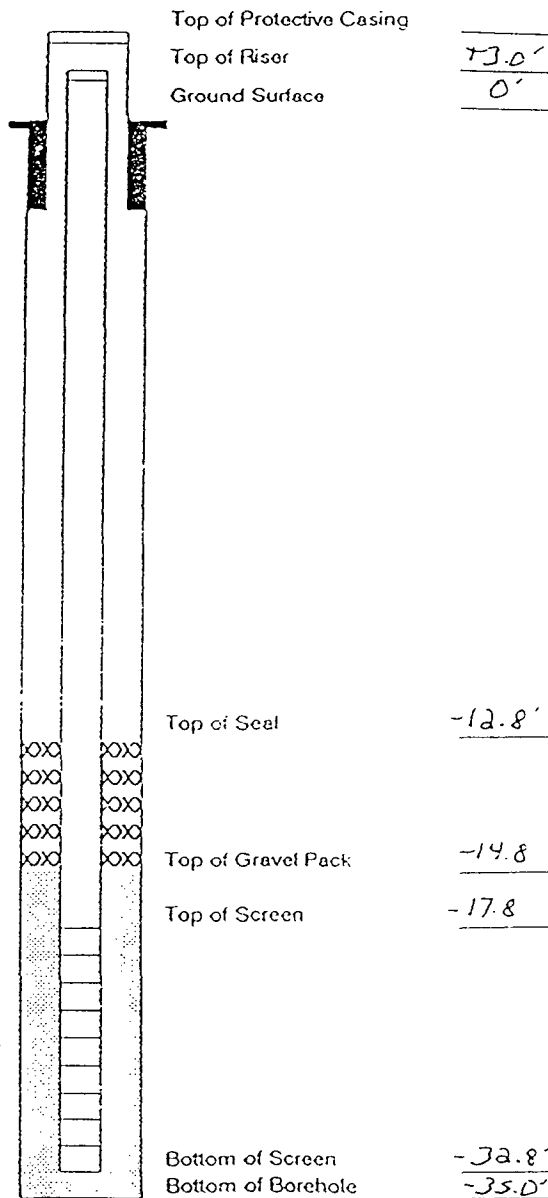
Project Number 14509 Phase 6001  
Project Location Lat H-37 Dip Y-3

Elevation \_\_\_\_\_  
Well Location QF-S1-T31-RJ2  
GWL Depth 34.5  
Installed By E. P. Miller

On-Site Geologist CM Chance  
Personnel On-Site E. P. Miller, P. L. Miller  
Contractors On-Site \_\_\_\_\_  
Client Personnel On-Site \_\_\_\_\_

Date/Time Started 12/11/95-1030  
Date/Time Completed 12/11/95-1230

| Depths in Reference to Ground Surface |                      |       |                          |               |
|---------------------------------------|----------------------|-------|--------------------------|---------------|
| Item                                  | Material             | Depth |                          |               |
| Top of Protective Casing              | 6" x 5' steel        |       | Top of Protective Casing | <u>73.0'</u>  |
| Bottom of Protective Casing           | Casing               |       | Top of Riser             | <u>73.0'</u>  |
| Top of Permanent Borehole Casing      |                      | NA    | Ground Surface           | <u>0'</u>     |
| Bottom of Permanent Borehole Casing   |                      | NA    |                          |               |
| Top of Concrete                       | Quicrete             | 1.3'  |                          |               |
| Bottom of Concrete                    | Cement Mix           | 0'    |                          |               |
| Top of Grout                          | 5% Bentonite         | 0'    |                          |               |
| Bottom of Grout                       | Cement slurry        | 12.8' |                          |               |
| Top of Well Riser                     | 4" Sch 40            | 13.0' |                          |               |
| Bottom of Well Riser                  | Flush Thread PVC     | 17.8' |                          |               |
| Top of Well Screen                    | 4" O.D. 1st Sch 40   | 17.8' |                          |               |
| Bottom of Well Screen                 | Flush Thread PVC     | 32.8' |                          |               |
| Top of Peltonite Seal                 | Enviroplug           | 12.8' | Top of Seal              | <u>-12.8'</u> |
| Bottom of Peltonite Seal              | Pellets              | 14.8' |                          |               |
| Top of Gravel Pack                    | 10-20 Grade Colorado | 14.8' | Top of Gravel Pack       | <u>-14.8'</u> |
| Bottom of Gravel Pack                 | Silica Sand          | 32.8' | Top of Screen            | <u>-17.8'</u> |
| Top of Natural Cave-In                |                      | 32.8' |                          |               |
| Bottom of Natural Cave-In             |                      | 35'   |                          |               |
| Top of Groundwater                    |                      | 34.5' |                          |               |
| Total Depth of Borehole               |                      | 35'   | Bottom of Screen         | <u>-32.8'</u> |
|                                       |                      |       | Bottom of Borehole       | <u>-35.0'</u> |



Comments: Well will be completed on later date. Bentonite hydrated w/ portable water

Geologist Signature CM Chance

# MONITORING WELL INSTALLATION RECORD

Philip Environmental Services, Corp.  
4000 Marine Blvd.  
Farmington, New Mexico 87401  
(505) 326-2262 FAX (505) 326-2000

Borehole # BH-3  
Well # MLW-3  
Page 1 of 1

Project Name EPNG PITS

Project Number 14509 Phase 6001  
Project Location Lat H-37 Dip Y-3

On-Site Geologist CM Chance  
Personnel On-Site E. Rivera, L. Phillips  
Contractors On-Site \_\_\_\_\_  
Well Personnel On-Site \_\_\_\_\_

Elevation \_\_\_\_\_  
Well Location QF-S1-T31-R13  
GWL Depth 24.5'  
Installed By R. P. Hall

Date/Time Started 10/11/95 - 1410  
Date/Time Completed 12/11/95 - 1630

| Depths in Reference to Ground Surface |                       |              |                          |               |
|---------------------------------------|-----------------------|--------------|--------------------------|---------------|
| Item                                  | Material              | Depth        |                          |               |
| Top of Protective Casing              | 6" x 5' steel         |              | Top of Protective Casing |               |
| Bottom of Protective Casing           | Casing                |              | Top of Riser             | <u>+3'</u>    |
| Top of Permanent Borehole Casing      |                       | NA           | Ground Surface           | <u>0'</u>     |
| Bottom of Permanent Borehole Casing   |                       | NA           |                          |               |
| Top of Concrete                       | Quicrete              | <u>+3'</u>   |                          |               |
| Bottom of Concrete                    | Cement Mix            | <u>0'</u>    |                          |               |
| Top of Grout                          | 5% Bentonite          | <u>0'</u>    |                          |               |
| Bottom of Grout                       | Cement slurry         | <u>12'</u>   |                          |               |
| Top of Well Floor                     | 4" Sch 40             | <u>+3'</u>   |                          |               |
| Bottom of Well Floor                  | Flush Thread PVC      | <u>17'</u>   |                          |               |
| Top of Well Screen                    | 4" O.D. 1 slot Sch 40 | <u>17'</u>   |                          |               |
| Bottom of Well Screen                 | Flush Thread PVC      | <u>32'</u>   | Top of Seal              | <u>-12.0'</u> |
| Top of Peltonite Seal                 | Enviroplug            | <u>12'</u>   |                          |               |
| Bottom of Peltonite Seal              | Pellets               | <u>14'</u>   | Top of Gravel Pack       | <u>-14.0'</u> |
| Top of Gravel Pack                    | 10-20 Grade Colorado  | <u>14'</u>   | Top of Screen            | <u>-17.0'</u> |
| Bottom of Gravel Pack                 | Silica Sand           | <u>32'</u>   |                          |               |
| Top of Natural Cave-In                |                       | <u>32'</u>   |                          |               |
| Bottom of Natural Cave-In             |                       | <u>35'</u>   |                          |               |
| Top of Groundwater                    |                       | <u>24.5'</u> | Bottom of Screen         | <u>-32.0'</u> |
| Total Depth of Borehole               |                       | <u>35'</u>   | Bottom of Borehole       | <u>-35.0'</u> |

Comments: Bearpige hydrated w/potable water. Well will be completed on later date

Geologist Signature

Chris CD.

# MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp.  
4000 Marmon Road  
Farmington, New Mexico 87401  
Phone: 326-2262 FAX: 326-2368

Borehole # BH-4  
Well # MW-4  
Page 1 of 1

Project Name EPNG PITS

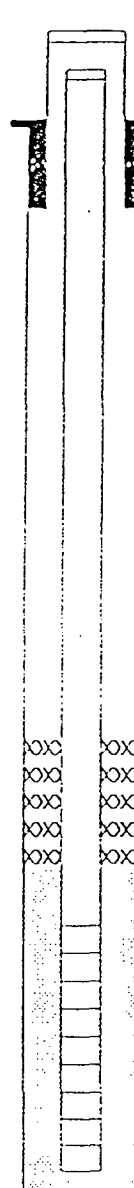
Project Number 14509 Phase 6001  
Project Location Lar H-37 Drip Y-3

Elevation \_\_\_\_\_  
Well Location Q.F.-S1-T31-R13  
GWL Depth \_\_\_\_\_  
Installed By K. Padilla

On-Site Geologist C.M. Chance  
Personnel On-Site F. Rivera  
Contractors On-Site \_\_\_\_\_  
Client Personnel On-Site \_\_\_\_\_

Date/Time Started 12/12/95 - 1430  
Date/Time Completed 12/12/95 - 1700

| Depths in Reference to Ground Surface |                      |        |  |  |
|---------------------------------------|----------------------|--------|--|--|
| Item                                  | Material             | Depth  |  |  |
| Top of Protective Casing              | 6" X 5' steel        |        |  |  |
| Bottom of Protective Casing           | Casing               |        |  |  |
| Top of Permanent Borehole Casing      |                      | NA     |  |  |
| Bottom of Permanent Borehole Casing   |                      | NA     |  |  |
| Top of Concrete                       | Quicrete             |        |  |  |
| Bottom of Concrete                    | Cement Mix           |        |  |  |
| Top of Grout                          | 5% Bentonite         | 0'     |  |  |
| Bottom of Grout                       | Cement slurry        | -13.3' |  |  |
| Top of Well Riser                     | 4" Sch 40            | +3.0'  |  |  |
| Bottom of Well Riser                  | Flush Thread PVC     | -18.3' |  |  |
| Top of Well Screen                    | 4" O.D. slot Sch 40  | -18.3' |  |  |
| Bottom of Well Screen                 | Flush Thread PVC     | -33.3' |  |  |
| Top of Peltonite Seal                 | Enviroplug           | -13.3' |  |  |
| Bottom of Peltonite Seal              | Pellets              | -15.3' |  |  |
| Top of Gravel Pack                    | 10-20 Grade Colorado | -15.3' |  |  |
| Bottom of Gravel Pack                 | Silica Sand          | -33.3' |  |  |
| Top of Natural Cave-In                |                      | -33.3' |  |  |
| Bottom of Natural Cave-In             |                      | -35'   |  |  |
| Top of Groundwater                    |                      |        |  |  |
| Total Depth of Borehole               |                      | -35'   |  |  |



Top of Protective Casing

Top of Riser +3.0'

Ground Surface 0'

Top of Seal -13.3'

Top of Gravel Pack -15.3'

Top of Screen -18.3'

Bottom of Screen -33.3'

Bottom of Borehole -35.0'

Comments: Well will be completed on later date. Bentonite hydrated w/ potable water.

Geologist Signature

Cory Chance

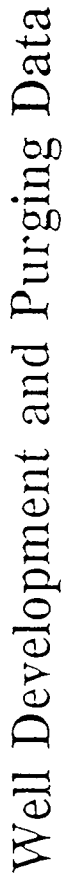
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# **GROUNDWATER ANALYSIS**

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# Well Development and Purging Data

☒ Development  
☐ Purging

Well Number MW-1

Serial No. WDPD-

Page 1 of 1

Project Name EPNG Pits

Project Manager CM Chance

Project No.

Project No. 14509

Client Company: EPWG

2

Site Name Lag H-37 Drive Y-3

Site Address QF-51-T31-R13

Phase Task No. 6003 : 77

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 34.1' TOR

Initial Depth to Water (feet) 27.34' T D 4

Height of Water Column in Well (feet) 6.77

|                    |      |    |             |
|--------------------|------|----|-------------|
| Diameter (inches): | Well | 4' | Gravel Pack |
|--------------------|------|----|-------------|

## Methods of Development

Pump  
Bailer

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

☐ Other

## Water Disposal

## Water Removal Data

[illegible]

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

Comments \*Bailed dry. (AFire 5 gal, 7.5 gal, 10 gal) Wait 15 min after 7.5 gal to let wall recharge.

Let well recharge + sampler. Ending depth to water taken after sample collection

Developer's Signature(s) Cory Chan

Date 9/29/95

## Reviewer

Date \_\_\_\_\_





# Water Sampling Data

Location No. \_\_\_\_\_

Serial No. WSD-

Group List Number \_\_\_\_\_

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other \_\_\_\_\_ Date 9/29/95Project Name EPNG Pits Project No. 14509Project Manager CM Chance Phase/Task No. 6003 .77Site Name Lat H-37 Drip Y-3 QF-SI-TJ1-R13

## Sampling Specifications

Requested Sampling

Depth Interval (feet) Upper 3'

Requested Wait Following

Development/Purging (hours) NA

## Initial Measurements

Time Elapsed From Final Development/Purging (hours) .5 hrInitial Water Depth (feet) 27.24'Nonaqueous Liquids Present (Describe) None

## Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

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

## Sample Containers

Preservatives: H = HCl; N = HNO<sub>3</sub>; S = H<sub>2</sub>SO<sub>4</sub>; A = NaOH; O = Other (Specify); -- = None

| Analytical<br>Parameter List | Container |      |             | Field<br>Filtered |    | Preserved | Cooled<br>During<br>Collection |    | Comments     |
|------------------------------|-----------|------|-------------|-------------------|----|-----------|--------------------------------|----|--------------|
|                              | Number    | Type | Volume (mL) | Yes               | No |           | Yes                            | No |              |
| BTEX                         | 2         | V    | 40          |                   | ✓  | HCL, 4°C  | ✓                              |    | CMC 125 1305 |
| TDS                          | 1         | P    | 250         |                   | ✓  | 4°C       | ✓                              |    | CMC 125 1305 |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |
|                              |           |      |             |                   |    |           |                                |    |              |

Filter Type NA Chain-of-Custody Form Number EPNG CDCComments No odor or visible product in G.W. Samples sent to EPNG  
lab for analysisSignature CM Chance Date 9/29/95 Reviewer \_\_\_\_\_ Date \_\_\_\_\_

**PHILIP** Well Development and Purging Data  
TECHNOLOGICAL

M.W.-O!

Well Number

☒ Development  
☐ Purging

Serial No. WDPD.

10-1 added

Project Name ENV, P, T's

Project Manager Co.Y Chavez

Client Company El Paso Natural Gas

Page 1003 77

Site Name Lat 14-37 Drip Y-3 (F013113)

Site Address: T31, R13, Sec 1, Unit F

Development Criteria

Instruments

~~3~~ 3 to Casing Volumes of Water Removal

☒ pH Meter HYDAC

## ☐ Stabilization of Indicator Parameters

DO Monitor

☐ Other

Initial Depth to Water (feet) 26.89  
Height of Water Column in Well (feet) 9.41

Height of Water Column in Well (feet) 9.41

Height of Water Column in Well (feet) 9.41

## Methods of Development

Diameter (inches): Well 4 Gravel Pack

8ailler

|  | Water Volume in Well | Gallons to be |
|--|----------------------|---------------|
|  |                      |               |

Central

☐ Centrifugal ☒ Bottom Valve

☐ Submersible

☐ Submersible

☐ Double Check Valve

☐ Peristaltic ☐ Stainless-steel Kemmerer

□ 0 1 2 3 4 5 6 7 8 9

## Water Disposal

Demanded & Transferred to KUTZ Separation  
in 600mf12-0

## Water Removal Data

[illegible]

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

Comments bailed dry after 5 gal 10 gal. 4.4.15

Developer's Signature(s)

Korei Callahan

Date 12/14/95

Reviewer \_\_\_\_\_ Date \_\_\_\_\_



# Water Sampling Data

Location No. MW-01Serial No. WSD-Group List Number Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other Date 12/14/95Project Name EPNS PITSProject No. 14509Project Manager Cory ChancePhase/Task No. 6003 77Site Name Lat H-37 Drip Y-3 (F013) (F013113)

## Sampling Specifications

Requested Sampling

Depth Interval (feet) 10.3'

Requested Wait Following

Development/Purging (hours) -

## Initial Measurements

Time Elapsed From Final Development/Purging (min) 5Initial Water Depth (feet) 26.89Nonaqueous Liquids Present (Describe) NA

## Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

| Date     | Time | Sampler Initials | Water Quality Readings |    |              |                         | Water Collection Data          |                              |                                   |      |                                   | Notes<br>(Explain in<br>Comments Below) |
|----------|------|------------------|------------------------|----|--------------|-------------------------|--------------------------------|------------------------------|-----------------------------------|------|-----------------------------------|-----------------------------------------|
|          |      |                  | Temp.<br>(°C)          | pH | DO<br>(mg/L) | Cond.<br>(µmhos/<br>cm) | Volume<br>Removed<br>(gallons) | Removal<br>Rate<br>(gal/min) | Pump<br>Intake<br>Depth<br>(feet) | Bail | Final<br>Water<br>Depth<br>(feet) |                                         |
| SEE WELL |      | development      |                        |    |              |                         |                                |                              |                                   |      |                                   | i purging data sheet                    |
|          |      |                  |                        |    |              |                         |                                |                              |                                   |      |                                   |                                         |
|          |      |                  |                        |    |              |                         |                                |                              |                                   |      |                                   |                                         |
|          |      |                  |                        |    |              |                         |                                |                              |                                   |      |                                   |                                         |

## Sample Containers

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

Preservatives: H = HCl; N = HNO<sub>3</sub>; S = H<sub>2</sub>SO<sub>4</sub>; A = NaOH; O = Other (Specify); - = None

| Analytical<br>Parameter List | Container |      |             | Field<br>Filtered |    | Preserved | Cooled<br>During<br>Collection |    | Comments   |
|------------------------------|-----------|------|-------------|-------------------|----|-----------|--------------------------------|----|------------|
|                              | Number    | Type | Volume (mL) | Yes               | No |           | Yes                            | No |            |
| BTEX                         | 2         | G    | 40          |                   | X  | H         | X                              |    | IAE KRG-13 |
| DBS, Gen Chem<br>Nitrates    | 1         | P    | 250         |                   | X  |           | X                              |    | T 1145     |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |
|                              |           |      |             |                   |    |           |                                |    |            |

Filter Type NAChain-of-Custody Form Number EPNG COCComments Signature Karen GallacherDate 12/14/95Reviewer  Date

## Well Development and Purging Data

~~Excluded~~  
Excluded

NW-02

1999-2000

101

Project Name *Low P, P, P*Project Manager Cory ChavezClient Company Per Paso Natural S23

10003.77

File Name Lat H-37 Drip Y-3 (F013113)

File Address T31, R13, Sec 1 Unit F

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 37.1

Partial Description of Water (feet) 3613

| Height of Water Column in Well (feet) | 10,98 |
|---------------------------------------|-------|
| 10,98                                 |       |

Diameter (inches): Well 4 Gravel Pack:           

CONFIDENTIAL

Z Temperature 100°C HYDAC

2000-01-01

[illegible]

Water Disposal:

Document is referred to KUTZ  
10/2/2011

## Water Removal Data

[illegible]

While the data indicate that the development criteria are met,

## Comments

(5) unavailability, reduction,

Kaw Gallaher

1111 12/14/95



Location No. MW-02

March 1950 1950

Group List Member

Sample Type: ☒ Groundwater ☐ Surface Water ☐ Other:

Date 12/14/95

By your Honor: EPNG P.T.S

Project No. 14509Project Manager Cory ChazellePhase Task No. 6003 . 77

Lat H-37 Drip Y-3 (F013113)

### Sampling Specifications:

### Initial Measurements

1. *Chlorophyll a* and *Chlorophyll b* contents were determined by spectrophotometry using the method of Lichtenthaler and Whaley (1987).

... in interval (foot)      To ( 3

... and the following

replenishment/charging (hours) —

June 14, 1964, from land Development/Purging (1964) 10

United States District Court 26.12

|                                      |    |
|--------------------------------------|----|
| Nonaqueous Liquid Present (Describe) | NA |
|--------------------------------------|----|

## Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

[illegible]

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

Preservatives: H = HCl; N = HNO<sub>3</sub>; S = H<sub>2</sub>SO<sub>4</sub>; A = NaOH; O = Other (Specify); — = None

## Sample Containers

[illegible]

Filter Type NA

Chain-of-Custody Form Number EPNG COC

## Comments

Signature Karen Gallaker

Date 12/14/95

Reviewer \_\_\_\_\_ Date \_\_\_\_\_







## Well Development and Purging Data

11/11/11

—

0-2000

23

... address T31 P. 13, Sec. 1, Unit 1

### Water Volume Calculation

371

1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819

Initial Depth to Water (feet) 27.1

✓ Diaper (jacob): Well Gravel Bed

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

|           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |       |
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| 1984-1985 | 1986-1987 | 1988-1989 | 1990-1991 | 1992-1993 | 1994-1995 | 1996-1997 | 1998-1999 | 2000-2001 | 2002-2003 | 2004-2005 | 2006-2007 | 2008-2009 | 2010-2011 | 2012-2013 | 2014-2015 | 2016-2017 | 2018-2019 | 2020-2021 | 2022-2023 | 2024-2025 | 2026-2027 | 2028-2029 | 2030-2031 | 2032-2033 | 2034-2035 | 2036-2037 | 2038-2039 | 2040-2041 | 2042-2043 | 2044-2045 | 2046-2047 | 2048-2049 | 2050-2051 | 2052-2053 | 2054-2055 | 2056-2057 | 2058-2059 | 2060-2061 | 2062-2063 | 2064-2065 | 2066-2067 | 2068-2069 | 2070-2071 | 2072-2073 | 2074-2075 | 2076-2077 | 2078-2079 | 2080-2081 | 2082-2083 | 2084-2085 | 2086-2087 | 2088-2089 | 2090-2091 | 2092-2093 | 2094-2095 | 2096-2097 | 2098-2099 | 2100-2101 | 2102-2103 | 2104-2105 | 2106-2107 | 2108-2109 | 2110-2111 | 2112-2113 | 2114-2115 | 2116-2117 | 2118-2119 | 2120-2121 | 2122-2123 | 2124-2125 | 2126-2127 | 2128-2129 | 2130-2131 | 2132-2133 | 2134-2135 | 2136-2137 | 2138-2139 | 2140-2141 | 2142-2143 | 2144-2145 | 2146-2147 | 2148-2149 | 2150-2151 | 2152-2153 | 2154-2155 | 2156-2157 | 2158-2159 | 2160-2161 | 2162-2163 | 2164-2165 | 2166-2167 | 2168-2169 | 2170-2171 | 2172-2173 | 2174-2175 | 2176-2177 | 2178-2179 | 2180-2181 | 2182-2183 | 2184-2185 | 2186-2187 | 2188-2189 | 2190-2191 | 2192-2193 | 2194-2195 | 2196-2197 | 2198-2199 | 2200-2201 | 2202-2203 | 2204-2205 | 2206-2207 | 2208-2209 | 2210-2211 | 2212-2213 | 2214-2215 | 2216-2217 | 2218-2219 | 2220-2221 | 2222-2223 | 2224-2225 | 2226-2227 | 2228-2229 | 2230-2231 | 2232-2233 | 2234-2235 | 2236-2237 | 2238-2239 | 2240-2241 | 2242-2243 | 2244-2245 | 2246-2247 | 2248-2249 | 2250-2251 | 2252-2253 | 2254-2255 | 2256-2257 | 2258-2259 | 2260-2261 | 2262-2263 | 2264-2265 | 2266-2267 | 2268-2269 | 2270-2271 | 2272-2273 | 2274-2275 | 2276-2277 | 2278-2279 | 2280-2281 | 2282-2283 | 2284-2285 | 2286-2287 | 2288-2289 | 2290-2291 | 2292-2293 | 2294-2295 | 2296-2297 | 2298-2299 | 2300-2301 | 2302-2303 | 2304-2305 | 2306-2307 | 2308-2309 | 2310-2311 | 2312-2313 | 2314-2315 | 2316-2317 | 2318-2319 | 2320-2321 | 2322-2323 | 2324-2325 | 2326-2327 | 2328-2329 | 2330-2331 | 2332-2333 | 2334-2335 | 2336-2337 | 2338-2339 | 2340-2341 | 2342-2343 | 2344-2345 | 2346-2347 | 2348-2349 | 2350-2351 | 2352-2353 | 2354-2355 | 2356-2357 | 2358-2359 | 2360-2361 | 2362-2363 | 2364-2365 | 2366-2367 | 2368-2369 | 2370-2371 | 2372-2373 | 2374-2375 | 2376-2377 | 2378-2379 | 2380-2381 | 2382-2383 | 2384-2385 | 2386-2387 | 2388-2389 | 2390-2391 | 2392-2393 | 2394-2395 | 2396-2397 | 2398-2399 | 2400-2401 | 2402-2403 | 2404-2405 | 2406-2407 | 2408-2409 | 2410-2411 | 2412-2413 | 2414-2415 | 2416-2417 | 2418-2419 | 2420-2421 | 2422-2423 | 2424-2425 | 2426-2427 | 2428-2429 | 2430-2431 | 2432-2433 | 2434-2435 | 2436-2437 | 2438-2439 | 2440-2441 | 2442-2443 | 2444-2445 | 2446-2447 | 2448-2449 | 2450-2451 | 2452-2453 | 2454-2455 | 2456-2457 | 2458-2459 | 2460-2461 | 2462-2463 | 2464-2465 | 2466-2467 | 2468-2469 | 2470-2471 | 2472-2473 | 2474-2475 | 2476-2477 | 2478-2479 | 2480-2481 | 2482-2483 | 2484-2485 | 2486-2487 | 2488-2489 | 2490-2491 | 2492-2493 | 2494-2495 | 2496-2497 | 2498-2499 | 2500-2501 | 2502-2503 | 2504-2505 | 2506-2507 | 2508-2509 | 2510-2511 | 2512-2513 | 2514-2515 | 2516-2517 | 2518-2519 | 2520-2521 | 2522-2523 | 2524-2525 | 2526-2527 | 2528- |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|

| Cubic Feet | Gallons |
|------------|---------|
| (ftm)      |         |

|             |   |   |
|-------------|---|---|
| Well Casing | 7 | 8 |
|-------------|---|---|

|            |  |
|------------|--|
| Grave Pack |  |
|------------|--|

12560-110

[illegible]

...the data need time that the development criteria are met.

simulacrum

Developer's Signature(s) Karen Gallaher

DATE 12/14/95

One





# Water Sampling Data

Location No. MW-04Serial No. WSD

Group List Number

Sample Type: ☒ Groundwater ☐ Surface Water ☐ OtherDate 12/14/95Project Name EPNS PITSProject No. 14509Project Manager Cory ChapplePhase/Task No. 6003 77Site Name Lat H-37 Drip Y-3 (FO13113)

## Sampling Specifications

Requested Sampling

Depth Interval (feet) 0 to 3'

Requested Well Following

Development/Purging (hours) —

## Initial Measurements

Time Elapsed from Well Development/Purging min 10

Initial Water Depth (feet)

27.11Nonaqueous Liquids Present (Describe) NA

## Water Quality/Water Collection

DO = Dissolved Oxygen; Cond. = Conductivity

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

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

Preservatives: H = HCl; N = HNO<sub>3</sub>; S = H<sub>2</sub>SO<sub>4</sub>; A = NaOH; O = Other (Specify); — = None

## Sample Containers

| Analytical<br>Parameter List  | Container |      |             | Field<br>Filtered |    | Preserved | Cooled<br>During<br>Collection |    | Comments   |
|-------------------------------|-----------|------|-------------|-------------------|----|-----------|--------------------------------|----|------------|
|                               | Number    | Type | Volume (ml) | Yes               | No |           | Yes                            | No |            |
| BTEX                          | 2         | G    | 40          |                   | ✓  | H         | X                              |    | JAL KBG-14 |
| TDS, 4°C Chloride<br>NITRATES | 1         | P    | 250         |                   | X  |           | X                              |    | T 1300     |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |
|                               |           |      |             |                   |    |           |                                |    |            |

er Type NAChain-of-Custody Form Number EPNG COC

Comments

Signature Kare GallaherDate 12/14/95

Reviewer

Date



**Natural Gas Company**

## CHAIN OF CUSTODY RECORD

[illegible]



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT  
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960340                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-1 |
| SAMPLE DATE   TIME (Hrs):  | 4/15/96                | 1218                   |
| PROJECT:                   | Sample 4 - 1st Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 4/17/96                | 4/17/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | 93.0   | PPB   | 10         | D |  |  |
| TOLUENE       | < 10   | PPB   | 10         | D |  |  |
| ETHYL BENZENE | 73.4   | PPB   | 10         | D |  |  |
| TOTAL XYLENES | 228    | PPB   | 10         | D |  |  |
| TOTAL BTEX    | 394    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 87.5 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: \_\_\_\_\_

4/19/96 & 8/7/97

# EPFS

## EL PASO FIELD SERVICES

### Field Services Laboratory Analytical Report

#### SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPNG LAB ID:        | 960340                  |
| DATE SAMPLED:       | 04/15/96                |
| TIME SAMPLED (Hrs): | 1218                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-1 |

FIELD REMARKS: \_\_\_\_\_

#### GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                           | RESULT | UNITS            | DATE ANALYZED |
|-------------------------------------|--------|------------------|---------------|
| pH                                  | 7.4    | Units            | 04/16/96      |
| Alkalinity as CO <sub>3</sub>       | 0      | PPM              | 04/16/96      |
| Alkalinity as HCO <sub>3</sub>      | 577    | PPM              | 04/16/96      |
| Calcium as Ca                       | 194    | PPM              | 04/16/96      |
| Magnesium as Mg                     | 44     | PPM              | 04/16/96      |
| Total Hardness as CaCO <sub>3</sub> | 626    | PPM              | 04/16/96      |
| Chloride as Cl                      | 52     | PPM              | 04/16/96      |
| Sulfate as SO <sub>4</sub>          | 1,020  | PPM              | 04/16/96      |
| Fluoride as F                       | 1.3    | PPM              | 04/16/96      |
| Nitrate as NO <sub>3</sub> -N       | <0.6   | PPM              | 04/16/96      |
| Potassium as K                      | 0.6    | PPM              | 04/16/96      |
| Sodium as Na                        | 388    | PPM              | 04/16/96      |
| Total Dissolved Solids              | 1,990  | PPM              | 04/16/96      |
| Conductivity                        | 2,350  | umhos/cm         | 04/16/96      |
| Anion/Cation %                      | 3.3%   | %, <5.0 Accepted | 04/16/96      |

Lab Remarks: \_\_\_\_\_

Reported By: mh

Approved By: John L. Linder

Date: 4/19/96

# **EPFS**

## **EL PASO FIELD SERVICES**

### FIELD SERVICES LABORATORY ANALYTICAL REPORT

#### SAMPLE IDENTIFICATION

|                    |                         |
|--------------------|-------------------------|
| SAMPLE NUMBER:     | 960340                  |
| LOCATION:          | Aztec Pipeline          |
| SAMPLE SITE:       | Lat. H-37 Drip Y-3 MW-1 |
| METER CODE:        | LD002                   |
| SAMPLE DATE:       | 04/15/96                |
| SAMPLE TIME (Hrs): | 1218                    |
| SAMPLED BY:        | D. Bird                 |

REMARKS: \_\_\_\_\_

#### RESULTS

| PARAMETER | TOTAL<br>RESULT<br>(mg/L) | N. M. WQCC<br>LIMIT<br>(mg/L) |
|-----------|---------------------------|-------------------------------|
| ARSENIC   | <0.025                    | 0.100                         |
| BARIUM    | <0.5                      | 1.00                          |
| CADMIUM   | <0.0005                   | 0.010                         |
| CHROMIUM  | <0.001                    | 0.050                         |
| LEAD      | <0.004                    | 0.050                         |
| MERCURY   | <0.00024                  | 0.002                         |
| SELENIUM  | <0.005                    | 0.050                         |
| SILVER    | <0.0004                   | 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 7080A, Barium (Atomic Absorption, Direct Aspiration), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.  
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: ml

Approved By: John L. Lachar

Date: 10/5/96

# EPFS

## EL PASO FIELD SERVICES

### QUALITY CONTROL REPORT

Sample ID: 960320 to 960323, 960325 to 960327, 960330 to 960334,  
960340 to 960343, 960350 to 960353, 960355 to 960356,  
960370 to 960373, and 960375 to 960378, 960380 & 960386

Date Reported: 05/10/96

#### TOTAL METALS

#### LABORATORY CONTROL SAMPLE

| Analyte  | Found Value<br>(µg/L) | Known Value<br>(µg/L) | % Recovery |
|----------|-----------------------|-----------------------|------------|
| Arsenic  | 26.2                  | 27.0                  | 97%        |
| Barium   | 309                   | 315                   | 98%        |
| Cadmium  | 3.06                  | 2.90                  | 106%       |
| Chromium | 7.09                  | 6.70                  | 106%       |
| Lead     | 35.9                  | 39.5                  | 91%        |
| Mercury  | 1.79                  | 1.75                  | 102%       |
| Selenium | 36.7                  | 31.0                  | 118%       |
| Silver   | 3.16                  | 3.06                  | 103%       |

#### LABORATORY CONTROL SAMPLE (2nd run)

| Analyte  | Found Value<br>(µg/L) | Known Value<br>(µg/L) | % Recovery |
|----------|-----------------------|-----------------------|------------|
| Arsenic  | NA                    | NA                    | NA         |
| Barium   | NA                    | NA                    | NA         |
| Cadmium  | 2.76                  | 2.90                  | 95%        |
| Chromium | 7.34                  | 6.70                  | 110%       |
| Lead     | 35.9                  | 39.5                  | 91%        |
| Mercury  | 1.71                  | 1.75                  | 98%        |
| Selenium | NA                    | NA                    | NA         |
| Silver   | NA                    | NA                    | NA         |

NA: Not Applicable. A second run was not required.

# **EPFS**

## **EL PASO FIELD SERVICES**

### QUALITY CONTROL REPORT

#### TOTAL METALS, DUPLICATE ANALYSIS

SAMPLE ID: 960321

| Analyte  | Original Sample Result (µg/L) | Duplicate Sample Result (µg/L) | % RPD |
|----------|-------------------------------|--------------------------------|-------|
| Arsenic  | ND                            | ND                             | NA    |
| Barium   | ND                            | ND                             | NA    |
| Cadmium  | ND                            | ND                             | NA    |
| Chromium | 1.65                          | 1.61                           | 2.5%  |
| Lead     | 2.3                           | 2.1                            | 8.2%  |
| Mercury  | ND                            | ND                             | NA    |
| Selenium | ND                            | ND                             | NA    |
| Silver   | ND                            | ND                             | NA    |

SAMPLE ID: 960343

| Analyte  | Original Sample Result (µg/L) | Duplicate Sample Result (µg/L) | % RPD |
|----------|-------------------------------|--------------------------------|-------|
| Arsenic  | ND                            | ND                             | NA    |
| Barium   | ND                            | ND                             | NA    |
| Cadmium  | ND                            | ND                             | NA    |
| Chromium | 1.14                          | 1.28                           | 11.6% |
| Lead     | 2.4                           | 2.1                            | 11.7% |
| Mercury  | ND                            | ND                             | NA    |
| Selenium | ND                            | ND                             | NA    |
| Silver   | ND                            | ND                             | NA    |

SAMPLE ID: 960375

| Analyte  | Original Sample Result (µg/L) | Duplicate Sample Result (µg/L) | % RPD |
|----------|-------------------------------|--------------------------------|-------|
| Arsenic  | ND                            | ND                             | NA    |
| Barium   | 1.15                          | 1.12                           | 2.6%  |
| Cadmium  | 0.56                          | 0.55                           | 1.8%  |
| Chromium | 29.1                          | 29.0                           | 0.3%  |
| Lead     | 12.1                          | 13.3                           | 9.4%  |
| Mercury  | ND                            | ND                             | NA    |
| Selenium | ND                            | ND                             | NA    |
| Silver   | ND                            | ND                             | NA    |

ND: Analyte Not Detected at stated detection level.

NA: Not Applicable.



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT  
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960341                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-2 |
| SAMPLE DATE   TIME (Hrs):  | 4/15/96                | 1238                   |
| PROJECT:                   | Sample 4 - 1st Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 4/17/96                | 4/17/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1    | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3    | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.7 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By:

*John Ladd*

Date:

4/19/96 + 8/7/97



# EPFS

## EL PASO FIELD SERVICES

### FIELD SERVICES LABORATORY ANALYTICAL REPORT

#### SAMPLE IDENTIFICATION

|                        |                         |
|------------------------|-------------------------|
| SAMPLE NUMBER:         | 960341                  |
| SITE NAME:             | Aztec Pipeline          |
| SAMPLE SITE:           | Lat. H-37 Drip Y-3 MW-2 |
| SAMPLE DATE:           | 04/15/96                |
| SAMPLE TIME (Hrs):     | 1238                    |
| SAMPLED BY:            | D. Bird                 |
| DATE OF BTEX ANALYSIS: | 04/17/96                |
| SAMPLE TYPE:           | Water                   |

Int# LD002

REMARKS:

#### EPA Method 8020 (BTEX) RESULTS

| PARAMETER            | RESULT<br>PPB | QUALIFIER                    | WQCC<br>LIMIT<br>PPB |
|----------------------|---------------|------------------------------|----------------------|
| BENZENE              | <1            |                              | 10                   |
| TOLUENE              | <1            |                              | 740                  |
| ETHYL BENZENE        | <1            |                              | 750                  |
| TOTAL XYLENES        | <3            |                              | 620                  |
| SURROGATE % RECOVERY | 99.7          | Allowed Range<br>80 to 120 % |                      |

NOTES:

# EPFS

## EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

### SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPNG LAB ID:        | 960341                  |
| DATE SAMPLED:       | 04/15/96                |
| TIME SAMPLED (Hrs): | 1238                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-2 |

FIELD REMARKS: \_\_\_\_\_

### GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                           | RESULT | UNITS            | DATE ANALYZED |
|-------------------------------------|--------|------------------|---------------|
| pH                                  | 7.7    | Units            | 04/16/96      |
| Alkalinity as CO <sub>3</sub>       | 0      | PPM              | 04/16/96      |
| Alkalinity as HCO <sub>3</sub>      | 356    | PPM              | 04/16/96      |
| Calcium as Ca                       | 205    | PPM              | 04/16/96      |
| Magnesium as Mg                     | 50     | PPM              | 04/16/96      |
| Total Hardness as CaCO <sub>3</sub> | 678    | PPM              | 04/16/96      |
| Chloride as Cl                      | 52     | PPM              | 04/16/96      |
| Sulfate as SO <sub>4</sub>          | 1,225  | PPM              | 04/16/96      |
| Fluoride as F                       | 1.1    | PPM              | 04/16/96      |
| Nitrate as NO <sub>3</sub> -N       | <0.6   | PPM              | 04/16/96      |
| Potassium as K                      | <0.1   | PPM              | 04/16/96      |
| Sodium as Na                        | 417    | PPM              | 04/16/96      |
| Total Dissolved Solids              | 2,190  | PPM              | 04/16/96      |
| Conductivity                        | 2,610  | umhos/cm         | 04/16/96      |
| Anion/Cation %                      | 0.6%   | %, <5.0 Accepted | 04/16/96      |

Lab Remarks:

Reported By:

*mh*

Approved By:

*[Signature]*

Date:

*4/19/96*

# EPFS

## EL PASO FIELD SERVICES

### FIELD SERVICES LABORATORY ANALYTICAL REPORT

#### SAMPLE IDENTIFICATION

|                    |                         |
|--------------------|-------------------------|
| SAMPLE NUMBER:     | 960341                  |
| LOCATION:          | Aztec Pipeline          |
| SAMPLE SITE:       | Lat. H-37 Drip Y-3 MW-2 |
| METER CODE:        | LD002                   |
| SAMPLE DATE:       | 04/15/96                |
| SAMPLE TIME (Hrs): | 1238                    |
| SAMPLED BY:        | D. Bird                 |

REMARKS: \_\_\_\_\_

#### RESULTS

| PARAMETER | TOTAL<br>RESULT<br>(mg/L) | N. M. WQCC<br>LIMIT<br>(mg/L) |
|-----------|---------------------------|-------------------------------|
| ARSENIC   | <0.025                    | 0.100                         |
| BARIUM    | <0.5                      | 1.00                          |
| CADMIUM   | <0.0005                   | 0.010                         |
| CHROMIUM  | <0.001                    | 0.050                         |
| LEAD      | <0.004                    | 0.050                         |
| MERCURY   | <0.00024                  | 0.002                         |
| SELENIUM  | <0.005                    | 0.050                         |
| SILVER    | <0.0004                   | 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 7080A, Barium (Atomic Absorption, Direct Aspiration), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
- 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, EPA, 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.



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960342                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-3 |
| SAMPLE DATE   TIME (Hrs):  | 4/15/96                | 1418                   |
| PROJECT:                   | Sample 4 - 1st Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 4/17/96                | 4/17/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative: \_\_\_\_\_

Approved By: John Linder

Date: 4-19-96 + 8-7-97

# **EPFS**

## **EL PASO FIELD SERVICES**

### **Field Services Laboratory Analytical Report**

#### **SAMPLE IDENTIFICATION**

|                     |                         |
|---------------------|-------------------------|
| EPNG LAB ID:        | 960342                  |
| DATE SAMPLED:       | 04/15/96                |
| TIME SAMPLED (Hrs): | 1418                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-3 |

FIELD REMARKS:

#### **GENERAL CHEMISTRY WATER ANALYSIS RESULTS**

| PARAMETER                         | RESULT | UNITS            | DATE ANALYZED |
|-----------------------------------|--------|------------------|---------------|
| pH                                | 7.8    | Units            | 04/16/96      |
| Alkalinity as $\text{CO}_3$       | 0      | PPM              | 04/16/96      |
| Alkalinity as $\text{HCO}_3$      | 339    | PPM              | 04/16/96      |
| Calcium as Ca                     | 147    | PPM              | 04/16/96      |
| Magnesium as Mg                   | 43     | PPM              | 04/16/96      |
| Total Hardness as $\text{CaCO}_3$ | 513    | PPM              | 04/16/96      |
| Chloride as Cl                    | 48     | PPM              | 04/16/96      |
| Sulfate as $\text{SO}_4$          | 1,064  | PPM              | 04/16/96      |
| Fluoride as F                     | 1.2    | PPM              | 04/16/96      |
| Nitrate as $\text{NO}_3\text{-N}$ | <0.6   | PPM              | 04/16/96      |
| Potassium as K                    | 0.5    | PPM              | 04/16/96      |
| Sodium as Na                      | 415    | PPM              | 04/16/96      |
| Total Dissolved Solids            | 1,940  | PPM              | 04/16/96      |
| Conductivity                      | 2,410  | umhos/cm         | 04/16/96      |
| Anion/Cation %                    | 0.4%   | %, <5.0 Accepted | 04/16/96      |

Remarks:

# **EPFS**

## **EL PASO FIELD SERVICES**

### **FIELD SERVICES LABORATORY ANALYTICAL REPORT**

#### **SAMPLE IDENTIFICATION**

|                    |                         |
|--------------------|-------------------------|
| SAMPLE NUMBER:     | 960342                  |
| LOCATION:          | Aztec Pipeline          |
| SAMPLE SITE:       | Lat. H-37 Drip Y-3 MW-3 |
| METER CODE:        | LD002                   |
| SAMPLE DATE:       | 04/15/96                |
| SAMPLE TIME (Hrs): | 1418                    |
| SAMPLED BY:        | D. Bird                 |

REMARKS: \_\_\_\_\_

#### **RESULTS**

| PARAMETER | TOTAL<br>RESULT<br>(mg/L) | N. M. WQCC<br>LIMIT<br>(mg/L) |
|-----------|---------------------------|-------------------------------|
| ARSENIC   | <0.025                    | 0.100                         |
| BARIUM    | <0.5                      | 1.00                          |
| CADMIUM   | <0.0005                   | 0.010                         |
| CHROMIUM  | <0.001                    | 0.050                         |
| LEAD      | <0.004                    | 0.050                         |
| MERCURY   | <0.00024                  | 0.002                         |
| SELENIUM  | <0.005                    | 0.050                         |
| SILVER    | <0.0004                   | 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 7080A, Barium (Atomic Absorption, Direct Aspiration), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
- 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 7455, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, Sept., 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.

**MEMORANDUM**

**To:** John Lambdin

**Date:** May 8, 1996

**From:** Dennis Bird

**Place:** Laboratory Services

**Subject:** Aztec Pipeline Pit Monitor Wells

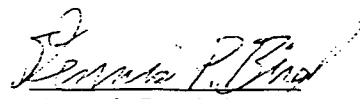
On Monday, April 15, 1996, I went to the Aztec Pipeline and sampled the following pit monitor wells. The following analytical parameters are to be performed on these groundwater samples: BTXE, 8 RCRA Metals, General Chemistry to include Nitrate as NO3 and Dissolved Oxygen. The samples were assigned the laboratory numbers 960340 to 960343. The dissolved oxygen results were taken at the time of sampling with a ChemMets kit. The Field Service Laboratory will be performing all of the analysis.

The following information was collected on each well.

|     | Well<br>Name       | Monitor<br>Well# | Pipe<br>ID | Static<br>Level | Total<br>Depth | Gallons<br>Bailed | Dissolved<br>Oxygen |
|-----|--------------------|------------------|------------|-----------------|----------------|-------------------|---------------------|
| 340 | Lat. H-37 Drip Y-3 | MW-1             | 4"         | 26.71'          | 36.30'         | 10.0              | 4.0 ppm             |
| 341 | Lat. H-37 Drip Y-3 | MW-2             | 4"         | 25.95'          | 37.10'         | 25.0              | 2.0 ppm             |
| 342 | Lat. H-37 Drip Y-3 | MW-3             | 4"         | 25.61'          | 35.70'         | 22.0              | 2.0 ppm             |
| 343 | Lat. H-37 Drip Y-3 | MW-4             | 4"         | 26.95'          | 37.60'         | 23.0              | 2.0 ppm             |

All bailing and sampling was done with disposable, one time use equipment and bottles. All samples were preserved on ice immediately after collection. The static level and total depth was measured from the top of the pipe.

Should you have any question or comments, please let me know.

  
Dennis P. Bird

cc: Nancy Prince  
Sandra Miller



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT  
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 960343                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-4 |
| SAMPLE DATE   TIME (Hrs):  | 4/15/96                | 1445                   |
| PROJECT:                   | Sample 4 - 1st Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 4/17/96                | 4/17/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By:

*John Ladin*

Date:

4/19/96 + 8/7/97



Sample 4-1 Qh

# **EPFS**

## **EL PASO FIELD SERVICES**

### **FIELD SERVICES LABORATORY ANALYTICAL REPORT**

#### **SAMPLE IDENTIFICATION**

SAMPLE NUMBER: 960343  
SITE NAME: Aztec Pipeline  
SAMPLE SITE: Lat. H-37 Drip Y-3 MW-4  
SAMPLE DATE: 04/15/96  
SAMPLE TIME (Hrs): 1445  
SAMPLED BY: D. Bird  
DATE OF BTEX ANALYSIS: 04/17/96  
SAMPLE TYPE: Water

Wtr # LD002

REMARKS:

#### **EPA Method 8020 (BTEX) RESULTS**

| PARAMETER            | RESULT<br>PPB | QUALIFIER                    | WQCC<br>LIMIT<br>PPB |
|----------------------|---------------|------------------------------|----------------------|
| BENZENE              | <1            |                              | 10                   |
| TOLUENE              | <1            |                              | 740                  |
| ETHYL BENZENE        | <1            |                              | 750                  |
| TOTAL XYLENES        | <3            |                              | 620                  |
| SURROGATE % RECOVERY | 101           | Allowed Range<br>80 to 120 % |                      |

OTES:

# EPFS

## EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

### SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPNG LAB ID:        | 960343                  |
| DATE SAMPLED:       | 04/15/96                |
| TIME SAMPLED (Hrs): | 1445                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-4 |

FIELD REMARKS:

### GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                         | RESULT | UNITS            | DATE ANALYZED |
|-----------------------------------|--------|------------------|---------------|
| pH                                | 7.7    | Units            | 04/16/96      |
| Alkalinity as $\text{CO}_3$       | 0      | PPM              | 04/16/96      |
| Alkalinity as $\text{HCO}_3$      | 369    | PPM              | 04/16/96      |
| Calcium as Ca                     | 221    | PPM              | 04/16/96      |
| Magnesium as Mg                   | 51     | PPM              | 04/16/96      |
| Total Hardness as $\text{CaCO}_3$ | 718    | PPM              | 04/16/96      |
| Chloride as Cl                    | 56     | PPM              | 04/16/96      |
| Sulfate as $\text{SO}_4$          | 1,361  | PPM              | 04/16/96      |
| Fluoride as F                     | 1.1    | PPM              | 04/16/96      |
| Nitrate as $\text{NO}_3\text{-N}$ | <0.6   | PPM              | 04/16/96      |
| Potassium as K                    | <0.1   | PPM              | 04/16/96      |
| Sodium as Na                      | 454    | PPM              | 04/16/96      |
| Total Dissolved Solids            | 2,380  | PPM              | 04/16/96      |
| Conductivity                      | 2,870  | umhos/cm         | 04/16/96      |
| Anion/Cation %                    | 1.5%   | %, <5.0 Accepted | 04/16/96      |

ab Remarks:

Reported By:

mh

Approved By:

*Valerie L. Smith*

Date:

4/19/96

# EPFS

## EL PASO FIELD SERVICES

### FIELD SERVICES LABORATORY ANALYTICAL REPORT

#### SAMPLE IDENTIFICATION

|                    |                         |
|--------------------|-------------------------|
| SAMPLE NUMBER:     | 960343                  |
| LOCATION:          | Aztec Pipeline          |
| SAMPLE SITE:       | Lat. H-37 Drip Y-3 MW-4 |
| METER CODE:        | LD002                   |
| SAMPLE DATE:       | 04/15/96                |
| SAMPLE TIME (Hrs): | 1445                    |
| SAMPLED BY:        | D. Bird                 |

REMARKS: \_\_\_\_\_

#### RESULTS

| PARAMETER | TOTAL<br>RESULT<br>(mg/L) | N. M. WQCC<br>LIMIT<br>(mg/L) |
|-----------|---------------------------|-------------------------------|
| ARSENIC   | <0.025                    | 0.100                         |
| BARIUM    | <0.5                      | 1.00                          |
| CADMIUM   | <0.0005                   | 0.010                         |
| CHROMIUM  | <0.001                    | 0.050                         |
| LEAD      | <0.004                    | 0.050                         |
| MERCURY   | <0.00024                  | 0.002                         |
| SELENIUM  | <0.005                    | 0.050                         |
| SILVER    | <0.0004                   | 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 7080A, Barium (Atomic Absorption, Direct Aspiration), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.
- 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, 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.



# EL PASO FIELD SERVICES



## FIELD SERVICES LABORATORY

### ANALYTICAL REPORT

### PIT CLOSURE PROJECT

#### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 970061                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-2 |
| SAMPLE DATE   TIME (Hrs):  | 2/4/97                 | 1250                   |
| PROJECT:                   | Sample 4 - 4th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 2/6/97                 | 2/6/97                 |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

#### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

—BTEX is by EPA Method 8020—

The Surrogate Recovery was at 97.3 % for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By:

Date:

2-14-97



# EL PASO FIELD SERVICES



## FIELD SERVICES LABORATORY

### ANALYTICAL REPORT PIT CLOSURE PROJECT

#### SAMPLE IDENTIFICATION

|                           | Field ID               | Lab ID                 |
|---------------------------|------------------------|------------------------|
| SAMPLE NUMBER:            | N/A                    | 970062                 |
| MTR CODE   SITE NAME:     | LD002                  | Lat H-37 Drip Y-3 MW-3 |
| SAMPLE DATE   TIME (Hrs): | 2/4/97                 | 1358                   |
| PROJECT:                  | Sample 4 - 4th Quarter |                        |
| DATE OF BTEX EXT.   ANAL: | 2/6/97                 | 2/6/97                 |
| TYPE   DESCRIPTION:       | Monitor Well           | Water                  |

Field Remarks:

#### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

—BTEX is by EPA Method 8020—

Surrogate Recovery was at 93.5 % for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

Narrative:

Approved By:

Date: 2-14-97



# EL PASO FIELD SERVICES



## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 970063                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-4 |
| SAMPLE DATE   TIME (Hrs):  | 2/4/97                 | 1501                   |
| PROJECT:                   | Sample 4 - 4th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 2/6/97                 | 2/6/97                 |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

—BTEX is by EPA Method 8020—

he Surrogate Recovery was at 95.4 % for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

narrative:

pproved By:

Date:

2-14-97



Well Number 4W-1  
Meter Code 2002

Site Name LAT. H-37 ORIP Y-3

|                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

Initial Depth of Well (feet) 36.3  
Initial Depth to Water (feet) 27.8  
Height of Water Column in Well (feet) 8.5

Diameter (inches): Well 4" Gravel Pack

|                          |                    |                                                          |
|--------------------------|--------------------|----------------------------------------------------------|
| <input type="checkbox"/> | <b>Pump</b>        | <b>Baller</b>                                            |
| <input type="checkbox"/> | <b>Centrifugal</b> | <input checked="" type="checkbox"/> <b>Bottom Valve</b>  |
| <input type="checkbox"/> | <b>Submersible</b> | <input type="checkbox"/> <b>Double Check Valve</b>       |
| <input type="checkbox"/> | <b>Peristaltic</b> | <input type="checkbox"/> <b>Stainless-steel Kemmerer</b> |

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

## Water Disposal

KUTZ SEPARATOR

[illegible]

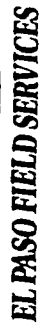
| Comments                 |
|--------------------------|
| BALCO DRK @ 6.0 GALLONS. |

Developer's Signature Dennis Bird

Date 2-4-97 Reviewer

*Handwritten signature*

Date 2-14-97



Date 2-14-97





EL PASO FIELD SERVICES

## Well Development and Purging Data

Site Name LAT. H-37 ORIP Y-3

Well Number MW-2

Meter Code L0002

☐ Development  
☒ Purging

### Development Criteria

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

### Methods of Development

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

### Water Volume Calculation

Initial Depth of Well (feet) 3210  
Initial Depth to Water (feet) 2691  
Height of Water Column in Well (feet) 519  
Diameter (Inches): Well 4 Gravel Pack \_\_\_\_\_

| Item            | Water Volume in Well |            | Gallons to be Removed |
|-----------------|----------------------|------------|-----------------------|
|                 | Cubic Feet           | Gallons    |                       |
| Well Casing     |                      | <u>6.7</u> | <u>28.2</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) |            | pH   | Conductivity $\mu\text{mho/cm}$ | Dissolved Oxygen mg/L | Comments |
|--------|------|--------------------|--------|------------------------|---------------------|---------------------------|----------------------------|------------|----------------------------------|------------|------|---------------------------------|-----------------------|----------|
|        |      | Pump               | Ballor |                        |                     |                           | Increment                  | Cumulative | Increment                        | Cumulative |      |                                 |                       |          |
| 2-4-97 | 1033 |                    |        |                        |                     |                           |                            |            |                                  |            | 7.8  | 2840                            |                       |          |
| 2-4-97 | 1041 |                    |        |                        |                     |                           | 5.0                        | 5.0        |                                  |            | 7.9  | 2610                            |                       |          |
| 2-4-97 | 1049 |                    |        |                        |                     |                           | 5.0                        | 10.0       |                                  |            | 6.80 | 2700                            |                       |          |
| 2-4-97 | 1059 |                    |        |                        |                     |                           | 5.0                        | 15.0       |                                  |            | 7.08 | 2580                            |                       |          |
| 2-4-97 | 1106 |                    |        |                        |                     |                           | 5.0                        | 20.0       |                                  |            | 6.97 | 2720                            |                       |          |
| 2-4-97 | 1115 |                    |        |                        |                     |                           | 5.0                        | 25.0       |                                  |            | 7.01 | 2710                            | 1.0                   |          |
|        |      |                    |        |                        |                     |                           |                            |            |                                  |            |      |                                 |                       |          |
|        |      |                    |        |                        |                     |                           |                            |            |                                  |            |      |                                 |                       |          |
|        |      |                    |        |                        |                     |                           |                            |            |                                  |            |      |                                 |                       |          |
|        |      |                    |        |                        |                     |                           |                            |            |                                  |            |      |                                 |                       |          |
|        |      |                    |        |                        |                     |                           |                            |            |                                  |            |      |                                 |                       |          |
|        |      |                    |        |                        |                     |                           |                            |            |                                  |            |      |                                 |                       |          |

Comments \_\_\_\_\_

Developer's Signature \_\_\_\_\_

Lennin Bird

Date 2-4-97 Reviewer \_\_\_\_\_

John Feller

Date 2-14-97



Well Number MW-3  
Meter Code 2002

Site Name LOT. H-37 DRIP Y-3

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

| Pump                                 | Baller                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

Other ☐

Initial Depth of Well (feet) 35.70  
Initial Depth to Water (feet) 26.58  
Height of Water Column in Well (feet) 9.12

Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume in Well |         |  | Gallons to be Removed |
|-----------------|----------------------|---------|--|-----------------------|
|                 | Cubic Feet           | Gallons |  |                       |
| Well Casing     |                      | 6.0     |  | 18.1                  |
| Gravel Pack     |                      |         |  |                       |
| Drilling Fluids |                      |         |  |                       |
| Total           |                      |         |  |                       |

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

## Water Disposal

KUTZ SEPARATES

[illegible]

### Comments

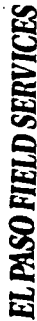
**Developer's Signature**

Date 2-4-97

Reviewer

John F. Hall

Date 2-14-57



Well Number MW-4  
Meter Code LD002

Site Name LAT. H-37 DRIP Y-3

## Development Criteria

- |                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

## Methods of Development

- |                          |                          |                                     |                          |
|--------------------------|--------------------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Pump                     | Centrifugal              | Baller                              | Bottom Valve             |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Double Check Valve       |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | Stainless-steel Kemmerer |

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 37.60  
Initial Depth to Water (feet) 22.91  
Height of Water Column in Well (feet) 9.69

Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume In Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 6.4     | 19.3                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

**Developer's Signature:**

Date 2-4-91

Reviewer

Date 2-14-97

[illegible]



# EL PASO FIELD SERVICES



5-9-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

|                            | Field ID     | Lab ID                  |
|----------------------------|--------------|-------------------------|
| SAMPLE NUMBER:             | N/A          | 970341                  |
| MTR CODE   SITE NAME:      | LD002        | Lat. H-37 Drip Y-3 MW-1 |
| SAMPLE DATE   TIME (Hrs):  | 4/23/97      | 1229                    |
| PROJECT:                   | Sample 4     | 5th Quarter             |
| DATE OF BTEX EXT.   ANAL.: | 4/24/97      | 4/24/97                 |
| TYPE   DESCRIPTION:        | Monitor Well | Water                   |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1.0  | PPB   |            |   |  |  |
| TOLUENE       | < 1.0  | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1.0  | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3.0  | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6.0  | PPB   |            |   |  |  |

The Surrogate Recovery was at 82.4 % for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

narrative:

Approved By:

*John L. Ladd*

Date:

5/6/97



5-9-97

Field Services Laboratory

Analytical Report

### SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPFS LAB ID:        | 970341                  |
| DATE SAMPLED:       | 04/23/97                |
| TIME SAMPLED (Hrs): | 1229                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| METER CODE:         | LD002                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-1 |

FIELD REMARKS:

### GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                                | RESULT | UNITS            | DATE ANALYZED |
|------------------------------------------|--------|------------------|---------------|
| Laboratory pH                            | 7.6    | Units            | 04/25/97      |
| Alkalinity as CO <sub>3</sub>            | 0      | PPM              | 04/25/97      |
| Alkalinity as HCO <sub>3</sub>           | 443    | PPM              | 04/25/97      |
| Calcium as Ca                            | 194    | PPM              | 04/25/97      |
| Magnesium as Mg                          | 51     | PPM              | 04/25/97      |
| Total Hardness as CaCO <sub>3</sub>      | 696    | PPM              | 04/25/97      |
| Chloride as Cl                           | 53     | PPM              | 04/24/97      |
| Sulfate as SO <sub>4</sub>               | 1,230  | PPM              | 04/24/97      |
| Fluoride as F                            | 1.2    | PPM              | 04/25/97      |
| Nitrate as NO <sub>3</sub> -N            | <0.6   | PPM              | 04/24/97      |
| Nitrite as NO <sub>2</sub> -N            | <0.6   | PPM              | 04/24/97      |
| Ammonium as NH <sub>4</sub> <sup>+</sup> | <0.2   | PPM              | 04/25/97      |
| Phosphate as PO <sub>4</sub>             | <0.6   | PPM              | 04/24/97      |
| Potassium as K                           | 10.7   | PPM              | 04/25/97      |
| Sodium as Na                             | 467    | PPM              | 04/25/97      |
| Total Dissolved Solids                   | 2,290  | PPM              | 04/25/97      |
| Calculated TDS                           | 2,225  | PPM              | 04/25/97      |
| Conductivity                             | 2,960  | umhos/cm         | 04/25/97      |
| Anion/Cation %                           | 0.1%   | %, <5.0 Accepted | 04/28/97      |

b Remarks:



# EL PASO FIELD SERVICES



5-9-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

|                            | Field ID     | Lab ID                  |
|----------------------------|--------------|-------------------------|
| SAMPLE NUMBER:             | N/A          | 970342                  |
| MTR CODE   SITE NAME:      | LD002        | Lat. H-37 Drip Y-3 MW-2 |
| SAMPLE DATE   TIME (Hrs):  | 4/23/97      | 1247                    |
| PROJECT:                   | Sample 4     | 5th Quarter             |
| DATE OF BTEX EXT.   ANAL.: | 4/24/97      | 4/24/97                 |
| TYPE   DESCRIPTION:        | Monitor Well | Water                   |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1.0  | PPB   |            |   |  |  |
| TOLUENE       | < 1.0  | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1.0  | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3.0  | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6.0  | PPB   |            |   |  |  |

he Surrogate Recovery was at 90.8 % for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

narrative:

pproved By:

Date:

5/6/97



Field Services Laboratory

Analytical Report

5-9-97

SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPFS LAB ID:        | 970342                  |
| DATE SAMPLED:       | 04/23/97                |
| TIME SAMPLED (Hrs): | 1247                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| METER CODE:         | LD002                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-2 |

FIELD REMARKS:

GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                         | RESULT | UNITS             | DATE ANALYZED |
|-----------------------------------|--------|-------------------|---------------|
| Laboratory pH                     | 7.7    | Units             | 04/25/97      |
| Alkalinity as $\text{CO}_3$       | 0      | PPM               | 04/25/97      |
| Alkalinity as $\text{HCO}_3$      | 360    | PPM               | 04/25/97      |
| Calcium as Ca                     | 183    | PPM               | 04/25/97      |
| Magnesium as Mg                   | 45     | PPM               | 04/25/97      |
| Total Hardness as $\text{CaCO}_3$ | 642    | PPM               | 04/25/97      |
| Chloride as Cl                    | 51     | PPM               | 04/24/97      |
| Sulfate as $\text{SO}_4$          | 1,130  | PPM               | 04/24/97      |
| Fluoride as F                     | 1.1    | PPM               | 04/25/97      |
| Nitrate as $\text{NO}_3\text{-N}$ | <0.6   | PPM               | 04/24/97      |
| Nitrite as $\text{NO}_2\text{-N}$ | <0.6   | PPM               | 04/24/97      |
| Ammonium as $\text{NH}_4^+$       | <0.2   | PPM               | 04/25/97      |
| Phosphate as $\text{PO}_4$        | <0.6   | PPM               | 04/24/97      |
| Potassium as K                    | 0.2    | PPM               | 04/25/97      |
| Sodium as Na                      | 419    | PPM               | 04/25/97      |
| Total Dissolved Solids            | 2,080  | PPM               | 04/25/97      |
| Calculated TDS                    | 2,007  | PPM               | 04/25/97      |
| Conductivity                      | 2,750  | umhos/cm          | 04/25/97      |
| Anion/Cation %                    | 0.2%   | %, < 5.0 Accepted | 04/28/97      |

b Remarks:

0 0 8.0

11.1





# EL PASO FIELD SERVICES



5-9-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

|                            |              |                         |
|----------------------------|--------------|-------------------------|
|                            | Field ID     | Lab ID                  |
| SAMPLE NUMBER:             | N/A          | 970343                  |
| MTR CODE   SITE NAME:      | LD002        | Lat. H-37 Drip Y-3 MW-3 |
| SAMPLE DATE   TIME (Hrs):  | 4/23/97      | 1503                    |
| PROJECT:                   | Sample 4     | 5th Quarter             |
| DATE OF BTEX EXT.   ANAL.: | 4/24/97      | 4/24/97                 |
| TYPE   DESCRIPTION:        | Monitor Well | Water                   |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1.0  | PPB   |            |   |  |  |
| TOLUENE       | < 1.0  | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1.0  | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3.0  | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6.0  | PPB   |            |   |  |  |

The Surrogate Recovery was at 92.6 % for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By:

*John S. Sellen*

Date:

5/6/97



5-9-97

Field Services Laboratory

Analytical Report

### SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPFS LAB ID:        | 970343                  |
| DATE SAMPLED:       | 04/23/97                |
| TIME SAMPLED (Hrs): | 1503                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| METER CODE:         | LD002                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-3 |

FIELD REMARKS:

### GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                                | RESULT | UNITS            | DATE ANALYZED |
|------------------------------------------|--------|------------------|---------------|
| Laboratory pH                            | 7.8    | Units            | 04/25/97      |
| Alkalinity as CO <sub>3</sub>            | 0      | PPM              | 04/25/97      |
| Alkalinity as HCO <sub>3</sub>           | 349    | PPM              | 04/25/97      |
| Calcium as Ca                            | 176    | PPM              | 04/25/97      |
| Magnesium as Mg                          | 49     | PPM              | 04/25/97      |
| Total Hardness as CaCO <sub>3</sub>      | 642    | PPM              | 04/25/97      |
| Chloride as Cl                           | 49     | PPM              | 04/24/97      |
| Sulfate as SO <sub>4</sub>               | 1,170  | PPM              | 04/24/97      |
| Fluoride as F                            | 1.1    | PPM              | 04/25/97      |
| Nitrate as NO <sub>3</sub> -N            | <0.6   | PPM              | 04/24/97      |
| Nitrite as NO <sub>2</sub> -N            | <0.6   | PPM              | 04/24/97      |
| Ammonium as NH <sub>4</sub> <sup>+</sup> | <0.2   | PPM              | 04/25/97      |
| Phosphate as PO <sub>4</sub>             | <0.6   | PPM              | 04/24/97      |
| Potassium as K                           | 0.2    | PPM              | 04/25/97      |
| Sodium as Na                             | 426    | PPM              | 04/25/97      |
| Total Dissolved Solids                   | 2,120  | PPM              | 04/25/97      |
| Calculated TDS                           | 2,044  | PPM              | 04/25/97      |
| Conductivity                             | 2,770  | umhos/cm         | 04/25/97      |
| Anion/Cation %                           | 0.3%   | %, <5.0 Accepted | 04/28/97      |

Lab Remarks:

*Handwritten signature*

*Handwritten initials*



# EL PASO FIELD SERVICES



5-9-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

|                            | Field ID             | Lab ID                  |
|----------------------------|----------------------|-------------------------|
| SAMPLE NUMBER:             | N/A                  | 970344                  |
| MTR CODE   SITE NAME:      | LD002                | Lat. H-37 Drip Y-3 MW-4 |
| SAMPLE DATE   TIME (Hrs):  | 4/23/97              | 1522                    |
| PROJECT:                   | Sample 4 5th Quarter |                         |
| DATE OF BTEX EXT.   ANAL.: | 4/24/97              | 4/24/97                 |
| TYPE   DESCRIPTION:        | Monitor Well         | Water                   |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1.0  | PPB   |            |   |  |  |
| TOLUENE       | < 1.0  | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1.0  | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3.0  | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6.0  | PPB   |            |   |  |  |

he Surrogate Recovery was at 89.5 % for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

narrative:

pproved By:

*John Smith*

Date:

4/6/97



5-9-97

Field Services Laboratory

Analytical Report

### SAMPLE IDENTIFICATION

|                     |                         |
|---------------------|-------------------------|
| EPFS LAB ID:        | 970344                  |
| DATE SAMPLED:       | 04/23/97                |
| TIME SAMPLED (Hrs): | 1522                    |
| SAMPLED BY:         | D. Bird                 |
| MATRIX:             | Water                   |
| METER CODE:         | LD002                   |
| SAMPLE SITE NAME:   | Aztec Pipeline          |
| SAMPLE POINT:       | Lat. H-37 Drip Y-3 MW-4 |

FIELD REMARKS:

### GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER                                | RESULT | UNITS            | DATE ANALYZED |
|------------------------------------------|--------|------------------|---------------|
| Laboratory pH                            | 7.8    | Units            | 04/25/97      |
| Alkalinity as CO <sub>3</sub>            | 0      | PPM              | 04/25/97      |
| Alkalinity as HCO <sub>3</sub>           | 371    | PPM              | 04/25/97      |
| Calcium as Ca                            | 150    | PPM              | 04/25/97      |
| Magnesium as Mg                          | 34     | PPM              | 04/25/97      |
| Total Hardness as CaCO <sub>3</sub>      | 513    | PPM              | 04/25/97      |
| Chloride as Cl                           | 48     | PPM              | 04/24/97      |
| Sulfate as SO <sub>4</sub>               | 993    | PPM              | 04/24/97      |
| Fluoride as F                            | 1.0    | PPM              | 04/25/97      |
| Nitrate as NO <sub>3</sub> -N            | <0.6   | PPM              | 04/24/97      |
| Nitrite as NO <sub>2</sub> -N            | <0.6   | PPM              | 04/24/97      |
| Ammonium as NH <sub>4</sub> <sup>+</sup> | <0.2   | PPM              | 04/25/97      |
| Phosphate as PO <sub>4</sub>             | <0.6   | PPM              | 04/24/97      |
| Potassium as K                           | <0.2   | PPM              | 04/25/97      |
| Sodium as Na                             | 418    | PPM              | 04/25/97      |
| Total Dissolved Solids                   | 1,900  | PPM              | 04/25/97      |
| Calculated TDS                           | 1,826  | PPM              | 04/25/97      |
| Conductivity                             | 2,600  | umhos/cm         | 04/25/97      |
| Anion/Cation %                           | 0.4%   | %, <5.0 Accepted | 04/28/97      |

ib Remarks:

*Handwritten signature*

*Handwritten signature*



Well Number MW-1  
Meter Code L0002

Site Name LAT. H-37 DR104-3

## Development Criteria

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

## Methods of Development

- | Pump                                 | Baller                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 36.30  
Initial Depth to Water (feet) 26.95  
Height of Water Column in Well (feet) 9.35

Diameter (inches): Well 4 Gravel Pack

| Item            | Water Volume In Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 6.3     | 18.5                  |
| 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

[illegible]

Comments BAILED DRY 08.0 GALLONS. REMOVED ARC 5 DAYS BEFORE SAMPLING.

Comments \_\_\_\_\_

Developer's Signature *Dennis Bied* Date 4-23-97 Reviewer *John Fiedl* Date 5/6/97



Well Number MW-2

Well Number MW-2

Meter Code 60002

Site Name LAT. H-37 ORIP K-3

|                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

|                          |                    |                                                          |
|--------------------------|--------------------|----------------------------------------------------------|
| <input type="checkbox"/> | <b>Pump</b>        | <b>Baller</b>                                            |
| <input type="checkbox"/> | <b>Centrifugal</b> | <input checked="" type="checkbox"/> <b>Bottom Valve</b>  |
| <input type="checkbox"/> | <b>Submersible</b> | <input type="checkbox"/> <b>Double Check Valve</b>       |
| <input type="checkbox"/> | <b>Peristaltic</b> | <input type="checkbox"/> <b>Stainless-steel Kemmerer</b> |

☐ Other \_\_\_\_\_

Initial Depth of Well (feet) 37.0  
Initial Depth to Water (feet) 26.16  
Height of Water Column in Well (feet) 10.94

Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume in Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 7.2     | 21.7                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

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

Water Disposal  
KUT2 SEPARATOR

[illegible]

Developer's Signature Lenno Bied

Date: 4-23-97 Reviewer:

John F. Miller Date 5/6/97



Well Number 17W-3  
Meter Code 40002

Site Name LAT. H-37 OAP 4-3

## Development Criteria

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

## Methods of Development

- | Pump                                 | Bailer                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

### Water Volume Calculation

Initial Depth of Well (feet) 35.70  
Initial Depth to Water (feet) 25.85  
Height of Water Column In Well (feet) 9.85  
Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume in Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 6.5     | 19.5                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

Developer's Signature: \_\_\_\_\_

Ernie Bied

Date 4-23-91 Reviewer \_\_\_\_\_

John Lork

Date \_\_\_\_\_

5/6/97



Well Number MW-4  
Meter Code L0002

Site Name LAT. H-37 DRIP Y-3

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

|                          |                    |                                                          |
|--------------------------|--------------------|----------------------------------------------------------|
| <input type="checkbox"/> | <b>Pump</b>        | <b>Bailer</b>                                            |
| <input type="checkbox"/> | <b>Centrifugal</b> | <input checked="" type="checkbox"/> <b>Bottom Valve</b>  |
| <input type="checkbox"/> | <b>Submersible</b> | <input type="checkbox"/> <b>Double Check Valve</b>       |
| <input type="checkbox"/> | <b>Peristaltic</b> | <input type="checkbox"/> <b>Stainless-steel Kemmerer</b> |

☐ Other

Initial Depth of Well (feet) 37.60  
Initial Depth to Water (feet) 27.13  
Height of Water Column in Well (feet) 10.47

Diameter (Inches): Well 4 Gravel Pack

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

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

## Water Disposal

KUTZ SEPARATOR

[illegible]

Comments

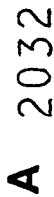
**Developer's Signature**

Date 4-23-91 Reviewer \_\_\_\_\_

Date \_\_\_\_\_

7/6/57





## CHAIN OF CUSTODY RECORD

[illegible]



# EL PASO FIELD SERVICES



7-31-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 970686                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-1 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/97                | 1143                   |
| PROJECT:                   | Sample 4 - 6th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/21/97                | 7/21/97                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT            | UNITS | QUALIFIERS |   |  |  |
|---------------|-------------------|-------|------------|---|--|--|
|               |                   |       | DF         | Q |  |  |
| BENZENE       | <1                | PPB   |            |   |  |  |
| TOLUENE       | 2.01              | PPB   |            |   |  |  |
| ETHYL BENZENE | <1                | PPB   |            |   |  |  |
| TOTAL XYLENES | <3                | PPB   |            |   |  |  |
| TOTAL BTEX    | 7/29/97 2.01 <6.0 | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 95.3  
DF = Dilution Factor Used

for this sample All QA/QC was acceptable.

Narrative:

Approved By:

*John Lendi*

Date:

7/29/97



# EL PASO FIELD SERVICES



FIELD SERVICES LABORATORY

7-31-97

## ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 970687                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-2 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/97                | 1155                   |
| PROJECT:                   | Sample 4 - 6th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/21/97                | 7/21/97                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1    | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3    | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

Surrogate Recovery was at 96.9 for this sample All QA/QC was acceptable.  
= Dilution Factor Used

irrelative:

Approved By:

*John Sander*

Date:

7/29/97



# EL PASO FIELD SERVICES



7-31-97

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 970688                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-3 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/97                | 1347                   |
| PROJECT:                   | Sample 4 - 6th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/22/97                | 7/22/97                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1    | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3    | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

Surrogate Recovery was at \_\_\_\_\_  
F = Dilution Factor Used

92.6

for this sample All QA/QC was acceptable.

narrative: \_\_\_\_\_

Approved By: \_\_\_\_\_

*John Jardi*

Date: \_\_\_\_\_

7/29/97



# EL PASO FIELD SERVICES



## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

7-31-97

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 970689                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-4 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/97                | 1457                   |
| PROJECT:                   | Sample 4 - 6th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/21/97                | 7/21/97                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1    | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3    | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

he Surrogate Recovery was at 95.9 for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

narrative:

pproved By: John Labdi

Date: 7/29/97



KUTZ 55000000



Well Number 11W-2  
Meter Code 10007

Site Name LATERAL H-37 ORIP K-3

## Development Criteria

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

## Methods of Development

- |                          |                    |                                                          |
|--------------------------|--------------------|----------------------------------------------------------|
| <input type="checkbox"/> | <b>Pump</b>        | <b>Baller</b>                                            |
| <input type="checkbox"/> | <b>Centrifugal</b> | <input checked="" type="checkbox"/> <b>Bottom Valve</b>  |
| <input type="checkbox"/> | <b>Submersible</b> | <input type="checkbox"/> <b>Double Check Valve</b>       |
| <input type="checkbox"/> | <b>Peristaltic</b> | <input type="checkbox"/> <b>Stainless-steel Kemmerer</b> |

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 32.10  
Initial Depth to Water (feet) 25.94  
Height of Water Column in Well (feet) 6.16

Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume in Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 7.4     | 22.1                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

Developer's Signature Donato Bied

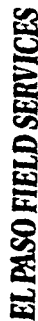
Date 7-18-97

Reviewer

John Fawcett

Date \_\_\_\_\_

7/29/97



## Well Development and Purging Data

Well Number MW-3  
Meter Code LD002

Site Name LATERAL H-37 DRIP Y-3

## Development Criteria

- |                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

## Methods of Development

- | Pump                                 | Bailer                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

## Water Volume Calculation

Initial Depth of Well (feet) 25.70  
Initial Depth to Water (feet) 25.63  
Height of Water Column in Well (feet) 10.07

Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume In Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 67      | 221.0                 |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

[illegible]

### Comments

**Developer's Signature**

Reviewer

Date:

20

Date \_\_\_\_\_

7/29/97





Well Number MW-4  
Meter Code 10002

Site Name LATERAL H-37 DRIP K-3

## Development Criteria

- |                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

## Methods of Development

- | Pump                                 | Baller                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

Other ☐

## Water Volume Calculation

Initial Depth of Well (feet) 37.60  
Initial Depth to Water (feet) 26.91  
Height of Water Column in Well (feet) 10.69

Diameter (inches): Well 4 Gravel Pack 1

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

## Instruments

- ☒ pH Meter  
☐ DO Monitor  
☒ Conductivity Meter  
☒ Temperature Meter  
☒ Other 220

Water Disposal  
KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

Comments \_\_\_\_\_

Developer's Signature Dennis Bird Date 7-12-97 Reviewer John Furdin Date 7/19/97

## MEMORANDUM

**To:** John Lambdin  
**From:** Dennis Bird

**Date:** May 8, 1996  
**Place:** Laboratory Services

**Subject:** Aztec Pipeline Pit Monitor Wells

On Monday, April 15, 1996, I went to the Aztec Pipeline and sampled the following pit monitor wells. The following analytical parameters are to be performed on these groundwater samples: BTXE, 8 RCRA Metals, General Chemistry to include Nitrate as NO<sub>3</sub> and Dissolved Oxygen. The samples were assigned the laboratory numbers 960340 to 960343. The dissolved oxygen results were taken at the time of sampling with a ChemMets kit. The Field Service Laboratory will be performing all of the analysis.

The following information was collected on each well.

|        | Well<br>Name       | Monitor<br>Well# | Pipe<br>ID | Static<br>Level | Total<br>Depth | Gallons<br>Bailed | Dissolved<br>Oxygen |
|--------|--------------------|------------------|------------|-----------------|----------------|-------------------|---------------------|
| 960340 | Lat. H-37 Drip Y-3 | MW-1             | 4"         | 26.71'          | 36.30'         | 10.0              | 4.0 ppm             |
| 960341 | Lat. H-37 Drip Y-3 | MW-2             | 4"         | 25.95'          | 37.10'         | 25.0              | 2.0 ppm             |
| 960342 | Lat. H-37 Drip Y-3 | MW-3             | 4"         | 25.61'          | 35.70'         | 22.0              | 2.0 ppm             |
| 960343 | Lat. H-37 Drip Y-3 | MW-4             | 4"         | 26.95'          | 37.60'         | 23.0              | 2.0 ppm             |

All bailing and sampling was done with disposable, one time use equipment and bottles. All samples were preserved on ice immediately after collection. The static level and total depth was measured from the top of the pipe.

Should you have any question or comments, please let me know.

  
Dennis P. Bird

cc: Nancy Prince  
Sandra Miller





# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY

### ANALYTICAL REPORT PIT CLOSURE PROJECT

#### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 960629                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-1 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/96                | 1332                   |
| PROJECT:                   | Sample 4 - 2nd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/24/96                | 7/24/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

#### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | 5.86   | PPB   |            |   |  |  |
| TOLUENE       | <1.0   | PPB   |            |   |  |  |
| ETHYL BENZENE | 44.3   | PPB   |            |   |  |  |
| TOTAL XYLENES | 23.0   | PPB   |            |   |  |  |
| TOTAL BTEX    | 73.2   | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 86.5 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative: \_\_\_\_\_

Approved By: *John L. Linder*

Date: 8/14/96 & 8/7/97



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 960630                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-2 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/96                | 1344                   |
| PROJECT:                   | Sample 4 - 2nd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/23/96                | 7/23/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.5 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By:

*John Tatchell*

Date:

*8/14/96*  
*8/7/97*



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 960631                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-3 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/96                | 1502                   |
| PROJECT:                   | Sample 4 - 2nd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/23/96                | 7/23/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1    | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3    | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 90.6 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative: \_\_\_\_\_

Approved By: \_\_\_\_\_

Date: 8/14/96  
+ 8/7/97



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960632                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-4 |
| SAMPLE DATE   TIME (Hrs):  | 7/18/96                | 1611                   |
| PROJECT:                   | Sample 4 - 2nd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 7/23/96                | 7/23/96                |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.5 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative: \_\_\_\_\_

Approved By: \_\_\_\_\_

Date: 8/14/96 & 8/7/97







## Well Development and Purging Data

Well Number MW-3

Meter Code L0 002

|                                     |             |
|-------------------------------------|-------------|
| <input type="checkbox"/>            | Development |
| <input checked="" type="checkbox"/> | Purging     |

Site Name LAT. H-37 DRIP Y-3

## Development Criteria

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

## Methods of Development

- |                          |             |                                     |                          |
|--------------------------|-------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | Pump        | <input type="checkbox"/>            | Baller                   |
| <input type="checkbox"/> | Centrifugal | <input checked="" type="checkbox"/> | Bottom Valve             |
| <input type="checkbox"/> | Submersible | <input type="checkbox"/>            | Double Check Valve       |
| <input type="checkbox"/> | Peristaltic | <input type="checkbox"/>            | Stainless-steel Kemmerer |

## Water Volume Calculation

Initial Depth of Well (feet) 37.10

Initial Depth to Water (feet) 26.34

Height of Water Column in Well (feet) 10.76

4 Diameter (Inches): Well Gravel Pack

| Item            | Water Volume In Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      |         | 21.6                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

- ☒ pH Meter  
☐ DO Monitor  
☒ Conductivity Meter  
☒ Temperature Meter  
☒ Other 20.0

Water Disposal  
KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

Developer's Signature Tennin Bird

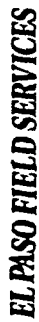
Date 7-12-96

Reviewer



Date \_\_\_\_\_

8/14/91



Well Number MW-3  
Meter Code LO 002

Site Name LA 7, H-37 ORIP K-3

## Development Criteria

- |                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

## Methods of Development

- |                          |                          |                          |                                     |                          |                          |
|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Pump                     | Centrifugal              | Submersible              | Double Check Valve                  | Stainless-steel Kemmerer |                          |

## Water Volume Calculation

Initial Depth of Well (feet) 35.70  
Initial Depth to Water (feet) 26.01  
Height of Water Column in Well (feet) 9.69

Diameter (Inches): Well \_\_\_\_\_ Gravel Pack \_\_\_\_\_

| Item            | Water Volume in Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      |         | 19.5                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

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

Water Disposal  
KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

Developer's Signature *James Bird*

Date 7-18-98 Reviewer \_\_\_\_\_

Date 8/14/94



EL PASO FIELD SERVICES

# Well Development and Purging Data

Site Name LOT. H-37 DRIP K3 Well Number MW-4 Meter Code LD 002

## 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) 37.50  
 Initial Depth to Water (feet) 27.35  
 Height of Water Column in Well (feet) 10.15  
 Diameter (inches): Well 4 Gravel Pack

| Item            | Water Volume in Well<br>Cubic Feet | Gallons | Gallons to be<br>Removed |
|-----------------|------------------------------------|---------|--------------------------|
| Well Casing     |                                    |         | 20.6                     |
| Gravel Pack     |                                    |         |                          |
| Drilling Fluids |                                    |         |                          |
| Total           |                                    |         |                          |

## Instruments

- ☒ pH Meter  
☒ DO Monitor  
☒ Conductivity Meter  
☒ Temperature Meter  
☒ Other DO CHEMETS KIT

## Water Disposal

RUTZ SEPARATOR

## Water Removal Data

| Date    | Time | Development<br>Method | Pump | Removal<br>Rate<br>(gal/min) | Intake<br>Depth<br>(feet) | Ending Water<br>Depth<br>(feet) | Water Volume<br>Removed (gal) |            | Product Volume<br>Removed (gallons) |            | Temperature<br>°C | pH   | Conductivity<br>µmho/cm | Dissolved<br>Oxygen<br>mg/L | Comments |
|---------|------|-----------------------|------|------------------------------|---------------------------|---------------------------------|-------------------------------|------------|-------------------------------------|------------|-------------------|------|-------------------------|-----------------------------|----------|
|         |      |                       |      |                              |                           |                                 | Increment                     | Cumulative | Increment                           | Cumulative |                   |      |                         |                             |          |
| 7-18-96 | 1511 |                       |      |                              |                           |                                 | 5.0                           | 5.0        |                                     |            | 15.5              | 7.19 | 2970                    |                             |          |
| 7-18-96 | 1518 |                       |      |                              |                           |                                 | 5.0                           | 10.0       |                                     |            | 14.7              | 7.21 | 2970                    |                             |          |
| 7-18-96 | 1526 |                       |      |                              |                           |                                 | 5.0                           | 15.0       |                                     |            | 15.1              | 7.27 | 2980                    |                             |          |
| 7-18-96 | 1540 |                       |      |                              |                           |                                 | 5.0                           | 20.0       |                                     |            | 15.5              | 7.26 | 3000                    |                             |          |
| 7-18-96 | 1550 |                       |      |                              |                           |                                 | 5.0                           | 25.0       |                                     |            | 14.9              | 7.29 | 3030                    |                             |          |
| 7-18-96 | 1558 |                       |      |                              |                           |                                 | 5.0                           | 30.0       |                                     |            | 16.0              | 7.26 | 3120                    | 2.0                         |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |
|         |      |                       |      |                              |                           |                                 |                               |            |                                     |            |                   |      |                         |                             |          |

Comments

Developer's Signature Dennis Bird

Date 7/18/96

Reviewer

J.P.

Date

8/14/96



A 2271

CHAIN OF CUSTODY RECORD

| Project No.                                                                                                                                                                                                                                                          |      | Project Name      |      | Requested Analysis     |   | Remarks                                 |                         |                                                                                                                         |  |  |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------|------|------------------------|---|-----------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|
| Samplers: (Signature)                                                                                                                                                                                                                                                |      | Date: 10-18-96    |      | Preservation Technique |   | Type and No. of Sample Containers       |                         |                                                                                                                         |  |  |  |  |  |  |  |
| Date                                                                                                                                                                                                                                                                 | Time | Comp.             | GRAB | Sample Number          |   |                                         |                         |                                                                                                                         |  |  |  |  |  |  |  |
| 10-18-96                                                                                                                                                                                                                                                             | 1225 |                   | X    | 960859                 | X |                                         | MC 60002                |                                                                                                                         |  |  |  |  |  |  |  |
| 10-18-96                                                                                                                                                                                                                                                             | 1235 |                   | X    | 960860                 | X |                                         | LAT. H-37 DRIP 4-3 MW-1 |                                                                                                                         |  |  |  |  |  |  |  |
| 10-18-96                                                                                                                                                                                                                                                             | 1238 |                   | X    | 960861                 | X |                                         | LAT. H-37 DRIP 4-3 MW-2 |                                                                                                                         |  |  |  |  |  |  |  |
| 10-18-96                                                                                                                                                                                                                                                             | 1425 |                   | X    | 960862                 | X |                                         | LAT. H-37 DRIP 4-3 MW-3 |                                                                                                                         |  |  |  |  |  |  |  |
| 10-18-96                                                                                                                                                                                                                                                             | 1526 |                   | X    | 960863                 | X |                                         | LAT. H-37 DRIP 4-3 MW-4 |                                                                                                                         |  |  |  |  |  |  |  |
| 10-18-96                                                                                                                                                                                                                                                             | —    |                   | X    | —                      | X |                                         | TRIP BLANK              |                                                                                                                         |  |  |  |  |  |  |  |
| <div>Relinquished by: (Signature) <i>Dennis Bied</i> Date/Time 10/18/96 1835</div> <div>Received by: (Signature) _____ Date/Time _____</div> <div>Relinquished by: (Signature) _____ Date/Time _____</div> <div>Received by: (Signature) _____ Date/Time _____</div> |      |                   |      |                        |   |                                         |                         |                                                                                                                         |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                      |      |                   |      |                        |   |                                         |                         | <div>Relinquished by: (Signature) _____ Date/Time _____</div> <div>Received by: (Signature) _____ Date/Time _____</div> |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                      |      |                   |      |                        |   |                                         |                         | <div>Relinquished by: (Signature) _____ Date/Time _____</div> <div>Received by: (Signature) _____ Date/Time _____</div> |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                      |      |                   |      |                        |   |                                         |                         | <div>Relinquished by: (Signature) _____ Date/Time _____</div> <div>Received by: (Signature) _____ Date/Time _____</div> |  |  |  |  |  |  |  |
| Carrier Co:                                                                                                                                                                                                                                                          |      | Carrier Phone No. |      | Remarks:               |   | Date Results Reported / by: (Signature) |                         |                                                                                                                         |  |  |  |  |  |  |  |
|                                                                                                                                                                                                                                                                      |      |                   |      | 10/17/96 0730          |   |                                         |                         |                                                                                                                         |  |  |  |  |  |  |  |



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960859                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-1 |
| SAMPLE DATE   TIME (Hrs):  | 10/16/96               | 1225                   |
| PROJECT:                   | Sample 4 - 3rd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 10/18/96               | 10/18/96               |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | 13.5   | PPB   |            |   |  |  |
| TOTAL XYLENES | 2.92   | PPB   |            |   |  |  |
| TOTAL BTEX    | 16.4   | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 112 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative: \_\_\_\_\_

Approved By: \_\_\_\_\_

Date: 10-21-96 + 8/7/97



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY ANALYTICAL REPORT PIT CLOSURE PROJECT

### SAMPLE IDENTIFICATION

|                            | Field ID               | Lab ID                 |
|----------------------------|------------------------|------------------------|
| SAMPLE NUMBER:             | N/A                    | 960861                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-2 |
| SAMPLE DATE   TIME (Hrs):  | 10/16/96               | 1238                   |
| PROJECT:                   | Sample 4 - 3rd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 10/18/96               | 10/18/96               |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks: \_\_\_\_\_

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | < 1    | PPB   |            |   |  |  |
| TOLUENE       | < 1    | PPB   |            |   |  |  |
| ETHYL BENZENE | < 1    | PPB   |            |   |  |  |
| TOTAL XYLENES | < 3    | PPB   |            |   |  |  |
| TOTAL BTEX    | < 6    | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 116 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative: \_\_\_\_\_

Approved By: John J. J. J.

Date: 10-21-96 + 8-7-97



FIELD SERVICES LABORATORY  
ANALYTICAL REPORT  
PIT CLOSURE PROJECT

SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960862                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-3 |
| SAMPLE DATE   TIME (Hrs):  | 10/16/96               | 1425                   |
| PROJECT:                   | Sample 4 - 3rd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 10/18/96               | 10/18/96               |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 114 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By: John Landa

Date: 10-21-96 & 8/7/96



# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY

### ANALYTICAL REPORT

### PIT CLOSURE PROJECT

#### SAMPLE IDENTIFICATION

|                            |                        |                        |
|----------------------------|------------------------|------------------------|
|                            | Field ID               | Lab ID                 |
| SAMPLE NUMBER:             | N/A                    | 960863                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-4 |
| SAMPLE DATE   TIME (Hrs):  | 10/16/96               | 1526                   |
| PROJECT:                   | Sample 4 - 3rd Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 10/18/96               | 10/18/96               |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

#### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | <1     | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | <6     | PPB   |            |   |  |  |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 114 for this sample All QA/QC was acceptable.  
DF = Dilution Factor Used

Narrative:

Approved By:

*John T. Ladd*

Date:

10-21-96 + 8/7/97





## Well Development and Purging Data

Site Name LAT. H-37 DRIP Y-3

Well Number NY-1

Meter Code 20002

## Development Criteria

- |                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

## Methods of Development

- | Pump                                 | Bailer                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

## Water Volume Calculation

Initial Depth of Well (feet) 36.30

Initial Depth to Water (feet) 27.67

Height of Water Column in Well (feet) 8.63

Diameter (Inches): Well 4 Gravel Pack         

| Item            | Water Volume In Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 5.7     | 17.1                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

- ☒ pH Meter  
☐ DO Monitor  
☒ Conductivity Meter  
☒ Temperature Meter  
☒ Other *D.P. CHEMETS KIT*

Water Disposal  
KUTZ SEPARATOR

## Water Removal Data

[illegible]

|          |                         |
|----------|-------------------------|
| Comments | BAILED DRY @ 5.0 SALONS |
|----------|-------------------------|

Developer's Signature Dennis Bird

Date 10-16-96 Reviewer John F. Felt Date 10-21-96



Well Number MW-2  
Meter Code LD002

Site Name LAT. H-37 DRIP Y-3

## Development Criteria

- |                                     |                                        |
|-------------------------------------|----------------------------------------|
| <input checked="" type="checkbox"/> | 3 to 5 Casing Volumes of Water Removal |
| <input type="checkbox"/>            | Stabilization of Indicator Parameters  |
| <input type="checkbox"/>            | Other                                  |

## Methods of Development

- |                          |             |                                     |                          |
|--------------------------|-------------|-------------------------------------|--------------------------|
| <input type="checkbox"/> | Pump        | <input type="checkbox"/>            | Baller                   |
| <input type="checkbox"/> | Centrifugal | <input checked="" type="checkbox"/> | Bottom Valve             |
| <input type="checkbox"/> | Submersible | <input type="checkbox"/>            | Double Check Valve       |
| <input type="checkbox"/> | Peristaltic | <input type="checkbox"/>            | Stainless-steel Kemmerer |

## Water Volume Calculation

Initial Depth of Well (feet) 37.0  
Initial Depth to Water (feet) 26.9  
Height of Water Column in Well (feet) 10.19

Diameter (Inches): Well 4 Gravel Pack       

| Item            | Water Volume in Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 67      | 20.3                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## Instruments

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

Water Disposal  
KUTZ SEPARATOR

## Water Removal Data

[illegible]

### Comments

Comments \_\_\_\_\_

Developer's Signature Dennis Bird

10-16-91  
9/5-9/10/91  
Date  
Re: [Signature]  
Date 10-21-91



Well Number MW-3  
Meter Code 40002

Site Name LA7. H-37 ORIO Y-3

## Development Criteria

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

## Methods of Development

- | Pump                                 | Baller                                            |
|--------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Centrifugal | <input checked="" type="checkbox"/> Bottom Valve  |
| <input type="checkbox"/> Submersible | <input type="checkbox"/> Double Check Valve       |
| <input type="checkbox"/> Peristaltic | <input type="checkbox"/> Stainless-steel Kemmerer |

☐ Other \_\_\_\_\_

## Water Volume Calculation

Initial Depth of Well (feet) 35.70  
Initial Depth to Water (feet) 26.57  
Height of Water Column in Well (feet) 9.13

Diameter (Inches): Well 4 Gravel Pack

| Item            | Water Volume In Well |         | Gallons to be Removed |
|-----------------|----------------------|---------|-----------------------|
|                 | Cubic Feet           | Gallons |                       |
| Well Casing     |                      | 6.0     | 18.1                  |
| Gravel Pack     |                      |         |                       |
| Drilling Fluids |                      |         |                       |
| Total           |                      |         |                       |

## instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

[illegible]

Comments

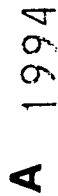
Developer's Signature \_\_\_\_\_

Date 10/6/96 Reviewer, \_\_\_\_\_

Date 10-21-96



Date 10-21-94



## 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                    | 970059                 |
| MTR CODE   SITE NAME:      | LD002                  | Lat H-37 Drip Y-3 MW-1 |
| SAMPLE DATE   TIME (Hrs):  | 2/4/97                 | 1236                   |
| PROJECT:                   | Sample 4 - 4th Quarter |                        |
| DATE OF BTEX EXT.   ANAL.: | 2/6/97                 | 2/6/97                 |
| TYPE   DESCRIPTION:        | Monitor Well           | Water                  |

Field Remarks:

### RESULTS

| PARAMETER     | RESULT | UNITS | QUALIFIERS |   |  |  |
|---------------|--------|-------|------------|---|--|--|
|               |        |       | DF         | Q |  |  |
| BENZENE       | <1     | PPB   |            |   |  |  |
| TOLUENE       | <1     | PPB   |            |   |  |  |
| ETHYL BENZENE | 1.16   | PPB   |            |   |  |  |
| TOTAL XYLENES | <3     | PPB   |            |   |  |  |
| TOTAL BTEX    | 1.16   | PPB   |            |   |  |  |

—BTEX is by EPA Method 8020 —

Surrogate Recovery was at 95.9 % for this sample All QA/QC was acceptable.  
F = Dilution Factor Used

narrative:

Approved By:

*John Lumbler*

Date:

2-14-97