3R - 151

# REPORTS

# DATE:

1999-1997

EL PASO ENERGY



March 24, 1999

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Dear Mr. Olson:

Please find enclosed the potentiometric water level maps for the Blanco Field Station. The maps indicate water levels in the groundwater monitoring wells for each calendar quarter, 1998. These maps were not included in the monitoring well sample results report.

If you need any additional information, please call me at (505) 599-2256.

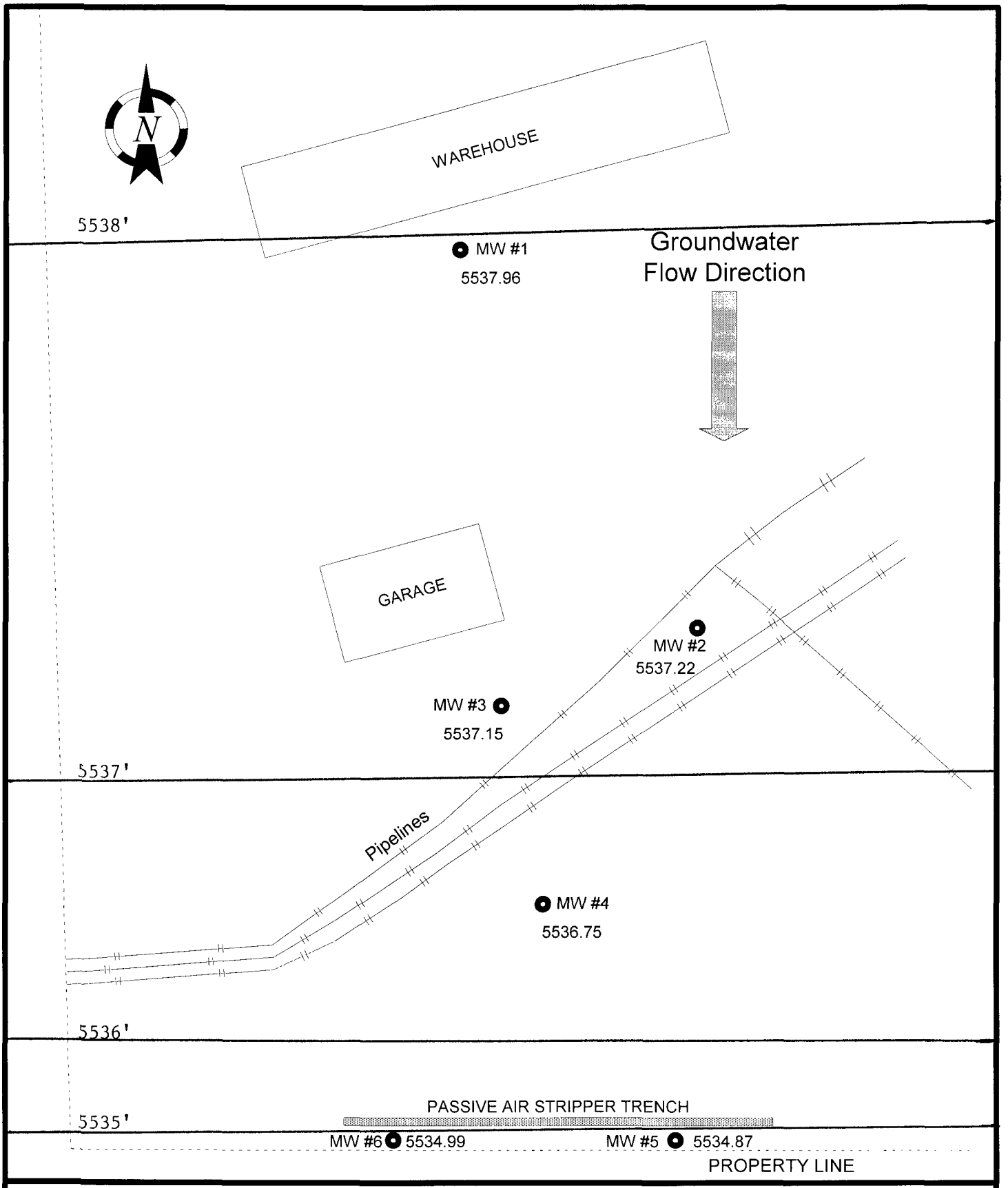
Sincerely yours,

David Bays

David Bays, REM
Principal Environmental Scientist

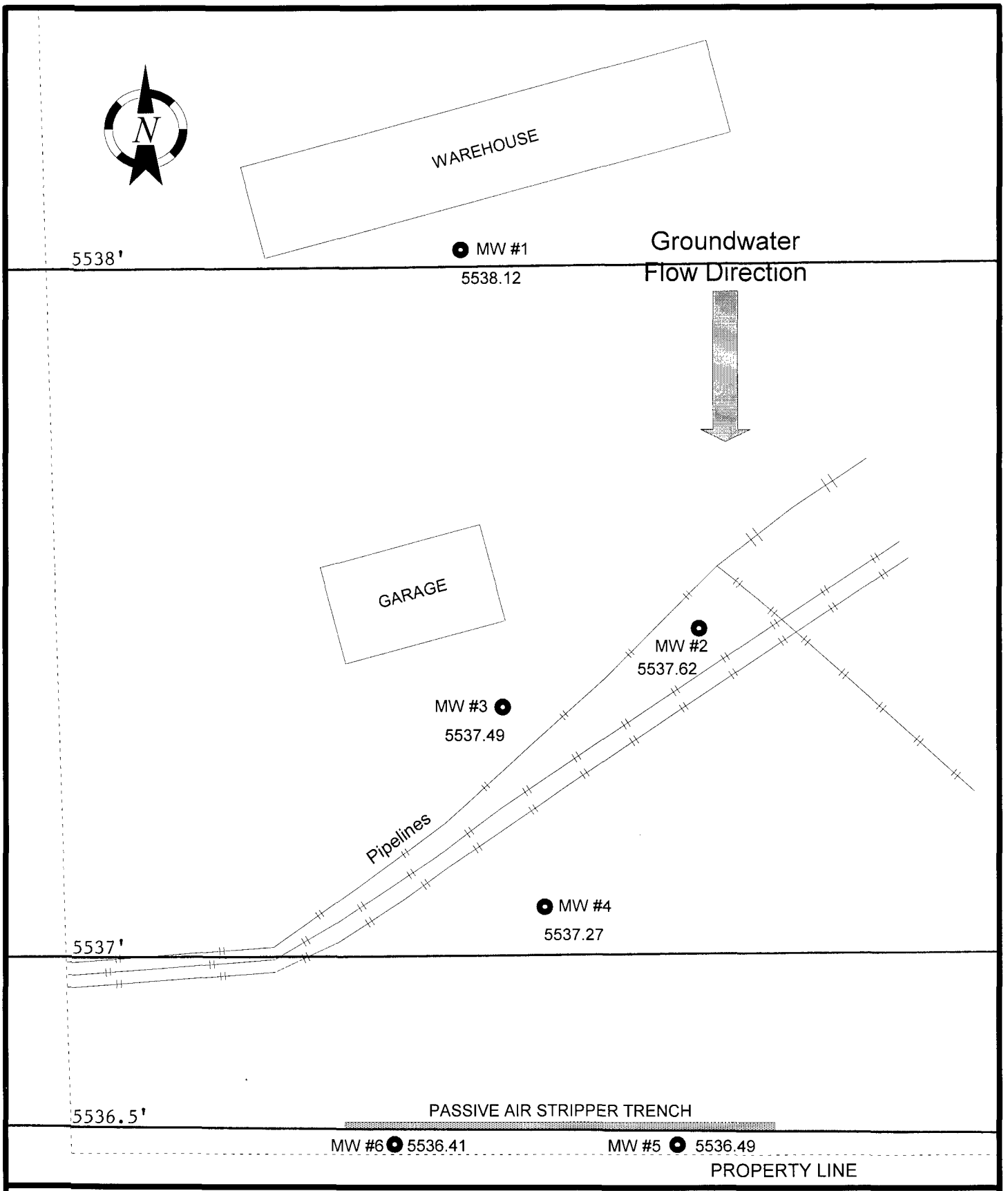
cc: Mr. Denny Foust – NMOCD, Aztec, NM
Blanco Pipeline Groundwater Project File

El Paso Energy Corporation 614 Reilly Avenue Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119



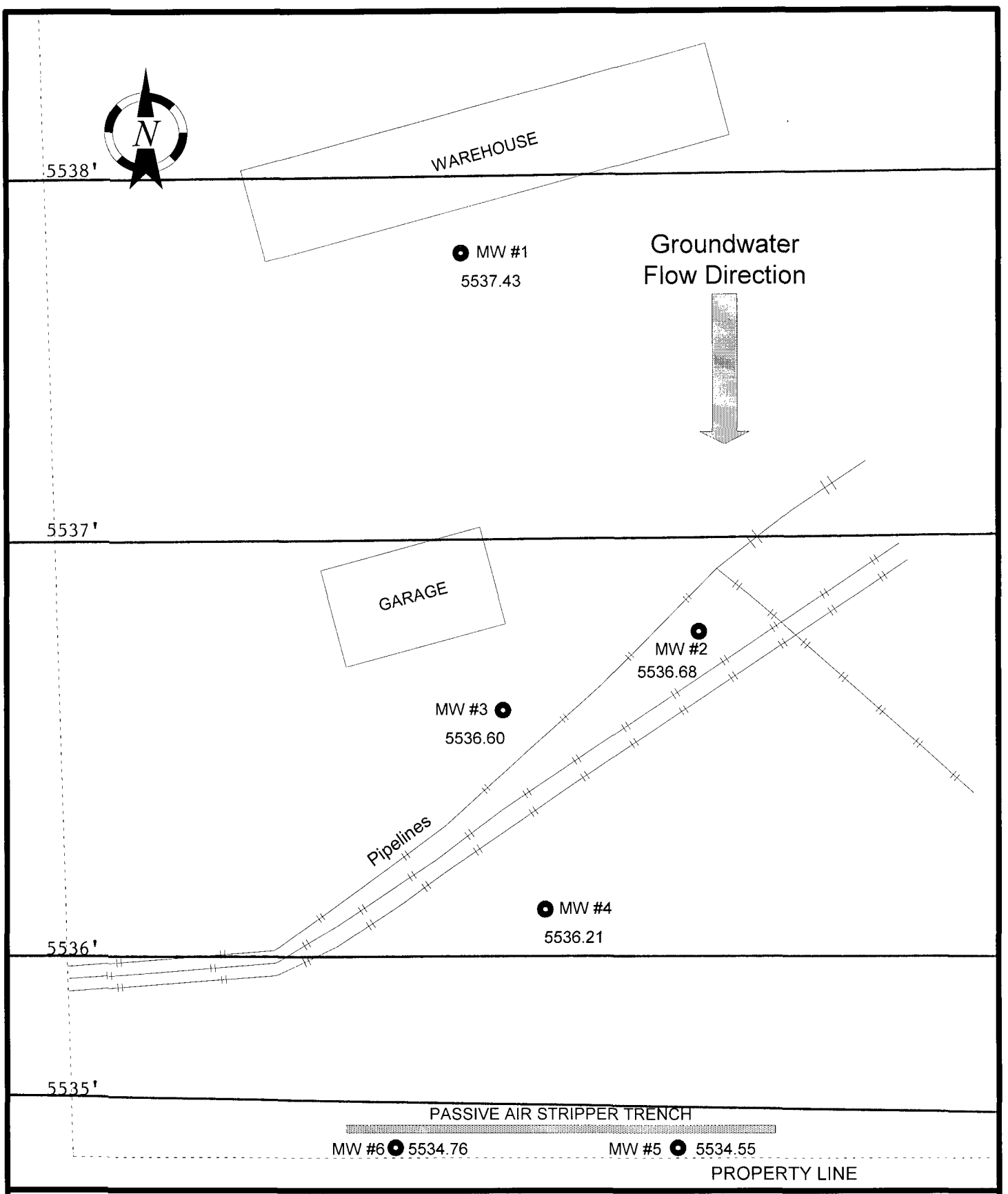

El Paso Field Services Co.
Blanco Pipeline Yard
Blanco, New Mexico

Ground Water Static Levels
First Quarter - 1998
All Levels in Feet Above Sea Level



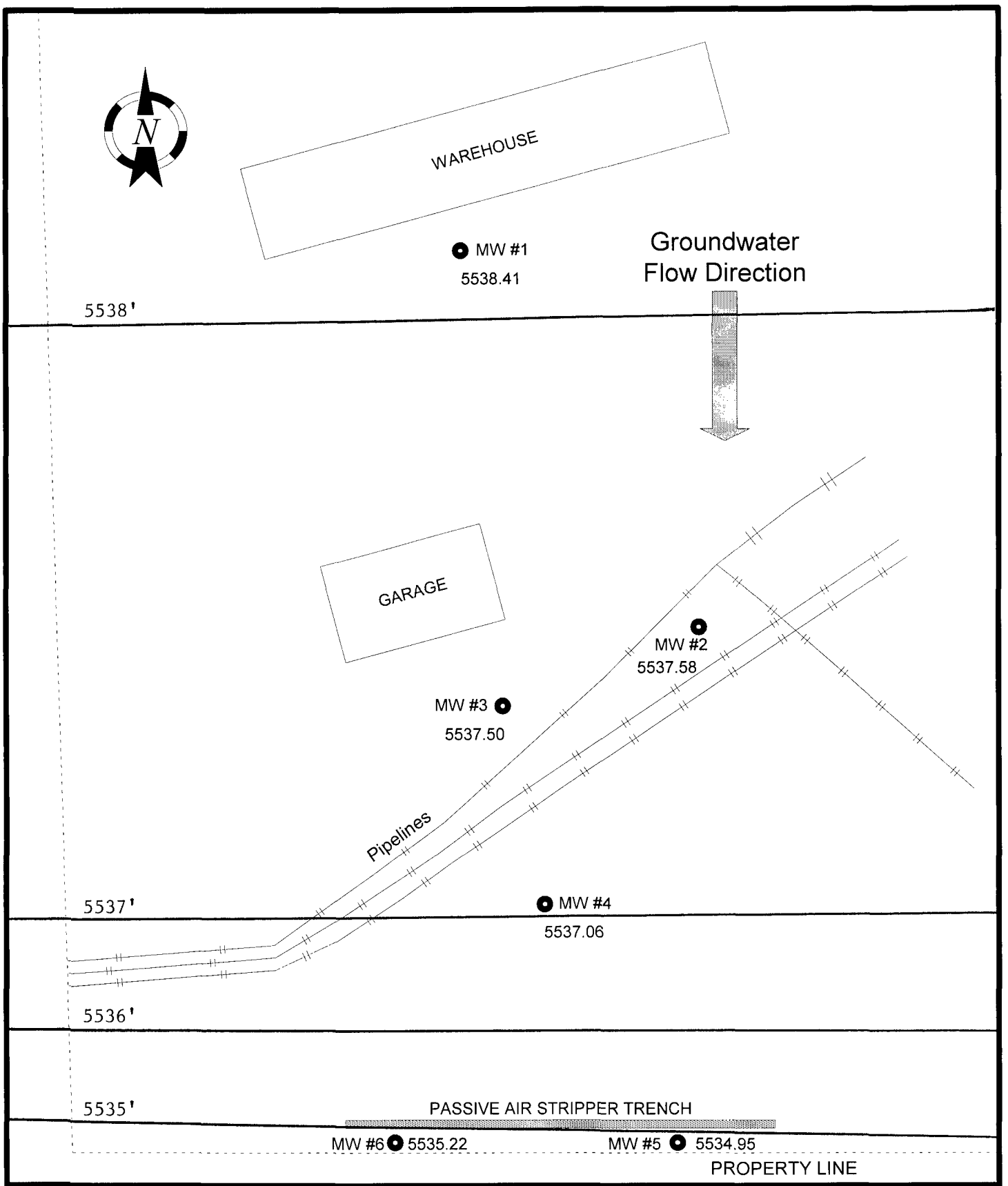

El Paso Field Services Co.
Blanco Pipeline Yard
Blanco, New Mexico

Ground Water Static Levels
Second Quarter - 1998
All Levels in Feet Above Sea Level




El Paso Field Services Co.
Blanco Pipeline Yard
Blanco, New Mexico

Ground Water Static Levels
Third Quarter - 1998
All Levels in Feet Above Sea Level




El Paso Field Services Co.
Blanco Pipeline Yard
Blanco, New Mexico

Ground Water Static Levels
Fourth Quarter - 1998
All Levels in Feet Above Sea Level

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION
2040 S. PACHECO
SANTA FE, NEW MEXICO 87505
(505) 827-7131

March 10, 1999

**CERTIFIED MAIL**
**RETURN RECEIPT NO. Z-274-520-631**

Mr. David Bays
El Paso Energy Corporation
614 Reilly Ave.
Farmington, New Mexico 87401

**RE: GROUND WATER MONITORING**
**BLANCO FIELD OFFICE**

Dear Mr. Bays:

The New Mexico Oil Conservation Division (OCD) has reviewed El Paso Field Service's (EPFS) February 8, 1998 correspondence. This document contains the results of EPFS's water quality monitoring related to EPFS's remediation of contaminated ground water at the Blanco Field Station.

The above referenced document does not include quarterly water table potentiometric maps as required in OCD's approval of the site remediation and monitoring system. Please provide this information to the OCD Santa Fe Office by April 12, 1999 with a copy provided to the OCD Aztec District Office.

If you have any questions, please call me at (505) 827-7154.

Sincerely,

William C. Olson
Hydrologist
Environmental Bureau

xc: Denny Foust, OCD Aztec District Office

Z 274 520 631

US Postal Service

## Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail *(See reverse)*

| | |
|---|---|
| Sent to | |
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PS Form **3800**, April 1995

EL PASO ENERGY



February 8, 1999

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Dear Mr. Olson:

Please find enclosed the 1998 analytical results and quality assurance /quality control data for sampling of the monitoring wells at the El Paso Field Services Blanco Field Office.

Sample results on monitoring well number 3 indicate total naphthalene levels above Water Quality Control Commission maximum levels. EPFS is still operating the air sparging treatment system to reduce the contaminate levels.

If you need any additional information, please call me at (505) 599-2256.

Sincerely yours,

David Bays

David Bays
Principal Environmental Scientist

cc: Mr. Denny Foust - NMOCD - Aztec, NM
S. D. Miller/Blanco Field Office Groundwater Project File

El Paso Energy Corporation 614 Reilly Avenue Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119

# December 14, 1998

# ANALYTICAL REPORT

# Blanco Field Yard
# Monitor Well Results
# Lab Sample #'s 980808 to 980815

# Sampled 11/17/98
# Sampled by Dennis Bird

**REMARKS:**

These samples represent the 4th Quarter 1998 compliance samples for this location. The WQCC standard for Total Naphthalenes was exceeded in MW-3.

**Distribution:** David Bays
Scott Pope, Philip Services
Historic Excel Database
Results File

# El Paso Field Services Company
## Blanco Field Office
## Groundwater Montoring Well Results - 1998

**First Quarter - February 1998**

| Sample ID# | 980175 | 980176 | 980177 | 980178 | 980180 | 980181 | 980179 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 60.4 | <1.0 | <1.0 | 53.4 |
| Ethylebenzene | <1.0 | <1.0 | 219 | 87.4 | <1.0 | <1.0 | 78.8 |
| Toluene | <1.0 | <1.0 | 5.71 | 5.21 | <1.0 | 2.40 | 4.69 |
| Total Xylenes | <3.0 | <3.0 | 534 | 78.4 | <3.0 | <3.0 | 64.0 |
| Nitrate as $NO_3$-N | | | 128 | <0.1 | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Second Quarter - May 1998**

| Sample ID# | 980398 | 980399 | 980400 | 980401 | 980403 | 980404 | 980402 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 41.4 | <1.0 | <1.0 | 44.0 |
| Ethylebenzene | <1.0 | <1.0 | 83.3 | 62.6 | <1.0 | <1.0 | 67.3 |
| Toluene | <1.0 | <1.0 | 3.11 | 3.00 | <1.0 | <1.0 | 3.16 |
| Total Xylenes | <3.0 | <3.0 | 276 | 27 | <3.0 | <3.0 | 29 |
| Nitrate as $NO_3$-N | | | 80.7 | 0.56 | | | 0.63 |
| ORC - 12/18/96 | | | IN | IN | | | |

**Third Quarter - August 1998**

| Sample ID# | 980579 | 980580 | 980581 | 980582 | 980584 | 980585 | 980583 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1 | 38.3 | <1.0 | <1.0 | 42.9 |
| Ethylebenzene | <1.0 | <1.0 | 135 | 69.30 | <1.0 | <1.0 | 72.6 |
| Toluene | <1.0 | <1.0 | 4.61 | 3.81 | <1.0 | <1.0 | 4.29 |
| Total Xylenes | <3.0 | <3.0 | 387 | 35.8 | <3.0 | <3.0 | 37.0 |
| Nitrate as $NO_3$-N | | | 33.4 | 0.4 | | | 0.4 |
| ORC - 12/18/96 | | | OUT | OUT | | | |

ORC has not been replaced. They were removed in May of 1998.

**Fourth Quarter - November 1998**

| Sample ID# | 980808 | 980809 | 980810 | 980811 | 980813 | 980814 | 9808812 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 1.8 | <1.0 | <1.0 | 2.0 |
| Ethylebenzene | <1.0 | <1.0 | 93.6 | 10.5 | <1.0 | <1.0 | 10.1 |
| Toluene | <1.0 | <1.0 | 1.84 | <1 | <1.0 | <1.0 | <1 |
| Total Xylenes | <3.0 | <3.0 | 320 | 4.6 | <3.0 | <3.0 | 4.7 |
| Total Naphthalenes | | | 53 | 11.8 | | | |
| Benzo(a)Pyrene | | | <1.0 | <0.1 | | | |
| Nitrate as $NO_3$-N | | | 254 | 0.3 | | | |
| ORC - 12/18/96 | | | OUT | OUT | | | |

El Paso Natural Gas Company

A 2414

# CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | Requested Analysis: NITRATE AS NO3-N | Remarks |
|---|---|---|---|---|---|---|
| | OLD BLANCO FIELD YARD | | | | | |
| Samplers: (Signature) Dennis Bird | Date: 11-17-98 | | | | | |

| MATRIX | Date | Time | Comp. | GRAB | Sample Number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 11-17-98 | 0857 | | X | 980808 | G-1 | 34°F | X | | | | MONITOR WELL MW-1 |
| WATER | 11-17-98 | 1126 | | X | 980809 | G-1 | 34°F | X | | | | MONITOR WELL MW-2 |
| WATER | 11-17-98 | 1209 | | X | 980810 | G-1 | 34°F | X | X | | | MONITOR WELL MW-3 |
| WATER | 11-17-98 | 1305 | | X | 980811 | G-1 | 34°F | X | X | | | MONITOR WELL MW-4 |
| WATER | 11-17-98 | 1305 | | X | 980812 | G-1 | 34°F | X | | | | MONITOR WELL MW-4 FIELD DUP |
| WATER | 11-17-98 | 1432 | | X | 980813 | G-1 | 34°F | X | | | | MONITOR WELL MW-5 |
| WATER | 11-17-98 | 1535 | | X | 980814 | G-1 | 34°F | X | | | | MONITOR WELL MW-6 |
| WATER | 11-17-98 | 1625 | | X | 980815 | G-1 | 34°F | X | | | | MONITOR WELL PZ-1 |
| WATER | 11-17-98 | — | | X | — | G-1 | 34°F | X | | | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 11-17-98 1728 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Marian Kapper | 11/18/98 1150 | | |

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

Air Bill No.:

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980808 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 0957 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-1 | Water |

Field Remarks: _____

## RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 99.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/20/98

980808BTEXMWOldBlanco,11/20/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980809 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1126 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-2 | 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 99.3 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Gardi Date: 11/20/98

980809BTEXMWOldBlanco,11/20/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980810 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1209 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-3 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | <1 | PPB | | | | |
| TOLUENE | 1.84 | PPB | | | | |
| ETHYL BENZENE | 93.6 | PPB | | | | |
| TOTAL XYLENES | 320 | PPB | | | | |
| TOTAL BTEX | 416 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100.7 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

**Narrative:**

Approved By: John Sanchez Date: 11/20/98

980810BTEXMWOldBlanco,11/20/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980810 |
| DATE SAMPLED: | 11/17/98 |
| TIME SAMPLED (Hrs): | N/A |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-3 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 254 | PPM | 11/18/98 |
| Nitrite as $N0_2$-N | 3.86 | PPM | 11/18/98 |

Lab Remarks:

Reported By: CRV

Approved By: John Saldana

Date: 12/3/98

980810GCSSNitrate-Nitrite, 11/23/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980811 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1305 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-4 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 1.75 | PPB | | | | |
| TOLUENE | <1 | PPB | | | | |
| ETHYL BENZENE | 10.5 | PPB | | | | |
| TOTAL XYLENES | 4.58 | PPB | | | | |
| TOTAL BTEX | 15.1 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/20/98

980811BTEXMWOldBlanco,11/20/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980811 |
| DATE SAMPLED: | 11/17/98 |
| TIME SAMPLED (Hrs): | 1305 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $NO_3$-N | 0.3 | PPM | 11/18/98 |
| Nitrite as $NO_2$-N | <0.1 | PPM | 11/18/98 |

Lab Remarks:

Reported By: CRV Approved By: John Isabelle Date: 11/20/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980812 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1305 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-4 Field Dup | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 1.96 | PPB | | | | |
| TOLUENE | <1 | PPB | | | | |
| ETHYL BENZENE | 10.1 | PPB | | | | |
| TOTAL XYLENES | 4.66 | PPB | | | | |
| TOTAL BTEX | 14.7 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.3 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Sabah Date: 11/20/98

980812BTEXMWOldBlanco,11/20/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980813 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1432 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-5 | 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 | | | | |

The Surrogate Recovery was at 99.6 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/20/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980814 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1535 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/19/98 | 11/19/98 |
| TYPE \| DESCRIPTION: | MW-6 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | < 1 | PPB | | | | |
| TOLUENE | < 1 | PPB | | | | |
| ETHYL BENZENE | < 1 | PPB | | | | |
| TOTAL XYLENES | 1.83 | PPB | | | | |
| TOTAL BTEX | 1.83 | PPB | | | | |

The Surrogate Recovery was at 100.1 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Gordon Date: 11/20/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980815 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/17/98 | 1625 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/20/98 | 11/20/98 |
| TYPE \| DESCRIPTION: | PZ-7 | 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 | | | | |

The Surrogate Recovery was at 100.4 % for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 12/3/98

PARAGON ANALYTICS, INC.
225 Commerce Drive ◆ Fort Collins, CO 80524 ◆ (800) 443-1511 ◆ (970) 490-1511 ◆ FAX (970) 490-1522

Rec'd 12/10/98 J. Sabin

EPES Sample #'s 980810 and 980811

December 8, 1998

Mr. John Lambdin
El Paso Field Services
770 West Navajo
Farmington, NM 87401

RE: Paragon Workorder: 98-11-126
Client Project Name: Old Blanco Field Yard MW's
Client Project Number: None Submitted

Dear Mr. Lambdin:

Two water samples were received from El Paso Field Services on December 19, 1998. The samples were scheduled for PAHs by HPLC analysis. The results for this analysis are contained in the enclosed report pages 1-7.

Thank you for your confidence in Paragon Analytics, Inc. Should you have any questions, please call.

Sincerely,

Adrienne Mackzum

Paragon Analytics, Inc.
Adrienne Mackzum
Project Manager

Reviewed and Accepted 12/10/98 J. Sabin

AM/dl
Enclosure: Report

# Paragon Analytics, Incorporated

## Sample Number(s) Cross-Reference Table

**Paragon OrderNum:** 9811126
**Client Name:** El Paso Field Services
**Client Project Name:** Old Blanco Field Yard MW's
**Client Project Number:**
**Client PO Number:**

| Client Sample | Lab Sample Number | COC Number | Matrix | Date Collected | Time Collected |
|---|---|---|---|---|---|
| 980810 MW-3 | 9811126-1 | | Water | 11/17/98 | 12:09 |
| 980811 MW-4 | 9811126-2 | | Water | 11/17/98 | 13:05 |

OLD BLANCO FIELD YARD.

**PARAGON ANALYTICS, INC.**
225 Commerce Drive Ft. Collins, CO 80524
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(970) 490-1522 - Fax

# CHAIN OF CUSTODY

DATE 1-17-98 Page 1 of 1

*ACCESSION NUMBER (LAB ID) 981126

REPORT TO: JOHN CAMBLIN
COMPANY: EL PASO FIELD SERVICES
ADDRESS: 614 REILLY AVENUE
FARMINGTON NM 87401
SAMPLER: Dennis Bird
505-599-2249 (505) 599-2261
PHONE NO. FAX NO.

| SAMPLE ID | DATE | TIME | MATRIX | LAB ID |
|---|---|---|---|---|
| 980810 | 1-16-98 | 1209 | WATER | 01 |
| 980811 | 1-16-98 | 1305 | WATER | 02 |

ANALYSIS REQUESTED

| Analysis | Number of Containers |
|---|---|
| Oil & Grease 9070/9071/413.2 | |
| 418.1 - TRPH | |
| 8015 Mod. - Gasoline | |
| 8015 Mod. - Diesel | |
| 8015m/8020 - Gasoline/BETX | |
| 8020 - BETX only | |
| 8240/8260 - GC/MS VOC's | |
| 8270 - GC/MS SVOC's | |
| 8080 - Pesticides/PCB's | |
| 8080 - PCB's only | |
| 8310/610 - HPLC PNA's | 1 |
| 8150 - Herbicides | |
| 8141/614 - OP Pesticides | |
| TOX - EOX - AOX - TX | |
| Total Metals *(specify in comments) | |
| TCLP: *(specify parameters in comments) | |
| Gross Alpha / Beta | |
| Gross Gamma | |
| Gamma Spec | |
| Isotopic Plutonium | |
| Isotopic Uranium | |
| Total Uranium (KPA) | |
| Radium 226 / 228 | |
| Tritium (H3) | |
| Strontium 89 / 90 | |
| 8315 - Formaldehyde | |
| % Moisture | |
| | 2 |

PROJECT INFORMATION
PROJECT NUMBER:
PROJECT NAME: OLD BLANCO FIELD YARD AWS
P.O. NUMBER:
TAT: [X] STANDARD [ ] RUSH DUE _____
SAMPLE DISPOSAL: [ ] HAZ WASTE $5.00 ea [ ] RAD CHEM $15.00 ea [ ] RETURN

SAMPLE RECEIPT
TOTAL NO. OF CONTAINERS
CHAIN OF CUSTODY SEALS Y / N
SEALS INTACT? Y / N / NA
REC'D GOOD COND./COLD?

COMMENTS: LOW LEVEL BENZO(A)PYRENE 10.7 ppb

| RELINQUISHED BY: 1 | RELINQUISHED BY: 2 | RELINQUISHED BY: 3 |
|---|---|---|
| Sign. Dennis Bird 1735 Time | Sign. Time | Sign. Time |
| Print DENNIS BIRD 1-17-98 Date | Print Date | Print Date |
| Company EL PASO FIELD SERVICE | Company Fed Ex | Company |
| **RECEIVED BY: 1** | **RECEIVED BY: 2** | **RECEIVED BY: 3** |
| Sign. Time | Sign. J Hunter 930A Time | Sign. Time |
| Print Date | Print J Hunter 1-19-98 Date | Print Date |
| Company Fed Ex | Company PAI | Company |

* DO NOT WRITE IN SHADED AREAS

DISTRIBUTION: White, Canary - PARAGON ANALYTICS, INC. Pink - Originator

# CONDITION OF SAMPLE UPON RECEIPT

CLIENT: El Paso Field Svc  SHIPPING CONTAINER #: Client cooler

WORKORDER NO. 9811126  INITIALS: JH  DATE: 11/19/98

| | | | | |
|---|---|---|---|---|
| 1. | Does this project require special handling according to NEESA, Level 3, or CLP protocols?<br>If yes, complete a. and b.<br>a. Cooler Temperature_____<br>b. Lot No's._____<br>c. Airbill Number | | Yes | (No) |
| 2. | Are custody seals on the cooler intact? If so, how many _____ | N/A | (Yes) | No |
| 3. | Are custody seals on sample containers intact? | (N/A) | Yes | No |
| 4. | Is there a Chain of Custody (COC) or other representative documents, letters or shipping memos? | | (Yes) | No |
| 5. | Is the COC complete?<br>Relinquished: Yes X No  Requested Analysis: Yes X No | N/A | (Yes) | No |
| 6. | Is the COC in agreement with the samples received?<br>No. of Samples: Yes X No___  Sample ID's: Yes X No___<br>Matrix: Yes X No  No. of Containers: Yes X No | | (Yes) | No |
| 7. | Are the samples requiring chemical preservation preserved correctly? | (N/A) | Yes | No |
| 8. | Is there enough sample? If so, are they in the proper containers? | | (Yes) | No |
| 9. | Are all samples within holding times for the requested analyses? | | (Yes) | No |
| 10. | Were the sample(s) shipped on ice? | N/A | (Yes) | No |
| 11. | Were all sample containers received intact? (not broken or leaking, etc.) | | (Yes) | No |
| 12. | Are samples requiring no headspace, headspace free? | (N/A) | Yes | No |
| 13. | Do the samples require quarantine? | | Yes | (No) |
| 14. | Do samples require Paragon disposal? | | (Yes) | No |
| 15. | Did the client return any unused bottles? | | Yes | (No) |

Describe "NO" items (except No's 1, 13, &14): _____

Was the client contacted? Yes_____ No_____

If yes, Date:_____ Name of person contacted:_____

Describe actions taken or client instructions: _____

Group Leader's Signature:_____ Date:_____

Cooler Temperature: 3°

# Paragon Analytics, Inc.

## PAHs by HPLC Case Narrative

### El Paso Field Services

Old Blanco Field Yard MW's

**Order Number - 9811126**

1. This report consists of 2 water samples received by Paragon on 11/19/98.

2. These samples were extracted and analyzed according to SW-846, 3rd Edition procedures. Specifically, the water samples were extracted using continuous liquid-liquid extractors, based on Method 3520. Some of these extracts were then processed using Silica Gel cleanup by Method 3630 in an attempt to remove potential interferences.

3. The extracts were then analyzed using HPLC with UV and fluorescence detectors with a reverse phase C18 column according to protocols based on Method 8310. All compounds are analyzed using UV at 254 nm. Confirmation is performed for positive results using the fluorescence detector or confirmed by UV at 280 nm for those compounds that do not respond to the fluorescence detector. The quantitation of each analyte is usually taken from the detector that exhibits the fewest interferences. For compounds that only respond to UV, the result is taken from the wavelength that exhibits fewer interferences. These quantitations minimize the chances of reporting elevated results based on interferences.

4. All continuing calibration criteria were met with the following exceptions;

   Continuing calibration #2, 3, and ending - Anthracene was out high on the fluorescence detector. This compound was not detected in any of the samples, so no further action was needed.

5. The method blank associated with this project was below the reporting limits for all analytes.

6. All laboratory control spike and laboratory control spike duplicate criteria were met with the following exceptions:

| Spiked Compound | QC Parameter | Direction |
|---|---|---|
| Dibenzo(a,h)anthracene | RPD | high |

The recovery of this compound was within the % recovery limits in both the LCS and the LCSD. This compound was not detected above the reporting limit in either of the samples. As no sample quantitations are compromised and reporting limits are defensible, data are submitted.

7. Matrix spikes and matrix spike duplicates could not be performed because of insufficient sample. A laboratory control spike and laboratory control spike duplicate were performed instead.

8. All samples were extracted and analyzed within the established holding times.

9. All surrogate recoveries were within acceptance criteria.

10. Sample 1 was analyzed at a higher dilution in order to bring target analytes within the calibration range of the instrument. The reporting limits have been adjusted accordingly.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, Paragon Analytics, Inc. certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed.

Preston Mathiesen — 12/7/98
Preston Mathiesen
HPLC Analyst
Date

EB — 12/8/98
Reviewer's Initials
Date

# Paragon Analytics, Incorporated

## Sample Number(s) Cross-Reference Table

**Paragon OrderNum:** 9811126
**Client Name:** El Paso Field Services
**Client Project Name:** Old Blanco Field Yard MW's
**Client Project Number:**
**Client PO Number:**

| Client Sample | Lab Sample Number | COC Number | Matrix | Date Collected | Time Collected |
|---|---|---|---|---|---|
| 980810 | 9811126-1 | | Water | 11/17/98 | 12:09 |
| 980811 | 9811126-2 | | Water | 11/17/98 | 13:05 |

# POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

Sample ID

**Reagent Blank**

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Old Blanco Field Yard MW's

Lab Sample ID: WMB1 11/20/98

Sample Matrix: Water
Cleanup: Silica gel

Date Collected: N/A
Date Extracted: 11/20/98
Date Analyzed: 12/04/98

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 1

| Analyte | Conc (ug/L) | Reporting Limit (ug/L) |
|---|---|---|
| Naphthalene | ND | 0.50 |
| Acenaphthylene | ND | 1.0 |
| 1-Methylnaphthalene | ND | 1.0 |
| 2-Methylnaphthalene | ND | 1.0 |
| Acenaphthene | ND | 1.0 |
| Fluorene | ND | 0.10 |
| Phenanthrene | ND | 0.050 |
| Anthracene | ND | 0.10 |
| Fluoranthrene | ND | 0.10 |
| Pyrene | ND | 0.050 |
| Benzo(a)anthracene | ND | 0.050 |
| Chrysene | ND | 0.050 |
| Benzo(b)fluoranthrene | ND | 0.10 |
| Benzo(k)fluoranthrene | ND | 0.050 |
| Benzo(a)pyrene | ND | 0.10 |
| Dibenzo(a,h)anthracene | ND | 0.10 |
| Benzo(g,h,i)perylene | ND | 0.10 |
| Indeno(1,2,3-c,d)pyrene | ND | 0.10 |

## SURROGATE RECOVERY

| Analyte | % Recovery | % Rec Limits |
|---|---|---|
| 2-Chloroanthracene | 63 | 35 - 119 |

ND = Not Detected at or above client requested reporting limit.

# POLYNUCLEAR AROMATIC HYDROCARBONS

OLD BLANCO FIELD

Method 8310

Sample ID

**980810**

MW-3

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Old Blanco Field Yard MW's

Lab Sample ID: 9811126-1

Sample Matrix: Water
Cleanup: Silica gel

Date Collected: 11/17/98
Date Extracted: 11/20/98
Date Analyzed: 12/04/98

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 10

| Analyte | Conc (ug/L) | Reporting Limit (ug/L) |
|---|---|---|
| Naphthalene | 30 | 5.0 |
| Acenaphthylene | ND | 10 |
| 1-Methylnaphthalene | 11 | 10 |
| 2-Methylnaphthalene | 12 | 10 |
| Acenaphthene | ND | 10 |
| Fluorene | ND | 1.0 |
| Phenanthrene | 0.75 | 0.50 |
| Anthracene | ND | 1.0 |
| Fluoranthrene | ND | 1.0 |
| Pyrene | ND | 0.50 |
| Benzo(a)anthracene | ND | 0.50 |
| Chrysene | ND | 0.50 |
| Benzo(b)fluoranthrene | ND | 1.0 |
| Benzo(k)fluoranthrene | ND | 0.50 |
| Benzo(a)pyrene | ND | 1.0 |
| Dibenzo(a,h)anthracene | ND | 1.0 |
| Benzo(g,h,i)perylene | ND | 1.0 |
| Indeno(1,2,3-c,d)pyrene | ND | 1.0 |

TOTAL NAPHTHALENES = 53 PPB

## SURROGATE RECOVERY

| Analyte | % Recovery | % Rec Limits |
|---|---|---|
| 2-Chloroanthracene | 54 | 35 - 119 |

ND = Not Detected at or above client requested reporting limit.

# POLYNUCLEAR AROMATIC HYDROCARBONS

Method 8310

OLD BLANCO FIELD

Sample ID: **980811** MW - 4

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Old Blanco Field Yard MW's

Lab Sample ID: 9811126-2

Sample Matrix: Water
Cleanup: N/A

Date Collected: 11/17/98
Date Extracted: 11/20/98
Date Analyzed: 12/04/98

Sample Volume: 1000 mL
Final Volume: 1 mL
Dilution Factor: 1

| Analyte | Conc (ug/L) | Reporting Limit (ug/L) |
|---|---|---|
| Naphthalene | 9.9 | 0.50 |
| Acenaphthylene | ND | 1.0 |
| 1-Methylnaphthalene | 1.9 | 1.0 |
| 2-Methylnaphthalene | 0.62 J | 1.0 |
| Acenaphthene | ND | 1.0 |
| Fluorene | 0.29 | 0.10 |
| Phenanthrene | ND | 0.050 |
| Anthracene | ND | 0.10 |
| Fluoranthrene | ND | 0.10 |
| Pyrene | ND | 0.050 |
| Benzo(a)anthracene | ND | 0.050 |
| Chrysene | ND | 0.050 |
| Benzo(b)fluoranthrene | ND | 0.10 |
| Benzo(k)fluoranthrene | ND | 0.050 |
| Benzo(a)pyrene | ND | 0.10 |
| Dibenzo(a,h)anthracene | ND | 0.10 |
| Benzo(g,h,i)perylene | ND | 0.10 |
| Indeno(1,2,3-c,d)pyrene | ND | 0.10 |

## SURROGATE RECOVERY

TOTAL NAPHTHALENES = 11.8

| Analyte | % Recovery | % Rec Limits |
|---|---|---|
| 2-Chloroanthracene | 66 | 35 - 119 |

ND = Not Detected at or above client requested reporting limit.

000006

# POLYNUCLEAR AROMATIC HYDROCARBONS BLANK SPIKE

Method 8310

Sample ID

**Blank Spike**

Lab Name: Paragon Analytics, Inc.
Client Name: El Paso Field Services
Client Project ID: Old Blanco Field Yard MW's

Lab Sample ID: WLCS1, 11/20/98

Date Extracted: 11/20/98
Date Analyzed: 12/04/98

Sample Matrix: Water
Cleanup: N/A

Sample Volume: 1,000 mL
Final Volume: 1 mL

| Analyte | Spike Added (ug/L) | LCS Concentration (ug/L) | LCS Percent Recovery | QC Limits % Rec |
|---|---|---|---|---|
| Acenaphthylene | 10.0 | 5.86 | 59 | 36 - 93 |
| Phenanthrene | 0.500 | 0.363 | 73 | 45 - 107 |
| Pyrene | 0.500 | 0.338 | 68 | 40 - 104 |
| Benzo(k)fluoranthene | 0.500 | 0.332 | 66 | 61 - 126 |
| Dibenzo(a,h)anthracene | 1.00 | 0.656 | 66 | 55 - 113 |

Lab Sample ID: WCLSD1, 11/20/98

| Analyte | Spike Added (ug/L) | LCSD Concentration (ug/L) | LCSD Percent Recovery | RPD | QC Limits RPD |
|---|---|---|---|---|---|
| Acenaphthylene | 10.0 | 6.89 | 69 | 16 | 20 |
| Phenanthrene | 0.500 | 0.424 | 85 | 16 | 20 |
| Pyrene | 0.500 | 0.392 | 78 | 15 | 20 |
| Benzo(k)fluoranthene | 0.500 | 0.395 | 79 | 18 | 20 |
| Dibenzo(a,h)anthracene | 1.00 | 0.808 | 81 | 21 * | 20 |

## SURROGATE RECOVERY BS/BSD

| Analyte | % Recovery LCS | % Recovery LCSD | % Rec Limits |
|---|---|---|---|
| 2-Chloroanthracene | 62 | 74 | 35 -119 |

* = Out of limits. See case narritive.

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

**Samples: 980805, 980808 to 980815**

QA/QC for 11/19/98 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.2 | 102.3 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.3 | 103 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 51.4 | 103 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 103 | 102.7 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 50.8 | 102 | 75 - 125 % | X | |

| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 25.0 | 25.0 | 100.1 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 25.1 | 100 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 25.3 | 101 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 50.3 | 101 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 25.1 | 100 | Not Given | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.8 | 103.6 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.8 | 103.6 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 51.9 | 103.8 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 103.2 | 103.2 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.6 | 103 | 75 - 125 % | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.6 | 103.2 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.1 | 102.2 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 50.8 | 101.7 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 100.5 | 100.5 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 50.7 | 101.4 | 75 - 125 % | X | |

Narrative: Acceptable.

LABORATORY DUPLICATES:

| SAMPLE ID 980808 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | <2 | <2 | 0.00 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 980808 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | <1 | 52.2 | 104.4 | 75 - 125 % | X | |
| Toluene | 50 | <1 | 51.7 | 103 | 75 - 125 % | X | |
| Ethylbenzene | 50 | <1 | 52.0 | 104 | 75 - 125 % | X | |
| m & p - Xylene | 100 | <2 | 104 | 103.9 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 51.8 | 104 | 75 - 125 % | X | |

Narrative: Acceptable

| AUTO BLANK | SOURCE | PPB (3 analyzed with set) | STATUS |
|---|---|---|---|
| Benzene | Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

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

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| TRIP BLANK | SOURCE | PPB (2 analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

Reported By: CRV Approved By: John Fowler Date: 11/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 4.20
Height of Water Column in Well (feet) 6.40
Diameter (inches): Well 2 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 1.1 | 3.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-17-98 | 0937 | | | | | | | | | | 13.7 | 6.64 | 1283 | | |
| 11-17-98 | 0941 | | | | | | 1.0 | 1.0 | | | 14.5 | 6.85 | 1282 | | |
| 11-17-98 | 0946 | | | | | | 2.0 | 3.0 | | | 15.0 | 6.90 | 1185 | | |
| 11-17-98 | 0950 | | | | | | 2.0 | 5.0 | | | 14.9 | 6.96 | 1196 | 1.0 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer John Fuller Date 11/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 6.29
Height of Water Column in Well (feet) 14.11
Diameter (inches): Well 4 Gravel Pack_____

| Item | Water Volume in Well: Cubic Feet | Water Volume in Well: Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 9.3 | 28.0 |
| 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: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulative | Product Volume Removed (gallons): Increment | Product Volume Removed (gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11-17-98 | 1020 | | | | | | | | | | 15.2 | 7.19 | 1014 | | |
| 11-17-98 | 1026 | | | | | | 5.0 | 5.0 | | | 17.0 | 7.18 | 976 | | |
| 11-17-98 | 1033 | | | | | | 5.0 | 10.0 | | | 17.7 | 7.08 | 1214 | | |
| 11-17-98 | 1042 | | | | | | 5.0 | 15.0 | | | 17.4 | 7.09 | 1237 | | |
| 11-17-98 | 1052 | | | | | | 5.0 | 20.0 | | | 17.8 | 7.11 | 1235 | | |
| 11-17-98 | 1105 | | | | | | 5.0 | 25.0 | | | 17.8 | 7.26 | 1235 | | |
| 11-17-98 | 1116 | | | | | | 5.0 | 30.0 | | | 17.7 | 7.34 | 1205 | 2.5 | |
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Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer John Stark Date 11/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 6.74
Height of Water Column in Well (feet) 5.16
Diameter (inches): Well 3 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.90 | 2.7 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other_____

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-17-98 | 1146 | | | | | | | | | | 15.1 | 8.24 | >29,000 | | |
| 11-17-98 | 1149 | | | | | | 1.0 | 1.0 | | | 15.6 | 8.24 | >29,000 | | |
| 11-17-98 | 1152 | | | | | | 1.0 | 2.0 | | | 15.4 | 8.11 | 14070 | | |
| 11-17-98 | 1203 | | | | | | 3.0 | 5.0 | | | 15.6 | 7.88 | 7040 | 1.0 | |
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Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer John Fowler Date 11/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-4

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 4.94
Height of Water Column in Well (feet) 5.36
Diameter (inches): Well 2 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.93 | 2.8 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-17-98 | 1244 | | | | | | | | | | 15.4 | 7.51 | 1414 | | |
| 11-17-98 | 1247 | | | | | | 1.0 | 1.0 | | | 16.5 | 7.31 | 1455 | | |
| 11-17-98 | 1252 | | | | | | 2.0 | 3.0 | | | 16.6 | 7.14 | 1501 | | |
| 11-17-98 | 1256 | | | | | | 2.0 | 5.0 | | | 17.3 | 7.10 | 1523 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer John Saldo Date 11/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-5

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 19.80
Initial Depth to Water (feet) 8.75
Height of Water Column in Well (feet) 11.05
Diameter (inches): Well 4 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.3 | 21.9 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-17-98 | 1355 | | | | | | | | | | 16.6 | 7.62 | 6100 | | |
| 11-17-98 | 1401 | | | | | | 5.0 | 5.0 | | | 16.8 | 7.67 | 6620 | | |
| 11-17-98 | 1406 | | | | | | 5.0 | 10.0 | | | 16.9 | 7.61 | 5390 | | |
| 11-17-98 | 1413 | | | | | | 5.0 | 15.0 | | | 16.5 | 7.56 | 4370 | | |
| 11-17-98 | 1418 | | | | | | 5.0 | 20.0 | | | 16.2 | 7.35 | 3780 | | |
| 11-17-98 | 1425 | | | | | | 5.0 | 25.0 | | | 16.3 | 7.29 | 3660 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer Jon Loboda Date 1/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 8.63
Height of Water Column in Well (feet) 11.47
Diameter (inches): Well 4 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.6 | 22.7 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other_____

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-17-98 | 1455 | | | | | | | | | | 17.0 | 7.36 | 2310 | | |
| 11-17-98 | 1500 | | | | | | 5.0 | 5.0 | | | 17.4 | 7.33 | 2450 | | |
| 11-17-98 | 1506 | | | | | | 5.0 | 10.0 | | | 17.9 | 7.29 | 2540 | | |
| 11-17-98 | 1513 | | | | | | 5.0 | 15.0 | | | 17.9 | 7.29 | 2580 | | |
| 11-17-98 | 1519 | | | | | | 5.0 | 20.0 | | | 17.8 | 7.28 | 2990 | | |
| 11-17-98 | 1525 | | | | | | 5.0 | 25.0 | | | 17.6 | 7.23 | 2920 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer Jon Jakobs Date 11/20/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number PZ-7

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 10.79
Initial Depth to Water (feet) 6.20
Height of Water Column in Well (feet) 4.59
Diameter (inches): Well 2 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.80 | 2.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-17-98 | 1555 | | | | | | | | | | 14.0 | 7.48 | 1172 | | |
| 11-17-98 | 1559 | | | | | | 1.0 | 1.0 | | | 13.5 | 7.55 | 1238 | | |
| 11-17-98 | 1604 | | | | | | 2.0 | 3.0 | | | 14.1 | 7.53 | 1473 | | |
| 11-17-98 | 1609 | | | | | | 2.0 | 5.0 | | | 14.3 | 7.57 | 1501 | | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 11-17-98 Reviewer [signature] Date 11/20/98

# September 2, 1998

# ANALYTICAL REPORT

# Blanco Field Yard
# Monitor Well Results
# Lab Sample #'s 980579 to 980585

# Sampled 8/25/98
# Sampled by Dennis Bird

**REMARKS:**

These samples represent the 3rd Quarter 1998 compliance samples for this location. The only WQCC standard exceeded was for Benzene in Monitor Well #4.

**Distribution:** David Bays
Scott Pope, Philip Services Corp.
Results File

# El Paso Field Services Company
## Blanco Field Office
## Groundwater Montoring Well Results - 1998 and Last Quarter 1997

**First Quarter - February 1998**

| Sample ID# | 980175 | 980176 | 980177 | 980178 | 980180 | 980181 | 980179 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 60.4 | <1.0 | <1.0 | 53.4 |
| Ethylebenzene | <1.0 | <1.0 | 219 | 87.4 | <1.0 | <1.0 | 78.8 |
| Toluene | <1.0 | <1.0 | 5.71 | 5.21 | <1.0 | 2.40 | 4.69 |
| Total Xylenes | <3.0 | <3.0 | 534 | 78.4 | <3.0 | <3.0 | 64.0 |
| Nitrate as $NO_3$-N | | | 128 | <0.1 | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Second Quarter - May 1998**

| Sample ID# | 980398 | 980399 | 980400 | 980401 | 980403 | 980404 | 980402 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 41.4 | <1.0 | <1.0 | 44.0 |
| Ethylebenzene | <1.0 | <1.0 | 83.3 | 62.6 | <1.0 | <1.0 | 67.3 |
| Toluene | <1.0 | <1.0 | 3.11 | 3.00 | <1.0 | <1.0 | 3.16 |
| Total Xylenes | <3.0 | <3.0 | 276 | 27 | <3.0 | <3.0 | 29 |
| Nitrate as $NO_3$-N | | | 80.7 | 0.56 | | | 0.63 |
| ORC - 12/18/96 | | | IN | IN | | | |

**Third Quarter - August 1998**

| Sample ID# | 980579 | 980580 | 980581 | 980582 | 980584 | 980585 | 980583 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1 | 38.3 | <1.0 | <1.0 | 42.9 |
| Ethylebenzene | <1.0 | <1.0 | 135 | 69.30 | <1.0 | <1.0 | 72.6 |
| Toluene | <1.0 | <1.0 | 4.61 | 3.81 | <1.0 | <1.0 | 4.29 |
| Total Xylenes | <3.0 | <3.0 | 387 | 35.8 | <3.0 | <3.0 | 37.0 |
| Nitrate as $NO_3$-N | | | 33.4 | 0.4 | | | 0.4 |
| ORC - 12/18/96 | | | OUT | OUT | | | |

ORC has not been replaced. They were removed in May of 1998.

**Fourth Quarter - November 1997**

| Sample ID# | 971206 | 971207 | 971208 | 971209 | 971211 | 971212 | 971210 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 29.7 | <1.0 | <1.0 | 39.4 |
| Ethylebenzene | <1.0 | <1.0 | 70.9 | 26.7 | <1.0 | <1.0 | 35.4 |
| Toluene | <1.0 | <1.0 | 1.22 | <1 | <1.0 | <1.0 | <1 |
| Total Xylenes | <3.0 | <3.0 | 243 | 21.1 | <3.0 | <3.0 | 29.7 |
| Nitrate as $NO_3$-N | <0.6 | <0.6 | 125 | 0.7 | <1.1 | <1.1 | 0.7 |
| ORC - 12/18/96 | | | IN | IN | | | |

El Paso Natural Gas Company

A 2383

## CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | Requested Analysis: NITRATE-N AS NO3 | Remarks |
|---|---|---|---|---|---|---|
| | OLD BLANCO FIELD YARD | | | | | |
| Samplers: (Signature) Dennis Bird | Date: 8-25-98 | | | | | |

| MATRIX | Date | Time | Comp. | GRAB | Sample Number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 8-25-98 | 0913 | | X | 980579 | G-1 | 4°C | X | | | | MONITOR WELL MW-1 |
| WATER | 8-25-98 | 1136 | | X | 980580 | G-1 | 4°C | X | | | | MONITOR WELL MW-2 |
| WATER | 8-25-98 | 1149 | | X | 980581 | G-1 | 4°C | X | X | | | MONITOR WELL MW-3 |
| WATER | 8-25-98 | 1237 | | X | 980582 | G-1 | 4°C | X | X | | | MONITOR WELL MW-4 |
| WATER | 8-25-98 | 1237 | | X | 980583 | G-1 | 4°C | X | X | | | MONITOR WELL MW-4 FIELD DUP |
| WATER | 8-25-98 | 1409 | | X | 980584 | G-1 | 4°C | X | | | | MONITOR WELL MW-5 |
| WATER | 8-25-98 | 1520 | | X | 980585 | G-1 | 4°C | X | | | | MONITOR WELL MW-6 |
| WATER | 8-25-98 | — | | X | — | G-1 | 4°C | X | | | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 8-25-98 1752 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Madon Hopper | 8/27/98 0900 | | |
| Carrier Co: | | Carrier Phone No. | Date Results Reported / by: (Signature) | | |
| Air Bill No.: | | | | | |

san juan repro Form 71-55 A

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980579 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 0913 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-1 | Water |

Field Remarks: _____

## RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 100.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fuller Date: 9/1/98

**EL PASO FIELD SERVICES**

# Well Development and Purging Data

☐ Development
☒ Purging

**Well Number** MW-1

**Site Name** OLD BLANCO FIELD YARD

**Meter Code** NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 5.18
Height of Water Column in Well (feet) 5.42
Diameter (inches): Well 2 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.94 | 2.8 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-25-98 | 0852 | | | | | | | | | | 22.8 | 6.47 | 1185 | | |
| 8-25-98 | 0855 | | | | | | 1.0 | 1.0 | | | 21.9 | 6.79 | 1091 | | |
| 8-25-98 | 0900 | | | | | | 2.0 | 3.0 | | | 21.4 | 6.94 | 1108 | | |
| 8-25-98 | 0905 | | | | | | 2.0 | 5.0 | | | 21.2 | 7.02 | 1085 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 8-25-98 Reviewer John Stanko Date 9/1/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 7.19
Height of Water Column in Well (feet) 13.21
Diameter (inches): Well 4 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 8.7 | 26.2 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-25-98 | 0953 | | | | | | | | | | 23.5 | 6.13 | 516 | | |
| 8-25-98 | 0959 | | | | | | 5.0 | 5.0 | | | 21.5 | 5.92 | 506 | | |
| 8-25-98 | 1006 | | | | | | 5.0 | 10.0 | | | 20.7 | 5.99 | 695 | | |
| 8-25-98 | 1018 | | | | | | 5.0 | 15.0 | | | 21.0 | 6.44 | 940 | | |
| 8-25-98 | 1030 | | | | | | 5.0 | 20.0 | | | 21.6 | 6.90 | 1021 | | |
| 8-25-98 | 1117 | | | | | | 5.0 | 25.0 | | | 22.0 | 7.33 | 996 | | |
| 8-25-98 | 1124 | | | | | | 5.0 | 30.0 | | | 21.5 | 7.16 | 924 | 2.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments THE WELL BAILED DRY @ 20.0 GALLONS.

Developer's Signature Dennis Bird Date 8-25-98 Reviewer John Saulds Date 9/1/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980580 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 1136 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-2 | 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 100.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9/1/98

980580BTEXMWOldBlanco,8/28/98

EL PASO FIELD SERVICES

# Field Services Laboratory
# Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980581 |
| DATE SAMPLED: | 08/25/98 |
| TIME SAMPLED (Hrs): | 1149 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | M-3 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $NO_3$-N | 33.4 | PPM | 08/27/98 |
| Nitrite as $NO_2$-N | 1.5 | PPM | 08/27/98 |

Lab Remarks:

Reported By: CRV Approved By: _____ Date: 9/1/98

980581GCSSN/trate-Nitrite, 8/31/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980581 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 1149 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-3 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS DF | Q | | |
|---|---|---|---|---|---|---|
| BENZENE | <1 | PPB | | | | |
| TOLUENE | 4.61 | PPB | | | | |
| ETHYL BENZENE | 135 | PPB | | | | |
| TOTAL XYLENES | 387 | PPB | | | | |
| TOTAL BTEX | 527 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 104.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9/1/98

980581BTEXMWOldBlanco,8/28/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Methods of Development

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

☐ Other_____

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 7.64
Height of Water Column in Well (feet) 4.26
Diameter (inches): Well 2 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.74 | 2.2 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-25-98 | 1039 | | | | | | | | | | 23.6 | 7.80 | 6570 | | |
| 8-25-98 | 1044 | | | | | | 1.0 | 1.0 | | | 23.3 | 7.53 | 1813 | | |
| 8-25-98 | 1053 | | | | | | 1.0 | 2.0 | | | 23.2 | 7.52 | 1566 | | |
| 8-25-98 | 1110 | | | | | | 3.0 | 5.0 | | | 23.8 | 7.48 | 1461 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 8-25-98 Reviewer John Faulkner Date 9/1/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980582 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 1237 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-4 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 38.3 | PPB | | | | |
| TOLUENE | 3.81 | PPB | | | | |
| ETHYL BENZENE | 69.3 | PPB | | | | |
| TOTAL XYLENES | 35.8 | PPB | | | | |
| TOTAL BTEX | 147 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9/1/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980582 |
| DATE SAMPLED: | 08/25/98 |
| TIME SAMPLED (Hrs): | 1237 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | M-4 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 0.4 | PPM | 08/27/98 |
| Nitrite as $N0_2$-N | <0.1 | PPM | 08/27/98 |

Lab Remarks:

Reported By: CRV

Approved By: _____

Date: 9/1/98

980582GCSS Nitrate-Nitrite, 8/31/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

**Well Number** MW-4

**Site Name** OLD BLANCO FIELD YARD

**Meter Code** NA

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 5.79
Height of Water Column in Well (feet) 4.51
Diameter (inches): Well 2 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.78 | 2.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other_____

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-25-98 | 1217 | | | | | | | | | | 27.0 | 7.10 | 1219 | | |
| 8-25-98 | 1220 | | | | | | 1.0 | 1.0 | | | 26.6 | 7.20 | 1177 | | |
| 8-25-98 | 1225 | | | | | | 2.0 | 3.0 | | | 26.3 | 7.23 | 1183 | | |
| 8-25-98 | 1230 | | | | | | 2.0 | 5.0 | | | 25.8 | 7.15 | 1119 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 8-25-98 Reviewer John Landers Date 9/1/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980583 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 1237 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-4 Field Dup | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 42.9 | PPB | | | | |
| TOLUENE | 4.29 | PPB | | | | |
| ETHYL BENZENE | 72.6 | PPB | | | | |
| TOTAL XYLENES | 37.0 | PPB | | | | |
| TOTAL BTEX | 157 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 9/1/98

980583BTEXMWOldBlanco,8/28/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980583 |
| DATE SAMPLED: | 08/25/98 |
| TIME SAMPLED (Hrs): | 1237 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | M-4 Field Dup |

FIELD REMARKS:

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 0.4 | PPM | 08/27/98 |
| Nitrite as $N0_2$-N | <0.1 | PPM | 08/27/98 |

Lab Remarks:

Reported By: CRV

Approved By: John Fowler

Date: 9/1/98

980583GCSSNitrate-Nitrite, 8/31/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980584 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 1409 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-5 | Water |

Field Remarks: _____

## RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9/1/98

**EL PASO FIELD SERVICES**

# Well Development and Purging Data

☐ Development
☒ Purging

**Well Number** MW-5

**Site Name** OLD BLANCO FIELD YARD

**Meter Code** NA

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 19.80
Initial Depth to Water (feet) 9.15
Height of Water Column in Well (feet) 10.65
Diameter (inches): Well 4 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.0 | 21.1 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other_____

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-25-98 | 1330 | | | | | | | | | | 21.8 | 7.27 | 7000 | | |
| 8-25-98 | 1336 | | | | | | 5.0 | 5.0 | | | 18.8 | 7.32 | 6810 | | |
| 8-25-98 | 1341 | | | | | | 5.0 | 10.0 | | | 18.3 | 7.32 | 5140 | | |
| 8-25-98 | 1348 | | | | | | 5.0 | 15.0 | | | 18.1 | 7.32 | 4360 | | |
| 8-25-98 | 1353 | | | | | | 5.0 | 20.0 | | | 18.2 | 7.26 | 4070 | | |
| 8-25-98 | 1400 | | | | | | 5.0 | 25.0 | | | 18.7 | 7.33 | 3930 | 1.5 | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |

Comments_____

Developer's Signature Dennis Bird Date 8-25-98 Reviewer John Stubblefield Date 9/1/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980585 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/25/98 | 1520 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 8/27/98 | 8/27/98 |
| TYPE \| DESCRIPTION: | MW-6 | 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 99.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 9/1/98

980585BTEXMWOldBlanco,8/28/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 9.09
Height of Water Column in Well (feet) 11.01
Diameter (inches): Well 4 Gravel Pack_____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.3 | 21.8 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other_____

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-25-98 | 1438 | | | | | | | | | | 23.5 | 7.13 | 2110 | | |
| 8-25-98 | 1444 | | | | | | 5.0 | 5.0 | | | 22.0 | 7.32 | 2860 | | |
| 8-25-98 | 1450 | | | | | | 5.0 | 10.0 | | | 21.0 | 7.30 | 3910 | | |
| 8-25-98 | 1455 | | | | | | 5.0 | 15.0 | | | 21.1 | 7.28 | 3320 | | |
| 8-25-98 | 1502 | | | | | | 5.0 | 20.0 | | | 20.9 | 7.32 | 3500 | | |
| 8-25-98 | 1510 | | | | | | 5.0 | 25.0 | | | 21.1 | 7.33 | 3080 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments_____

Developer's Signature Dennis Bird Date 8-25-98 Reviewer John Fowler Date 9/1/98

# EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

**Samples: 980579 to 980585, 980589 to 980591**

**QA/QC for 8/27/98 Sample Set**

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.6 | 103.2 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.8 | 104 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 51.9 | 104 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 104 | 104.4 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.9 | 104 | 75 - 125 % | X | |

| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 25.0 | 25.4 | 101.8 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 25.8 | 103 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 25.8 | 103 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 51.8 | 104 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 25.9 | 104 | Not Given | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.9 | 103.8 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 52.0 | 104.0 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 52.5 | 105.1 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 105 | 105.0 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 52.1 | 104 | 75 - 125 % | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.1 | 102.2 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 50.9 | 101.8 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 50.6 | 101.1 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 101 | 101.3 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 50.9 | 101.8 | 75 - 125 % | X | |

Narrative: Acceptable.

LABORATORY DUPLICATES:

| SAMPLE ID 980582 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | 38.3 | 37.8 | 1.19 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | 3.8 | 3.8 | 1.29 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | 69.26 | 67.35 | 2.80 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | 35.82 | 34.1 | 5.01 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 980582 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | 38.3 | 90.7 | 104.8 | 75 - 125 % | X | |
| Toluene | 50 | 3.8 | 56.0 | 104 | 75 - 125 % | X | |
| Ethylbenzene | 50 | 69.3 | 120 | 101 | 75 - 125 % | X | |
| m & p - Xylene | 100 | 35.8 | 142 | 106.0 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 52.8 | 106 | 75 - 125 % | X | |

Narrative: Acceptable

| AUTO BLANK | SOURCE | PPB (2 analyzed with set) | STATUS |
|---|---|---|---|
| Benzene | Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

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

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| TRIP BLANK | SOURCE | PPB (2 analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

Reported By: CRV  Approved By: John Lawler  Date: 9/1/98

# March 16, 1998

# ANALYTICAL REPORT

# Blanco Field Yard
# Monitor Well Results
# Lab Sample #'s 980175 to 980181

# Sampled 2/20/98
# Sampled by Dennis Bird

**REMARKS:**

These samples represent the 1st Quarter 1998 compliance samples for this location. The only WQCC standard exceeded was for Benzene in Monitor Well #4.

**Distribution:** David Bays
Scott Pope, Philip Services Corp.
Results File

El Paso Natural Gas Company

A 2614

## CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Samplers: (Signature) | Date |
|---|---|---|---|
| | OLD BLANCO FIELD YARD | Dennis Bird | 2-20-98 |

| MATRIX | Date | Time | Comp. | GRAB | Sample Number | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | Requested Analysis: METHANE AS 8015-M | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 2-20-98 | 1010 | | X | 980175 | G-1 | | X | | MONITOR WELL MW-1 |
| WATER | 2-20-98 | 1203 | | X | 980176 | G-1 | | X | | MONITOR WELL MW-2 |
| WATER | 2-20-98 | 1220 | | X | 980177 | G-1 | | X | X | MONITOR WELL MW-3 |
| WATER | 2-20-98 | 1308 | | X | 980178 | G-1 | | X | X | MONITOR WELL MW-4 |
| WATER | 2-20-98 | 1308 | | X | 980179 | G-1 | | X | X | MONITOR WELL MW-4 FIELD DUP |
| WATER | 2-20-98 | 1431 | | X | 980180 | G-1 | | X | | MONITOR WELL MW-5 |
| WATER | 2-20-98 | 1528 | | X | 980181 | G-1 | | X | | MONITOR WELL MW-6 |
| WATER | 2-20-98 | — | | X | — | G-1 | | X | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 2-20-98 1645 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Marsha Hopper | 2/23/98 0745 | | |

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

Air Bill No.:

# El Paso Natural Gas Company
# Blanco Field Office
# Groundwater Montoring Well Results - 1998 and Last 3 Qtr's 1997

**First Quarter - February 1998**

| Sample ID# | 980175 | 980176 | 980177 | 980178 | 980180 | 980181 | 980179 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 60.4 | <1.0 | <1.0 | 53.4 |
| Ethylebenzene | <1.0 | <1.0 | 219 | 87.4 | <1.0 | <1.0 | 78.8 |
| Toluene | <1.0 | <1.0 | 5.71 | 5.21 | <1.0 | 2.40 | 4.69 |
| Total Xylenes | <3.0 | <3.0 | 534 | 78.4 | <3.0 | <3.0 | 64.0 |
| Nitrate as $NO_3$-N | | | 128 | <0.1 | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Second Quarter - May 1997**

| Sample ID# | 970492 | 970493 | 970494 | 970495 | 970497 | 970498 | 970496 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 62.5 | <1.0 | <1.0 | 68.8 |
| Ethylebenzene | <1.0 | <1.0 | 168 | 8.90 | <1.0 | <1.0 | 11.5 |
| Toluene | <1.0 | <1.0 | 5.42 | 3.51 | <1.0 | <1.0 | 3.84 |
| Total Xylenes | <3.0 | <3.0 | 400 | 171 | <3.0 | <3.0 | 181 |
| Nitrate as $NO_3$-N | | | 643 | | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Third Quarter - August 1997**

| Sample ID# | 970888 | 970889 | 970890 | 970891 | 970893 | 970894 | 970892 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | 1.43 | 28.6 | <1.0 | <1.0 | 34.5 |
| Ethylebenzene | <1.0 | <1.0 | 104 | 7.39 | <1.0 | <1.0 | 8.8 |
| Toluene | <1.0 | <1.0 | 3.86 | <1 | <1.0 | <1.0 | <1 |
| Total Xylenes | <3.0 | <3.0 | 229 | 16.4 | <3.0 | <3.0 | 22.5 |
| Nitrate as $NO_3$-N | | | 135 | 7.17 | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Fourth Quarter - November 1997**

| Sample ID# | 971206 | 971207 | 971208 | 971209 | 971211 | 971212 | 971210 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 29.7 | <1.0 | <1.0 | 39.4 |
| Ethylebenzene | <1.0 | <1.0 | 70.9 | 26.7 | <1.0 | <1.0 | 35.4 |
| Toluene | <1.0 | <1.0 | 1.22 | <1 | <1.0 | <1.0 | <1 |
| Total Xylenes | <3.0 | <3.0 | 243 | 21.1 | <3.0 | <3.0 | 29.7 |
| Nitrate as $NO_3$-N | <0.6 | <0.6 | 125 | 0.7 | <1.1 | <1.1 | 0.7 |
| ORC - 12/18/96 | | | IN | IN | | | |

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980175 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1010 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/2/98 | 3/2/98 |
| TYPE \| DESCRIPTION: | MW-1 | Water |

Field Remarks: _____

## RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 96.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Ford Date: 3/16/98

980175BTEXMWOldBlanco,3/9/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 4.65
Height of Water Column in Well (feet) 5.95
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 1.0 | 3.1 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 2-20-98 | 0947 | | | | | | | | | | 9.6 | 6.42 | 1386 | | |
| 2-20-98 | 0951 | | | | | | 1.0 | 1.0 | | | 10.1 | 6.76 | 1294 | | |
| 2-20-98 | 0955 | | | | | | 2.0 | 3.0 | | | 10.1 | 6.97 | 1254 | | |
| 2-20-98 | 1000 | | | | | | 2.0 | 5.0 | | | 10.3 | 7.03 | 1253 | 1.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments

Developer's Signature Dennis Bird Date 2-20-98 Reviewer John Love Date 3/6/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980176 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1203 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/2/98 | 3/2/98 |
| TYPE \| DESCRIPTION: | MW-2 | 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 97.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 3/16/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 6.65
Height of Water Column in Well (feet) 13.75
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 9.1 | 27.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 2-20-98 | 1036 | | | | | | | | | | 9.9 | 7.45 | 1370 | | |
| 2-20-98 | 1044 | | | | | | 5.0 | 5.0 | | | 11.1 | 7.40 | 1318 | | |
| 2-20-98 | 1050 | | | | | | 5.0 | 10.0 | | | 12.0 | 7.39 | 1337 | | |
| 2-20-98 | 1057 | | | | | | 5.0 | 15.0 | | | 12.4 | 7.39 | 1373 | | |
| 2-20-98 | 1143 | | | | | | 5.0 | 20.0 | | | 13.2 | 7.77 | 1416 | | |
| 2-20-98 | 1148 | | | | | | 5.0 | 25.0 | | | 13.5 | 7.54 | 1427 | | |
| 2-20-98 | 1157 | | | | | | 5.0 | 30.0 | | | 13.5 | 7.52 | 1422 | 2.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments THE WELL BAILED DRY @ 15.0 GALLONS.

Developer's Signature Dennis Bird Date 2-20-98 Reviewer Date 3/16/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980177 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1220 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/4/98 | 3/4/98 |
| TYPE \| DESCRIPTION: | MW-3 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | <1 | PPB | | | | |
| TOLUENE | 5.71 | PPB | | | | |
| ETHYL BENZENE | 219 | PPB | | | | |
| TOTAL XYLENES | 534 | PPB | | | | |
| TOTAL BTEX | 759 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 101.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 3/16/98

980177BTEXMWOldBlanco,3/9/98

# EL PASO FIELD SERVICES

## Field Services Laboratory
## Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980177 |
| DATE SAMPLED: | 02/20/98 |
| TIME SAMPLED (Hrs): | 1220 |
| SAMPLED BY: | DB |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-3 |

FIELD REMARKS: Preserved with 1:1 Suluric Acid

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 128 | PPM | 12/19/95 |
| Nitrite as $N0_2$-N | <0.10 | PPM | 12/19/95 |

Lab Remarks:

Reported By: RV

Approved By: John Fowler

Date: 3/16/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 7.09
Height of Water Column in Well (feet) 4.81
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .84 | 2.5 |
| 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

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 2-20-98 | 1110 | | | | | | | | | | 10.3 | 8.69 | 15140 | | |
| 2-20-98 | 1113 | | | | | | 1.0 | 1.0 | | | 10.3 | 8.67 | 11490 | | |
| 2-20-98 | 1120 | | | | | | 1.0 | 2.0 | | | 10.7 | 8.47 | 3960 | | |
| 2-20-98 | 1135 | | | | | | 2.0 | 4.0 | | | 11.6 | 8.37 | 2760 | 1.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |

Comments THE WATER HAD A FREE AMMONIA SMELL. REMOVED THE OXYGEN COMPOUND SOCKS 32 DAYS BEFORE SAMPLING.

Developer's Signature Dennis Bird Date 2-20-98 Reviewer John Hunka Date 3/4/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980178 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1308 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/4/98 | 3/4/98 |
| TYPE \| DESCRIPTION: | MW-4 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 60.4 | PPB | | | | |
| TOLUENE | 5.21 | PPB | | | | |
| ETHYL BENZENE | 87.4 | PPB | | | | |
| TOTAL XYLENES | 78.4 | PPB | | | | |
| TOTAL BTEX | 231 | 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: John Fowler Date: 3/16/98

980178BTEXMWOldBlanco,3/9/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980178 |
| DATE SAMPLED: | 02/20/98 |
| TIME SAMPLED (Hrs): | 1308 |
| SAMPLED BY: | DB |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 |

FIELD REMARKS: Preserved with 1:1 Suluric Acid

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | <0.1 | PPM | 12/19/95 |
| Nitrite as $N0_2$-N | <0.1 | PPM | 12/19/95 |

Lab Remarks:

Reported By: CV

Approved By: John Sulla

Date: 3/16/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-4

Site Name OLO BLANCO FIELD YARD

Meter Code _____

## Development Criteria

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

## Methods of Development

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

☐ Other _____

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 5.25
Height of Water Column in Well (feet) 5.05
Diameter (inches): Well 2 Gravel Pack _____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .88 | 2.6 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 2-20-98 | 1246 | | | | | | | | | | 11.3 | 7.55 | 1411 | | |
| 2-20-98 | 1250 | | | | | | 1.0 | 1.0 | | | 10.9 | 7.44 | 1397 | | |
| 2-20-98 | 1254 | | | | | | 2.0 | 3.0 | | | 10.8 | 7.42 | 1424 | | |
| 2-20-98 | 1300 | | | | | | 2.0 | 5.0 | | | 10.5 | 7.43 | 1444 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments REMOVED THE OXYGEN RELEASE COMPOUND SOCKS 32 DAYS BEFORE SAMPLING.

Developer's Signature Dennis Bird Date 2-20-98 Reviewer John Fuller Date 3/16/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980179 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1308 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/2/98 | 3/2/98 |
| TYPE \| DESCRIPTION: | MW-4 Field Dup | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 53.4 | PPB | | | | |
| TOLUENE | 4.69 | PPB | | | | |
| ETHYL BENZENE | 78.8 | PPB | | | | |
| TOTAL XYLENES | 64.0 | PPB | | | | |
| TOTAL BTEX | 201 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 98.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Scarbrough Date: 3/16/98

980179BTEXMWOldBlanco,3/9/98

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 980179 |
| DATE SAMPLED: | 02/20/98 |
| TIME SAMPLED (Hrs): | 1308 |
| SAMPLED BY: | DB |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 Field Dup |

FIELD REMARKS: Preserved with 1:1 Suluric Acid

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $NO_3$-N | <0.1 | PPM | 12/19/95 |
| Nitrite as $NO_2$-N | <0.1 | PPM | 12/19/95 |

Lab Remarks:

Reported By: CV

Approved By: John Turbeville

Date: 3/16/98

980179GCSSNitrate-Nitrite, 3/9/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980180 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1431 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/2/98 | 3/2/98 |
| TYPE \| DESCRIPTION: | MW-5 | 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 97.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Fowler Date: 3/16/98

980180BTEXMWOldBlanco,3/9/98

**EL PASO FIELD SERVICES**

# Well Development and Purging Data

☐ Development
☒ Purging

**Well Number** MW-5

**Site Name** OLD BLANCO FIELD YARD

**Meter Code** _____

## Development Criteria

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

## Methods of Development

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

☐ Other _____

## Water Volume Calculation

Initial Depth of Well (feet) 19.80
Initial Depth to Water (feet) 8.83
Height of Water Column in Well (feet) 10.97
Diameter (inches): Well 4 Gravel Pack _____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.3 | 21.8 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 2-20-98 | 1358 | | | | | | | | | | 11.5 | 7.65 | 1756 | | |
| 2-20-98 | 1403 | | | | | | 5.0 | 5.0 | | | 12.7 | 7.81 | 6320 | | |
| 2-20-98 | 1408 | | | | | | 5.0 | 10.0 | | | 12.9 | 7.70 | 5020 | | |
| 2-20-98 | 1414 | | | | | | 5.0 | 15.0 | | | 12.8 | 7.59 | 4310 | | |
| 2-20-98 | 1419 | | | | | | 5.0 | 20.0 | | | 12.5 | 7.41 | 3930 | | |
| 2-20-98 | 1425 | | | | | | 5.0 | 25.0 | | | 12.4 | 7.49 | 3710 | 1.0 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments _____

Developer's Signature Dennis Bird Date 2-20-98 Reviewer _____ Date 3/4/98

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 980181 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 2/20/98 | 1528 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 3/2/98 | 3/2/98 |
| TYPE \| DESCRIPTION: | MW-6 | 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 99.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Fowler Date: 3/16/98

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code _____

## Development Criteria

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

## Methods of Development

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

☐ Other _____

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 8.86
Height of Water Column in Well (feet) 11.24
Diameter (inches): Well 4 Gravel Pack _____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.4 | 22.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 2-20-98 | 1451 | | | | | | | | | | 11.9 | 7.33 | 2720 | | |
| 2-20-98 | 1457 | | | | | | 5.0 | 5.0 | | | 12.0 | 7.40 | 2800 | | |
| 2-20-98 | 1502 | | | | | | 5.0 | 10.0 | | | 12.3 | 7.41 | 2840 | | |
| 2-20-98 | 1508 | | | | | | 5.0 | 15.0 | | | 12.5 | 7.43 | 3000 | | |
| 2-20-98 | 1513 | | | | | | 5.0 | 20.0 | | | 12.6 | 7.44 | 3470 | | |
| 2-20-98 | 1520 | | | | | | 5.0 | 25.0 | | | 13.0 | 7.44 | 3410 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments _____

Developer's Signature Dennis Bird Date 2-20-98 Reviewer John Ford Date 3/16/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

**Samples: 980175, 980176, 980179 to 980181**

QA/QC for 3/2/98 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 46.1 | 92.2 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 46.4 | 93 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 46.4 | 93 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 92.9 | 92.9 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 46.5 | 93 | 75 - 125 % | X | |
| **SAMPLE NUMBER LCS LA-45476 25 PPB** | **TYPE** | **EXPECTED RESULT PPB** | **ANALYTICAL RESULT PPB** | **%R** | **ACCEPTABLE RANGE** | **YES** | **NO** |
| Benzene | Standard | 25.0 | 24.1 | 96.2 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 23.7 | 95 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 23.6 | 94 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 47.0 | 94 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 23.8 | 95 | Not Given | X | |
| **SAMPLE NUMBER CCV LA-52589 50 PPB** | **TYPE** | **EXPECTED RESULT PPB** | **ANALYTICAL RESULT PPB** | **%R** | **ACCEPTABLE RANGE** | **YES** | **NO** |
| Benzene | Standard | 50.0 | 49.2 | 98.5 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 49.4 | 98.9 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 49.6 | 99.2 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 99.4 | 99.4 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 49.9 | 100 | 75 - 125 % | X | |
| **SAMPLE NUMBER CCV LA-52589 50 PPB** | **TYPE** | **EXPECTED RESULT PPB** | **ANALYTICAL RESULT PPB** | **%R** | **ACCEPTABLE RANGE** | **YES** | **NO** |
| Benzene | Standard | 50.0 | 49.8 | 99.7 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 49.8 | 99.5 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 49.7 | 99.3 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 98.6 | 98.6 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 49.7 | 99.5 | 75 - 125 % | X | |

Narrative: Acceptable.

LABORATORY DUPLICATES:

| SAMPLE ID 980175 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | <2 | <2 | 0.00 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 980175 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | <1 | 47.9 | 95.9 | 75 - 125 % | X | |
| Toluene | 50 | <1 | 48.1 | 96 | 75 - 125 % | X | |
| Ethylbenzene | 50 | <1 | 48.2 | 96 | 75 - 125 % | X | |
| m & p - Xylene | 100 | <2 | 96.4 | 96.4 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 48.3 | 97 | 75 - 125 % | X | |

Narrative: Acceptable

| AUTO BLANK | SOURCE | PPB (2 analyzed with set) | STATUS |
|---|---|---|---|
| Benzene | Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

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

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| TRIP BLANK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

Reported By: _____ Approved By: _____ Date: 3/4/98

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

**Samples: 980177, 980178, 980193 to 980199, 980207 to 980214**

**QA/QC for 3/4/98 Sample Set**

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 50.5 | 101.0 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.6 | 103 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 52.3 | 105 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 106.2 | 106.2 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.6 | 103 | 75 - 125 % | X | |

| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 25.0 | 25.4 | 101.5 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 25.9 | 104 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 26.3 | 105 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 53.7 | 107 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 25.9 | 104 | Not Given | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.1 | 102.2 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 52.0 | 104.1 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 53.3 | 106.7 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 108.2 | 108.2 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 52.2 | 104 | 75 - 125 % | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 50.8 | 101.5 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.4 | 102.8 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 51.9 | 103.8 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 105.2 | 105.2 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.5 | 103.0 | 75 - 125 % | X | |

Narrative: Acceptable.

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 50.8 | 101.5 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.2 | 102.4 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 51.0 | 101.9 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 102.4 | 102.4 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 50.8 | 101.7 | 75 - 125 % | X | |

Narrative: Acceptable.

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 51.0 | 101.9 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 52.1 | 104.2 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 52.1 | 104.3 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 105.1 | 105.1 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.3 | 102.7 | 75 - 125 % | X | |

Narrative: Acceptable.

| SAMPLE ID 980193 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | <2 | <2 | 0.00 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 980193 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | <1 | 51.0 | 102.1 | 75 - 125 % | X | |
| Toluene | 50 | <1 | 51.7 | 103 | 75 - 125 % | X | |
| Ethylbenzene | 50 | <1 | 53.2 | 106 | 75 - 125 % | X | |
| m & p - Xylene | 100 | <2 | 107.7 | 107.7 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 52.2 | 104 | 75 - 125 % | X | |

Narrative: Acceptable

| AUTO BLANK | SOURCE | PPB (1 analyzed with set) | STATUS |
|---|---|---|---|
| Benzene | Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

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

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| TRIP BLANK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

Reported By: QV Approved By: John Sandvik Date: 3/16/98

EL PASO ENERGY



April 28, 1998

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

**RE: Proposed Work Plan for the Installation of a Vent/Sparge System at EPFS's Blanco Field Office, Blanco, New Mexico**

Dear Mr. Olson:

As you are aware, El Paso Field Services Company (EPFS) has been working for several years to reduce the levels of hydrocarbon contamination in two groundwater monitoring wells at our Blanco Field yard. Monitoring well number 4 (MW-4) is still contaminated with benzene above maximum allowable levels. Since over the past two years the passive remediation has not made any significant progress in cleaning up the contamination, EPFS is now proposing to install an air injection sparging system to strip the remaining hydrocarbons out of the groundwater. We request that you review the following work plan and offer any comments you may have. After NMOCD has approved of the work plan, EPFS will begin installation of the sparging system.

## MONITORING WELL SURVEY

Prior to installation of the Vent/Sparge system, EPFS will have each groundwater monitoring well surveyed, so an accurate groundwater gradient can be determined. In addition, several structural features at the site, including pipeline corridors, will be surveyed and a detailed site map will be drafted based on the survey.

## AIR SPARGE WELLS

A minimum of two 2-inch PVC sparge wells will be installed at the site. The sparge wells will be located upgradient, and at a distance less than 25 feet from MW-4. Drill cuttings from the sparge well installation will be disposed of by spreading at each boring location.

- If conditions permit, the sparge wells will be installed so that the screened section of the well is approximately 5 feet below the deepest extent of dissolved phase contamination. The entire length of the well screen will be submerged beneath the water table, and will be between 2 and 5 feet long.

El Paso Energy Corporation 614 Reilly Avenue Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119

- A 10-20 silica sand filter pack will be placed around the well screen approximately 1-2 feet above the screen. A 5 foot thick bentonite seal will be placed above the filter pack, and will be hydrated with potable water. The remainder of the annular space will be grouted with a bentonite/cement slurry seal to the surface.

**SOIL VAPOR EXTRACTION**

EPFS will inspect MW-4 to ensure it is suitable for use as a soil vapor extraction point. If MW-4 is not suitable for use as a vapor extraction well, one vapor extraction well will be installed in the approximate center of the plume area.

**MONITORING**

Groundwater samples will be collected from MW-4 before, during, and after the initial sparge test, following standard purging and sampling methods. Forty-eight hours prior to sample collection, the Vent/Sparge system will be shut-off, to ensure natural groundwater conditions are encountered, and the samples are not biased by the Vent/Sparge system. Groundwater samples will be collected on a monthly basis until the analytes of concern have dropped below regulatory levels. Groundwater samples from all six of the existing monitoring wells will then be collected on a quarterly basis, until four consecutive clean quarters have been achieved. Groundwater samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX) by USEPA Method 8020.

Sincerely yours,

David Bays

David Bays, REM
Principal Environmental Scientist

cc: Mr. Denny Foust - NMOCD - Aztec, NM
Blanco Field Groundwater project file

State of New Mexico
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT
Santa Fe, New Mexico 87505

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

# MEMORANDUM OF MEETING OR CONVERSATION

| ☑ Telephone ☐ Personal | Time 0815 | Date 3/24/98 |
|---|---|---|

| Originating Party | Other Parties |
|---|---|
| David Boys - EPFS | Bill Olson - Environmental Bureau |

**Subject**

EPFS Blanco Yard

**Discussion**

Wanted input on use of air sparging for ground water remediation in 2/10/98 letter

Technology is acceptable to OCD but need detailed work plan

**Conclusions or Agreements**

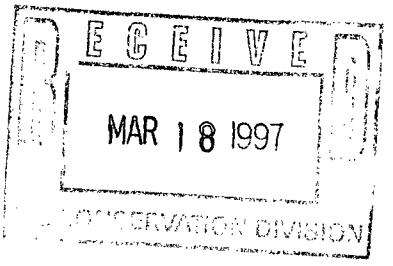
He will submit work plan

**Distribution**

file
Denny Foust - OCD Aztec

**Signed** Bill Olson

EL PASO
FIELD SERVICES




March 17, 1997

Mr. William Olson
New Mexico Oil Conservation Division
2040 Pacheco
Santa Fe, NM 87505

RE: El Paso Filed Services Co. Blanco Field Groundwater Monitoring

Dear Mr. Olson:

In accordance with your letter regarding the above reference facility, please find attached the actual laboratory results printouts and the QA/QC data for the August, 1996 reporting period. As we discussed by telephone, future reports will include this data.

Please keep in mind that based on your authorization to conduct enhance bioremediation at the facility, as per your letter of November 1,1996, the reporting will now be done on an annual basis.

If you need any additional information about the project to date, please call me at (505) 599-2256.

Sincerely yours,

David Bays

David Bays
Sr. Environmental Scientist

cc: Denny Foust, NMOCD - Aztec
Blanco Pipeline Groundwater Monitoring project file

# August 15, 1996

# August 1996 Quarterly REPORT

File:

# Blanco Field
# Quarterly Monitor Well Results
# Lab Sample #'s 960676 to 960682
# Sampled August 5, 1996
# Sampled by D. Bird

**REMARKS:**
These are the Third Quarter 1996 results for the monitor wells at Blanco Field. Monitor well #4 continues to exceed New Mexico OCD limits for Benzene.

Report Distribution:

Nancy Prince
SDM/JDB
Results Log Book
File

El Paso Natural Gas Company

A 2602

# CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Type and No. of Sample Containers | Preservation Technique | Requested Analysis | Remarks |
|---|---|---|---|---|---|
| | OLD BLOOMFIELD YARD | | | | |
| Samplers: (Signature) | Date: 5-5-96 | | | | |
| Steven Bird | | | | | |

| | Date | Time | Comp. | GRAB | Sample Number | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | 5-5-96 | 1010 | | X | 960576 | G 2 | | X | MONITOR WELL MW-1 |
| | 5-5-96 | 1142 | | X | 960577 | G 2 | | X | MONITOR WELL MW-2 |
| | 5-5-96 | 1235 | | X | 960578 | G 2 | | X | MONITOR WELL MW-3 |
| | 5-5-96 | 1242 | | X | 960579 | G 2 | | X | MONITOR WELL MW-4 |
| | 5-5-96 | 1242 | | X | 960580 | G 2 | | X | MONITOR WELL MW-4 FIELD DUP |
| | 5-5-96 | 1353 | | X | 960581 | G 2 | | X | MONITOR WELL MW-5 |
| | 5-5-96 | 1453 | | X | 960582 | G 2 | | X | MONITOR WELL MW-6 |
| | 5-5-96 | — | | X | — | 1 - 1 | | X | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Steven Bird | 5-5-96 1640 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | William Hayden | 5/6/96 0730 | | |
| Carrier Co: | | Carrier Phone No. | Date Results Reported / by: (Signature) | | |
| Air Bill No.: | | | | | |

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EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-1

Site Name OLO BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |
| [ ] | Other | | |

## Water Volume Calculation

Initial Depth of Well (feet) 10.6
Initial Depth to Water (feet) 5.56
Height of Water Column in Well (feet) 5.04
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well: Cubic Feet | Water Volume in Well: Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | .88 | 2.6 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-5-96 | 0948 | | | | | | | | | | 22.6 | 7.14 | 1060 | | |
| 8-5-96 | 0952 | | | | | | 1.0 | 1.0 | | | 22.0 | 7.14 | 1040 | | |
| 8-5-96 | 0958 | | | | | | 2.0 | 3.0 | | | 21.9 | 7.16 | 1030 | | |
| 8-5-96 | 1003 | | | | | | 2.0 | 5.0 | | | 22.0 | 7.16 | 1040 | 2.5 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 8-5-96 Reviewer J. J Date 8/15/96

EPFS

**EL PASO FIELD SERVICES**

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | **960676** |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-1 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1010 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS: _____

## EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | <1 | | 10 |
| TOLUENE | <1 | | 740 |
| ETHYL BENZENE | <1 | | 750 |
| TOTAL XYLENES | <3 | | 620 |
| SURROGATE % RECOVERY | 98.4 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mdw Approved By: John Fowler Date: 8/15/96

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removed
[ ] Stabilization of Indicator Parameters
[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 30.4
Initial Depth to Water (feet) 2.51
Height of Water Column in Well (feet) 13.89
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well Cubic Feet | Water Volume in Well Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 8.5 | 25.6 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |
| [ ] | Other | | |

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-5-96 | 1040 | | | | | | | | | | 24.5 | 8.05 | 421 | | |
| 8-5-96 | 1046 | | | | | | 5.0 | 5.0 | | | 21.2 | 7.51 | 424 | | |
| 8-5-96 | 1055 | | | | | | 5.0 | 10.0 | | | 20.0 | 7.20 | 875 | | |
| 8-5-96 | 1103 | | | | | | 5.0 | 15.0 | | | 19.7 | 7.37 | 1030 | | |
| 8-5-96 | 1110 | | | | | | 5.0 | 20.0 | | | 20.0 | 7.21 | 919 | | |
| 8-5-96 | 1120 | | | | | | 5.0 | 25.0 | | | 20.4 | 7.17 | 1060 | | |
| 8-5-96 | 1130 | | | | | | 5.0 | 30.0 | | | 21.1 | 7.25 | 1110 | 3.5 | |
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Comments

Developer's Signature Dennis Bird Date 8-5-96 Reviewer JF Date 8/15/96

EPFS

**EL PASO FIELD SERVICES**

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 960677 |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-2 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1148 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS:

## EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | <1 | | 10 |
| TOLUENE | <1 | | 740 |
| ETHYL BENZENE | <1 | | 750 |
| TOTAL XYLENES | <3 | | 620 |
| SURROGATE % RECOVERY | 99.1 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mda Approved By: John Faida Date: 8/15/96

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-3

Site Name OLO BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removed
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 11.9
Initial Depth to Water (feet) 8.00
Height of Water Column in Well (feet) 3.9
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well: Cubic Feet | Water Volume in Well: Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | .68 | 2.0 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-5-96 | 1137 | | | | | | | | | | 23.7 | 7.22 | 1150 | | |
| 8-5-96 | 1143 | | | | | | 1.0 | 1.0 | | | 23.0 | 7.28 | 1140 | | |
| 8-5-96 | 1200 | | | | | | 1.0 | 2.0 | | | 23.7 | 7.40 | 1150 | 1.5 | |
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Comments BAILED DRY @ 1.0 GALLON.

Developer's Signature Dennis Bird Date 8-5-96 Reviewer J.S. Date 8/15/96

EPFS

**EL PASO FIELD SERVICES**

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | **960678** |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-3 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1205 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS: _____

### EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | <1 | | 10 |
| TOLUENE | <1 | | 740 |
| ETHYL BENZENE | 10.0 | | 750 |
| TOTAL XYLENES | 3.47 | | 620 |
| SURROGATE % RECOVERY | 101 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mdw Approved By: John Fowler Date: 8/15/96

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-4

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless steel Kemmerer |
| [ ] Other | |

## Water Volume Calculation

Initial Depth of Well (feet) 10.3
Initial Depth to Water (feet) 6.10
Height of Water Column in Well (feet) 4.20
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .73 | 2.2 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 8-5-96 | 1222 | | | | | | | | | | 24.6 | 7.53 | 1290 | | |
| 8-5-96 | 1227 | | | | | | 2.0 | 2.0 | | | 23.9 | 7.23 | 1280 | | |
| 8-5-96 | 1235 | | | | | | 3.0 | 5.0 | | | 24.0 | 7.21 | 1280 | 2.0 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 8-5-96 Reviewer JT Date 8/16/96

EPFS

**EL PASO FIELD SERVICES**

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 960679 |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-4 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1242 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS: _____

### EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | 17.9 | | 10 |
| TOLUENE | 1.44 | | 740 |
| ETHYL BENZENE | 28.2 | | 750 |
| TOTAL XYLENES | 52.2 | | 620 |
| SURROGATE % RECOVERY | 99.0 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mdw Approved By: John Faulk Date: 8/15/96

EPFS

**EL PASO FIELD SERVICES**

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 960680 |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-4 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1242 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS: Field Duplicate

### EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | 35.8 | | 10 |
| TOLUENE | 3.18 | | 740 |
| ETHYL BENZENE | 54.5 | | 750 |
| TOTAL XYLENES | 102 | | 620 |
| SURROGATE % RECOVERY | 97.5 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mdw Approved By: John Laidler Date: 8/15/96

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-5

Site Name DO BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |
| [ ] | Other | | |

## Water Volume Calculation

Initial Depth of Well (feet) 19.8
Initial Depth to Water (feet) 9.34
Height of Water Column in Well (feet) 10.46
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well Cubic Feet | Water Volume in Well Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 6.9 | 20.7 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method Pump | Development Method Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal) Increment | Water Volume Removed (gal) Cumulativ | Product Volume Removed ( gallons) Increment | Product Volume Removed ( gallons) Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-5-96 | 1323 | | | | | | | | | | 25.5 | 7.87 | 7600 | | |
| 8-5-96 | 1328 | | | | | | 5.0 | 5.0 | | | 22.5 | 7.41 | 6740 | | |
| 8-5-96 | 1335 | | | | | | 5.0 | 10.0 | | | 22.0 | 7.34 | 5340 | | |
| 8-5-96 | 1343 | | | | | | 5.0 | 15.0 | | | 21.5 | 7.41 | 4530 | | |
| 8-5-96 | 1348 | | | | | | 5.0 | 20.0 | | | 21.4 | 7.28 | 4290 | 2.0 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 8-5-96 Reviewer J. Date 5/16/96

EPFS

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 960681 |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-5 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1353 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS:

## EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | <1 | | 10 |
| TOLUENE | <1 | | 740 |
| ETHYL BENZENE | <1 | | 750 |
| TOTAL XYLENES | <3 | | 620 |
| SURROGATE % RECOVERY | 96.9 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mda Approved By: John Zaeh Date: 8/15/96

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removed
[ ] Stabilization of Indicator Parameters
[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 20.1
Initial Depth to Water (feet) 9.30
Height of Water Column in Well (feet) 10.8
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well Cubic Feet | Water Volume in Well Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 7.1 | 21.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |
| [ ] Other | |

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-5-96 | 1412 | | | | | | | | | | 25.9 | 7.60 | 1730 | | |
| 8-5-96 | 1418 | | | | | | 5.0 | 5.0 | | | 22.6 | 7.30 | 2040 | | |
| 8-5-96 | 1423 | | | | | | 5.0 | 10.0 | | | 21.9 | 7.29 | 2310 | | |
| 8-5-96 | 1429 | | | | | | 5.0 | 15.0 | | | 21.4 | 7.32 | 2560 | | |
| 8-5-96 | 1434 | | | | | | 5.0 | 20.0 | | | 21.3 | 7.31 | 2660 | 1.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments

Developer's Signature Dennis Bird Date 8-5-96 Reviewer D. F Date 8/14/96

EPFS

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 960682 |
| SITE NAME: | Old Blanco Field Yard |
| SAMPLE SITE: | MW-6 |
| METER CODE: | n/a |
| SAMPLE DATE: | 08/05/96 |
| SAMPLE TIME (Hrs): | 1438 |
| SAMPLED BY: | D. Bird |
| DATE OF BTEX ANALYSIS: | 08/06/96 |
| SAMPLE TYPE: | Water |

REMARKS: _____

## EPA Method 8020 (BTEX) RESULTS

| PARAMETER | RESULT PPB | QUALIFIER | WQCC LIMIT PPB |
|---|---|---|---|
| BENZENE | <1 | | 10 |
| TOLUENE | <1 | | 740 |
| ETHYL BENZENE | <1 | | 750 |
| TOTAL XYLENES | <3 | | 620 |
| SURROGATE % RECOVERY | 93.8 | Allowed Range 80 to 120 % | |

NOTES:

Reported By: mdw Approved By: John Zaeh Date: 8/15/96

EPFS

**EL PASO FIELD SERVICES**

**QUALITY CONTROL REPORT**
**EPA METHOD 8020 - BTEX**

**Samples: 960676 thru 960682**

**QA/QC for 08/06/96 Sample Set**

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 46.9 | 94 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 47.1 | 94 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 47.1 | 94 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 95.1 | 95 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 47.3 | 95 | 75 - 125 % | X | |

| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 25.0 | 22.9 | 91.6 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 23.3 | 93.2 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 23.6 | 94.4 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 47.8 | 95.6 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 23.8 | 95.2 | Not Given | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 48.4 | 96.8 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 48.6 | 97.2 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 48.5 | 97.0 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 96.6 | 96.6 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 48.6 | 97.2 | 75 - 125 % | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 46.3 | 92.6 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 46.3 | 92.6 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 46.1 | 92.2 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 91.9 | 91.9 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 46.4 | 92.8 | 75 - 125 % | X | |

Narrative: Acceptable.

**EL PASO FIELD SERVICES LAB**
**QUALITY CONTROL REPORT**
**EPA METHOD 8020 - BTEX**
**Samples: 960676 thru 960682**

**LABORATORY DUPLICATES:**

| SAMPLE ID 960680 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | 35.8 | 35.2 | 1.69 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | 3.18 | 3.17 | 0.31 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | 54.5 | 54.9 | 0.73 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | 102 | 101 | 0.99 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

**LABORATORY SPIKES:**

| SAMPLE ID 2nd Analysis 960680 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | 35.8 | 81.7 | 91.8 | 75 - 125 % | X | |
| Toluene | 50 | 3.18 | 52.2 | 98.0 | 75 - 125 % | X | |
| Ethylbenzene | 50 | 54.5 | 101 | 93.0 | 75 - 125 % | X | |
| m & p - Xylene | 100 | 102 | 196 | 94.0 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 49.9 | 99.8 | 75 - 125 % | X | |

Narrative: Acceptable.

**ADDITIONAL ANALYTICAL BLANKS:**

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

Narrative: Acceptable.

| SOIL VIAL BLANK | SOURCE Lot MB1461 | PPB (Analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (None analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | N/A |
| Toluene | Vial + Boiled Water | <1.0 | N/A |
| Ethylbenzene | Vial + Boiled Water | <1.0 | N/A |
| Total Xylenes | Vial + Boiled Water | <3.0 | N/A |

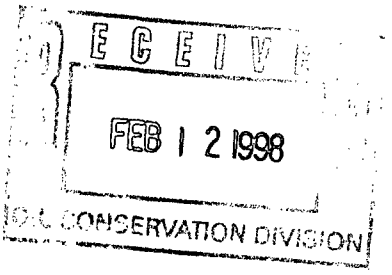
Narrative: Acceptable.

Reported By: mdw Approved By: John Hall Date: 8/15/96



QW0732.XLS

EL PASO
FIELD SERVICES




February 10, 1998

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

**RE: Blanco Pipeline Yard Groundwater Remediation**

Dear Mr. Olson:

Approximately a year ago El Paso Filed Services ("EPFS") began an enhanced groundwater treatment in an attempt to complete the remediation of the groundwater at the old Blanco Pipeline District field office. As you will recall, this program consisted of injecting nutrients and a chemical oxygen source directly into the two contaminated monitoring wells, numbers 3 and 4. After a year of treatment, there has been little progress, if any.

EPFS is now proposing to install three or four sparging wells around the contamination zone and use an air stripping system to remove the residual benzene contamination. This air sparging method has been used with great success in several Gulf Coast states when dealing with volatile hydrocarbon contamination in shallow groundwater. Once the sparge wells are installed, the aquifer will be air purged using a trailer mounted system of portable air compressors.

Before we begin the air sparging program, please provide any comments you may have. For whatever additional information you may need, please call me at (505) 599-2256.

Sincerely yours,

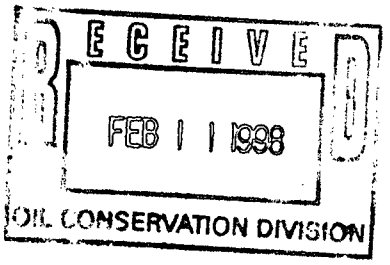
David Bays

David Bays
Principal Environmental Scientist

cc: S. D. Miller/Blanco Groundwater Project File

El Paso Energy Corporation 614 Reilly Ave. Farmington, NM 87401-2634 Phone: (505) 599-2841 (505) 599-2119

EL PASO
FIELD SERVICES




February 6, 1998

Mr. Bill Olson
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87505

Dear Mr. Olson:

Please find enclosed the 1997 analytical results and quality assurance /quality control data for sampling of the monitoring wells at the El Paso Field Services Blanco Field Office.

Sample results on monitoring well number 4 indicate benzene levels above Water Quality Control Commission maximum levels.

If you need any additional information, please call me at (505) 599-2256.

Sincerely yours,

David Bays

David Bays
Principal Environmental Scientist

cc: Mr. Denny Foust - NMOCD - Aztec, NM
S. D. Miller/Blanco Field Office Groundwater Project File

El Paso Field Services Company 614 Reilly Ave. Farmington, New Mexico 87401 Phone (505) 325-2841 Fax (505) 599-2119

# El Paso Natural Gas Company
## Blanco Field Office
## Groundwater Montoring Well Results - 1997

**First Quarter - February 1997**

| Sample ID# | 970113 | 970114 | 970115 | 970116 | 970118 | 970119 | 970117 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 34.1 | <1.0 | <1.0 | 33.6 |
| Ethylebenzene | <1.0 | <1.0 | 188 | 76.4 | <1.0 | <1.0 | 74 |
| Toluene | <1.0 | <1.0 | 4.7 | 4.84 | <1.0 | 2.40 | 4.74 |
| Total Xylenes | <3.0 | <3.0 | 391 | 177 | <3.0 | <3.0 | 174 |
| Nitrate as $NO_3$-N | | | | | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Second Quarter - May 1997**

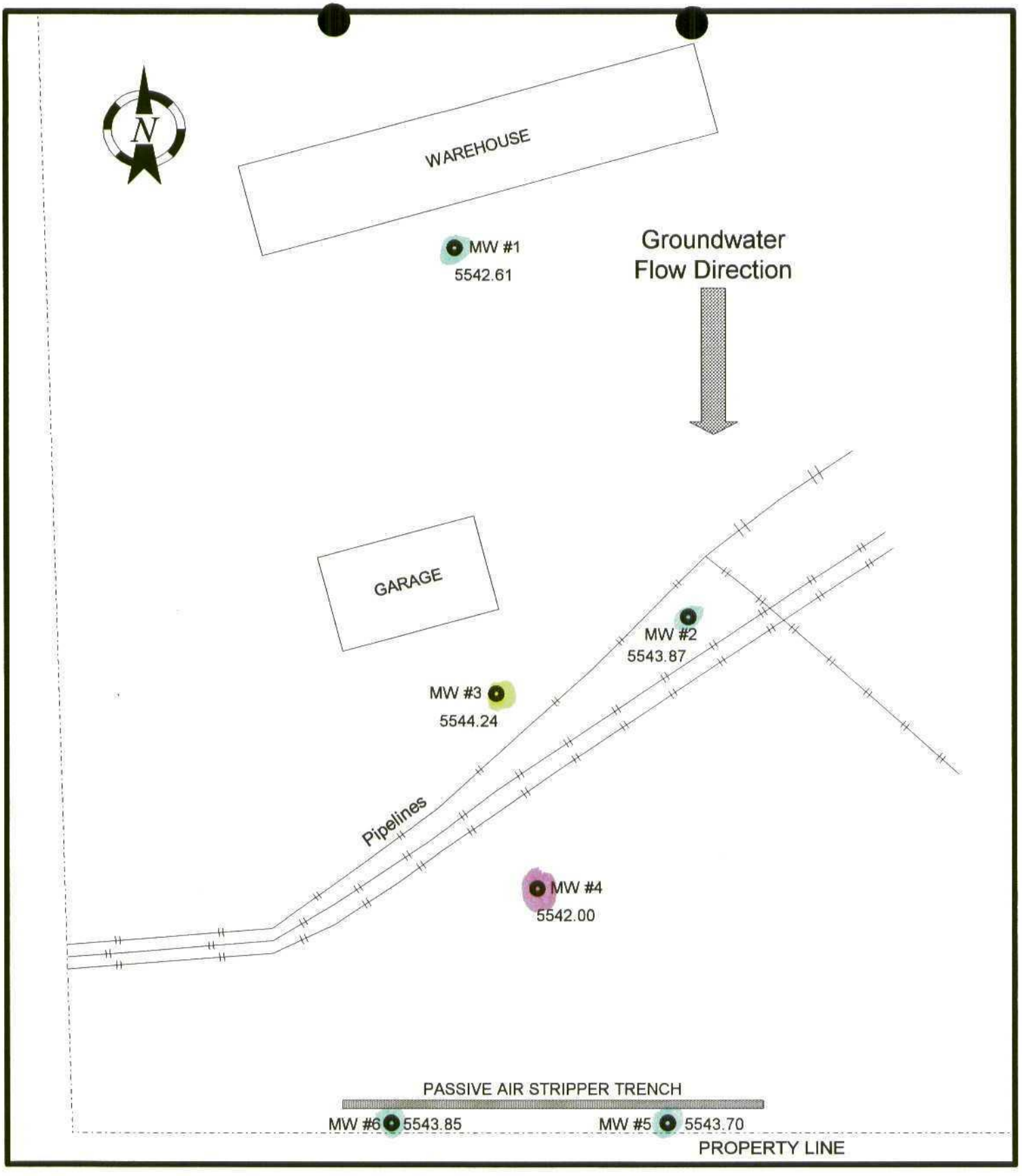
| Sample ID# | 970492 | 970493 | 970494 | 970495 | 970497 | 970498 | 970496 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 62.5 | <1.0 | <1.0 | 68.8 |
| Ethylebenzene | <1.0 | <1.0 | 168 | 8.90 | <1.0 | <1.0 | 11.5 |
| Toluene | <1.0 | <1.0 | 5.42 | 3.51 | <1.0 | <1.0 | 3.84 |
| Total Xylenes | <3.0 | <3.0 | 400 | 171 | <3.0 | <3.0 | 181 |
| Nitrate as $NO_3$-N | | | 643 | | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Third Quarter - August 1997**

| Sample ID# | 970888 | 970889 | 970890 | 970891 | 970893 | 970894 | 970892 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | 1.43 | 28.6 | <1.0 | <1.0 | 34.5 |
| Ethylebenzene | <1.0 | <1.0 | 104 | 7.39 | <1.0 | <1.0 | 8.8 |
| Toluene | <1.0 | <1.0 | 3.86 | <1 | <1.0 | <1.0 | <1 |
| Total Xylenes | <3.0 | <3.0 | 229 | 16.4 | <3.0 | <3.0 | 22.5 |
| Nitrate as $NO_3$-N | | | 135 | 7.17 | | | |
| ORC - 12/18/96 | | | IN | IN | | | |

**Fourth Quarter - November 1997**

| Sample ID# | 971206 | 971207 | 971208 | 971209 | 971211 | 971212 | 971210 |
|---|---|---|---|---|---|---|---|
| Well ID # | MW-1 | MW-2R | MW-3 | MW-4 | MW-5 | MW-6 | **MW-4 Duplicate** |
| Benzene | <1.0 | <1.0 | <1.0 | 29.7 | <1.0 | <1.0 | 39.4 |
| Ethylebenzene | <1.0 | <1.0 | 70.9 | 26.7 | <1.0 | <1.0 | 35.4 |
| Toluene | <1.0 | <1.0 | 1.22 | <1 | <1.0 | <1.0 | <1 |
| Total Xylenes | <3.0 | <3.0 | 243 | 21.1 | <3.0 | <3.0 | 29.7 |
| Nitrate as $NO_3$-N | <0.6 | <0.6 | 125 | 0.7 | <1.1 | <1.1 | 0.7 |
| ORC - 12/18/96 | | | IN | IN | | | |


N
WAREHOUSE
MW #1
5542.61
Groundwater
Flow Direction
GARAGE
MW #2
5543.87
MW #3
5544.24
Pipelines
MW #4
5542.00
PASSIVE AIR STRIPPER TRENCH
MW #6
5543.85
MW #5
5543.70
PROPERTY LINE

# February 28, 1997

# ANALYTICAL REPORT

ANALYTICAL

## Blanco Field Yard
## Monitor Well Results
## Lab Sample #'s 970113 to 970119
## Sampled 2/18/97
## Sampled by Dennis Bird

**REMARKS:**

These samples represent the 1st Quarter 1997 compliance samples for this location. The only WQCC standard exceeded was Benzene in Monitor Well #4.

**Distribution:** David Bays
Scott Pope, Philip Environmental
Results Log Book

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970113 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-1 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 927 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

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

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 98.9 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 2-27-97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970114 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-2 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 1105 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

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

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 98.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 2-27-97

970114.XLS,2/26/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970115 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-3 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 1116 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | < 1 | PPB | | | | |
| TOLUENE | 4.70 | PPB | | | | |
| ETHYL BENZENE | 188 | PPB | | | | |
| TOTAL XYLENES | 391 | PPB | | | | |
| TOTAL BTEX | 584 | PPB | | | | |

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 97.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 2-27-97

970115.XLS,2/26/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970116 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-4 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 1211 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 34.1 | PPB | | | | |
| TOLUENE | 4.84 | PPB | | | | |
| ETHYL BENZENE | 76.4 | PPB | | | | |
| TOTAL XYLENES | 177 | PPB | | | | |
| TOTAL BTEX | 292 | PPB | | | | |

–BTEX is by EPA Method 8020 –

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

DF = Dilution Factor Used

Narrative:

Approved By: John Conch Date: 2-27-97

970116.XLS,2/26/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970117 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-4 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 1211 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: Field Duplicate

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 33.6 | PPB | | | | |
| TOLUENE | 4.74 | PPB | | | | |
| ETHYL BENZENE | 74.3 | PPB | | | | |
| TOTAL XYLENES | 74 | PPB | | | | |
| TOTAL BTEX | 287 | PPB | | | | |

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 98.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 2-27-97

970117.XLS,2/26/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970118 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-5 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 1332 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

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

–BTEX is by EPA Method 8020 –

The Surrogate Recovery was at 98.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Leach Date: 2-27-97

970118.XLS,2/26/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970119 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-6 |
| SAMPLE DATE \| TIME (Hrs): | 2/18/97 | 1432 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 2/19/97 | 2/19/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | < 1 | PPB | | | | |
| TOLUENE | < 1 | PPB | | | | |
| ETHYL BENZENE | 2.40 | PPB | | | | |
| TOTAL XYLENES | < 3 | PPB | | | | |
| TOTAL BTEX | 2.40 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.8 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 2-27-97

EL PASO FIELD SERVICES

**QUALITY CONTROL REPORT**
**EPA METHOD 8020 - BTEX**

**Samples: 970106, 970113-970119**
Gospute, Blanco Field

**QA/QC for 02/19/97 Sample Set**

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | ACCEPTABLE YES | ACCEPTABLE NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 47.6 | 95.2 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 48.4 | 96.8 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 48.3 | 96.6 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 99.6 | 99.6 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 48.0 | 96.0 | 75 - 125 % | X | |

| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | ACCEPTABLE YES | ACCEPTABLE NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 25.0 | 23.2 | 92.8 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 23.6 | 94.4 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 23.6 | 94.4 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 48.5 | 97.0 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 23.5 | 94.0 | Not Given | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | ACCEPTABLE YES | ACCEPTABLE NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 43.2 | 86.4 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 48.0 | 96.0 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 47.9 | 95.8 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 98.6 | 98.6 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 47.6 | 95.2 | 75 - 125 % | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | ACCEPTABLE YES | ACCEPTABLE NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 45.8 | 91.6 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 47.9 | 95.8 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 47.7 | 95.4 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 98.1 | 98.1 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 47.5 | 95.0 | 75 - 125 % | X | |

Narrative: Acceptable.

# QUALITY CONTROL REPORT
## EPA METHOD 8020 - BTEX
**Samples: 970106, 970113-970119**

### LABORATORY DUPLICATES:

| SAMPLE ID 970113 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | <2 | <2 | 0.00 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

### LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 970113 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | <1 | 45.6 | 91.2 | 75 - 125 % | X | |
| Toluene | 50 | <1 | 47.8 | 95.6 | 75 - 125 % | X | |
| Ethylbenzene | 50 | <1 | 47.8 | 95.6 | 75 - 125 % | X | |
| m & p - Xylene | 100 | <2 | 98.3 | 98.3 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 47.5 | 95.0 | 75 - 125 % | X | |

Narrative: Acceptable

### ADDITIONAL ANALYTICAL BLANKS:

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

Narrative: Acceptable.

| SOIL VIAL BLANK | SOURCE Lot MB1461 | PPB (Analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (None analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

Reported By: MdW Approved By: John Fowler Date: 2-27-97



QW021997.XLS

El Paso Natural Gas Company

A 2225

# CHAIN OF CUSTODY RECORD

Project No.

Project Name: OLD BLANCO FIELD YARD

Samplers: (Signature) Dennis Bird

Date: 2-18-97

| | Date | Time | Comp. | GRAB | Sample Number | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 2-18-97 | 0927 | | X | 970113 | G-2 | 4°C | X | | | MONITOR WELL MW-1 |
| WATER | 2-18-97 | 1105 | | X | 970114 | G-2 | 4°C | X | | | MONITOR WELL MW-2 |
| WATER | 2-18-97 | 1116 | | X | 970115 | G-2 | 4°C | X | | | MONITOR WELL MW-3 |
| WATER | 2-18-97 | 1211 | | X | 970116 | G-2 | 4°C | X | | | MONITOR WELL MW-4 |
| WATER | 2-18-97 | 1211 | | X | 970117 | G-2 | 4°C | X | | | MONITOR WELL MW-4 |
| WATER | 2-18-97 | 1332 | | X | 970118 | G-2 | 4°C | X | | | MONITOR WELL MW-5 |
| WATER | 2-18-97 | 1432 | | X | 970119 | G-2 | 4°C | X | | | MONITOR WELL MW-6 |
| WATER | 2-18-97 | — | | X | — | G-1 | 4°C | X | | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 2-18-97 1609 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Madonna Hopper | 2/19/97 0750 | | |

Carrier Co:

Carrier Phone No.

Air Bill No.:

Date Results Reported / by: (Signature)

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-1

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 4.91
Height of Water Column in Well (feet) 5.69
Diameter (inches): Well 3 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .99 | 3.0 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.D. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 2-18-97 | 0906 | | | | | | | | | | 11.9 | 6.98 | 1075 | | |
| 2-18-97 | 0911 | | | | | | 2.0 | 2.0 | | | 12.1 | 7.01 | 1096 | | |
| 2-18-97 | 0918 | | | | | | 3.0 | 5.0 | | | 12.1 | 7.07 | 1081 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 2-18-97 Reviewer Date 2-25-97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |
| [ ] | Other | | |

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 6.95
Height of Water Column in Well (feet) 13.45
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 8.9 | 26.7 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 2-18-97 | 0955 | | | | | | | | | | 11.3 | 7.48 | 232 | | |
| 2-18-97 | 1000 | | | | | | 5.0 | 5.0 | | | 12.6 | 7.46 | 263 | | |
| 2-18-97 | 1006 | | | | | | 5.0 | 10.0 | | | 12.8 | 7.30 | 597 | | |
| 2-18-97 | 1016 | | | | | | 5.0 | 15.0 | | | 13.2 | 7.20 | 897 | | |
| 2-18-97 | 1040 | | | | | | 5.0 | 20.0 | | | 12.8 | 7.23 | 957 | | |
| 2-18-97 | 1049 | | | | | | 5.0 | 25.0 | | | 12.8 | 7.26 | 968 | 2.5 | |
| | | | | | | | | | | | | | | | |
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Comments BAILED DRY @ 15.0 GALLONS

Developer's Signature Dennis Bird Date 2-18-97 Reviewer Date 2-28-97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removed
[ ] Stabilization of Indicator Parameters
[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 7.42
Height of Water Column in Well (feet) 4.48
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well Cubic Feet | Water Volume in Well Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | .78 | 2.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |

[ ] Other

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2-18-97 | 1028 | | | | | | | | | | 10.7 | 8.70 | 18440 | | |
| 2-18-97 | 1034 | | | | | | 1.0 | 1.0 | | | 10.8 | 9.10 | 12770 | | |
| 2-18-97 | 1059 | | | | | | 2.0 | 3.0 | | | 11.2 | 8.58 | 6400 | 1.5 | |
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Comments PLACED THE OXYGEN RELEASE COMPOUND SOCKS BACK INTO THE WELL. BAILED DRY @ 1.0 GALLONS.

Developer's Signature Dennis Bird Date 2-18-97 Reviewer Date 2-28-97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-4

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 5.53
Height of Water Column in Well (feet) 4.77
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .83 | 2.5 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 2-18-97 | 1139 | | | | | | | | | | 12.6 | 7.62 | 1600 | | |
| 2-18-97 | 1144 | | | | | | 2.0 | 2.0 | | | 12.7 | 8.14 | 1807 | | |
| 2-18-97 | 1150 | | | | | | 3.0 | 5.0 | | | 12.4 | 8.19 | 17.66 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments PLACED THE OXYGEN RELEASE COMPOUND SOCKS BACK INTO THE WELL.

Developer's Signature Dennis Bird Date 2-18-97 Reviewer Date 2-28-97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-5

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 19.8
Initial Depth to Water (feet) 9.01
Height of Water Column in Well (feet) 10.79
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.1 | 21.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 2-18-97 | 1259 | | | | | | | | | | 14.3 | 7.43 | 1468 | | |
| 2-18-97 | 1303 | | | | | | 5.0 | 5.0 | | | 14.5 | 7.69 | 4890 | | |
| 2-18-97 | 1308 | | | | | | 5.0 | 10.0 | | | 14.7 | 7.56 | 4450 | | |
| 2-18-97 | 1314 | | | | | | 5.0 | 15.0 | | | 15.4 | 7.44 | 3610 | | |
| 2-18-97 | 1320 | | | | | | 5.0 | 20.0 | | | 15.0 | 7.42 | 3430 | | |
| 2-18-97 | 1326 | | | | | | 5.0 | 25.0 | | | 14.3 | 7.44 | 3480 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 2-18-97 Reviewer Date 2-28-97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 8.95
Height of Water Column in Well (feet) 11.15
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

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 2-18-97 | 1357 | | | | | | | | | | 13.8 | 7.34 | 1542 | | |
| 2-18-97 | 1402 | | | | | | 5.0 | 5.0 | | | 14.2 | 7.31 | 1586 | | |
| 2-18-97 | 1408 | | | | | | 5.0 | 10.0 | | | 15.0 | 7.27 | 1762 | | |
| 2-18-97 | 1414 | | | | | | 5.0 | 15.0 | | | 15.1 | 7.27 | 1804 | | |
| 2-18-97 | 1419 | | | | | | 5.0 | 20.0 | | | 14.4 | 7.26 | 2040 | | |
| 2-18-97 | 1425 | | | | | | 5.0 | 25.0 | | | 15.5 | 7.26 | 2100 | 0.5 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 2-18-97 Reviewer Date 2-25-97

# June 5, 1997

# ANALYTICAL REPORT

## Blanco Field Yard

## Monitor Well Results
## Lab Sample #'s 970492 to 970498

## Sampled 5/27/97
## Sampled by Dennis Bird

**REMARKS:**

These samples represent the 2nd Quarter 1997 compliance samples for this location. The only WQCC standard exceeded was for Benzene in Monitor Well #4.

**Distribution:** David Bays
Scott Pope, Philip Environmental
Results Log Book

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970492 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-1 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1016 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| 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 | | | | |

The Surrogate Recovery was at 95.3 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

**Narrative:**

Approved By: John Turden Date: 6/5/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 4.29
Height of Water Column in Well (feet) 6.31
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 1.1 | 3.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 5-27-97 | 0958 | | | | | | | | | | 17.4 | 6.63 | 1384 | | |
| 5-27-97 | 1006 | | | | | | 3.0 | 3.0 | | | 16.2 | 7.02 | 1376 | | |
| 5-27-97 | 1011 | | | | | | 2.0 | 5.0 | | | 16.2 | 7.07 | 1381 | 1.5 | |
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Comments

Developer's Signature Dennis Bird Date 5-27-97 Reviewer John Fowler Date 6/5/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970493 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-2 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1145 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| 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 | | | | |

The Surrogate Recovery was at 93.3 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

**Narrative:**

Approved By: John Letcher Date: 6/5/97

970493,6/4/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 5.98
Height of Water Column in Well (feet) 14.42
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 9.5 | 28.6 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KOTC SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 5-27-97 | 1044 | | | | | | | | | | 17.9 | 7.44 | 1148 | | |
| 5-27-97 | 1050 | | | | | | 5.0 | 5.0 | | | 15.9 | 7.40 | 1181 | | |
| 5-27-97 | 1055 | | | | | | 5.0 | 10.0 | | | 16.4 | 7.34 | 1236 | | |
| 5-27-97 | 1103 | | | | | | 5.0 | 15.0 | | | 15.8 | 7.35 | 1254 | | |
| 5-27-97 | 1120 | | | | | | 5.0 | 20.0 | | | 16.5 | 7.34 | 1255 | | |
| 5-27-97 | 1127 | | | | | | 5.0 | 25.0 | | | 17.8 | 7.35 | 1253 | 2.5 | |
| | | | | | | | | | | | | | | | |
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Comments BAILED DRY @ 15.0 GALLONS.

Developer's Signature Dennis Bird Date 5-27-97 Reviewer John Landon Date 6/5/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970494 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-3 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1200 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | <1 | PPB | | | | |
| TOLUENE | 5.42 | PPB | | | | |
| ETHYL BENZENE | 168 | PPB | | | | |
| TOTAL XYLENES | 400 | PPB | | | | |
| TOTAL BTEX | 573 | PPB | | | | |

The Surrogate Recovery was at 91.7 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

**Narrative:**

Approved By: John Stanton Date: 6/5/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 6.52
Height of Water Column in Well (feet) 5.38
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .94 | 2.8 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 5-27-97 | 1108 | | | | | | | | | | 19.0 | 8.82 | 16730 | | |
| 5-27-97 | 1112 | | | | | | 1.0 | 1.0 | | | 17.3 | 8.89 | >20,000 | | |
| 5-27-97 | 1138 | | | | | | 2.0 | 3.0 | | | 20.0 | 8.76 | 5480 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments THE WATER HAD A STRONG FREE AMMONIA SMELL. REMOVED THE OXYGEN RELEASE COMPOUND 30 DAYS BEFORE SAMPLING.

Developer's Signature Dennis Bird Date 5-27-97 Reviewer John Loveland Date 6/5/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970495 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-4 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1243 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 62.5 | PPB | | | | |
| TOLUENE | 3.51 | PPB | | | | |
| ETHYL BENZENE | 8.90 | PPB | | | | |
| TOTAL XYLENES | 171 | PPB | | | | |
| TOTAL BTEX | 246 | PPB | | | | |

The Surrogate Recovery was at 91.2 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Londen Date: 6/5/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970496 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-4 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1243 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| TYPE \| DESCRIPTION: | Monitor Well | Water |

Field Remarks: Field Duplicate

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 68.8 | PPB | | | | |
| TOLUENE | 3.84 | PPB | | | | |
| ETHYL BENZENE | 11.5 | PPB | | | | |
| TOTAL XYLENES | 181 | PPB | | | | |
| TOTAL BTEX | 265 | PPB | | | | |

The Surrogate Recovery was at 88.9 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: John Loder Date: 6/5/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-4

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 4.45
Height of Water Column in Well (feet) 5.85
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 1.0 | 3.1 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulativ | Increment | Cumulative | | | | | |
| 5-27-97 | 1222 | | | | | | | | | | 19.6 | 7.75 | 1529 | | |
| 5-27-97 | 1230 | | | | | | 3.0 | 3.0 | | | 18.6 | 7.92 | 2240 | | |
| 5-27-97 | 1235 | | | | | | 2.0 | 5.0 | | | 19.0 | 7.96 | 2080 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments REMOVED THE OXYGEN RELEASE COMPOUND SOCKS 29 DAYS BEFORE SAMPLING.

Developer's Signature Dennis Bloch Date 5-27-97 Reviewer Date 6/5/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970497 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-5 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1354 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| 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 | | | | |

The Surrogate Recovery was at 91.4 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

**Narrative:**

Approved By: _____ Date: 6/5/97

970497,6/4/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-5

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 19.8
Initial Depth to Water (feet) 6.62
Height of Water Column in Well (feet) 13.18
Diameter (inches): Well Gravel Pack

| Item | Water Volume in Well: Cubic Feet | Water Volume in Well: Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 8.7 | 26.1 |
| 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: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-27-97 | 1321 | | | | | | | | | | 18.0 | 7.16 | 4610 | | |
| 5-27-97 | 1326 | | | | | | 5.0 | 5.0 | | | 17.0 | 7.46 | 6060 | | |
| 5-27-97 | 1330 | | | | | | 5.0 | 10.0 | | | 15.7 | 7.30 | 4030 | | |
| 5-27-97 | 1336 | | | | | | 5.0 | 15.0 | | | 15.3 | 7.13 | 3230 | | |
| 5-27-97 | 1340 | | | | | | 5.0 | 20.0 | | | 16.0 | 7.09 | 2820 | | |
| 5-27-97 | 1347 | | | | | | 5.0 | 25.0 | | | 15.5 | 7.14 | 2150 | 0.5 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 5-27-97 Reviewer John Ford Date 6/5/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970498 |
| MTR CODE \| SITE NAME: | N/A | Blanco Field Yard MW-6 |
| SAMPLE DATE \| TIME (Hrs): | 5/27/97 | 1448 |
| PROJECT: | Blanco Field Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 5/29/97 | 5/29/97 |
| 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 | | | | |

The Surrogate Recovery was at 89.8 for this sample All QA/QC was acceptable.
DF = Dilution Factor Used

Narrative:

Approved By: _____ Date: 6/5/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 6.91
Height of Water Column in Well (feet) 13.19
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well: Cubic Feet | Water Volume in Well: Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 8.7 | 26.2 |
| 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: Pump | Development Method: Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal): Increment | Water Volume Removed (gal): Cumulativ | Product Volume Removed ( gallons): Increment | Product Volume Removed ( gallons): Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5-27-97 | 1412 | | | | | | | | | | 18.5 | 7.07 | 1731 | | |
| 5-27-97 | 1417 | | | | | | 5.0 | 5.0 | | | 17.0 | 7.34 | 1791 | | |
| 5-27-97 | 1422 | | | | | | 5.0 | 10.0 | | | 16.4 | 7.38 | 1798 | | |
| 5-27-97 | 1429 | | | | | | 5.0 | 15.0 | | | 16.2 | 7.42 | 2180 | | |
| 5-27-97 | 1434 | | | | | | 5.0 | 20.0 | | | 16.1 | 7.40 | 2480 | | |
| 5-27-97 | 1440 | | | | | | 5.0 | 25.0 | | | 16.2 | 7.39 | 2560 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 5-27-97 Reviewer John Kaufman Date 6/5/97

El Paso Natural Gas Company

A 2465

# CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | Requested Analysis: ULTIMATE | Remarks |
|---|---|---|---|---|---|---|
| | OLD BLANCO FIELD YARD | | | | | |

Samplers: (Signature) Dennis Bird Date: 5-27-97

| MATRIX | Date | Time | Comp. | GRAB | Sample Number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 5-27-97 | 1016 | | X | 970492 | 6-2 | 4°C | X | | | | MONITOR WELL, MW-1 |
| WATER | 5-27-97 | 1145 | | X | 970493 | 6-2 | 4°C | X | | | | MONITOR WELL, MW-2 |
| WATER | 5-27-97 | 1200 | | X | 970494 | 6-2 | 4°C | X | X | | | MONITOR WELL, MW-3 |
| WATER | 5-27-97 | 1243 | | X | 970495 | 6-2 | 4°C | X | | | | MONITOR WELL, MW-4 |
| WATER | 5-27-97 | 1243 | | X | 970496 | 6-2 | 4°C | X | | | | MONITOR WELL, MW-4 FIELD DUP |
| WATER | 5-27-97 | 1354 | | X | 970497 | 6-2 | 4°C | X | | | | MONITOR WELL, MW-5 |
| WATER | 5-27-97 | 1448 | | X | 970498 | 6-2 | 4°C | X | | | | MONITOR WELL, MW-6 |
| WATER | 5-27-97 | — | | X | — | 6-1 | 4°C | X | | | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 5-27-97 1623 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Marlon Hopper | 5/28/97 0710 | | |

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

san juan repro Form 71-55 A

# EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

## Samples: 970492-970498, 9705012-970511

QA/QC for 05/29/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 48.7 | 97.4 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 49.9 | 100 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 50.4 | 101 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 101 | 101 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 50.5 | 101 | 75 - 125 % | X | |
| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
| Benzene | Standard | 25.0 | 25.4 | 102 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 25.8 | 103 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 26.3 | 105 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 52.7 | 105 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 26.5 | 106 | Not Given | X | |
| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
| Benzene | Standard | 50.0 | 50.6 | 101 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.1 | 102 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 51.7 | 103 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 104 | 104 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.4 | 103 | 75 - 125 % | X | |
| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
| Benzene | Standard | 50.0 | 50.9 | 102 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 51.2 | 102 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 51.8 | 104 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 104 | 104 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 51.6 | 103 | 75 - 125 % | X | |

Narrative: Acceptable.

EL PASO FIELD SERVICES LAB

QUALITY CONTROL REPORT

EPA METHOD 8020 - BTEX

**Samples: 970492-970498, 9705012-970511**

LABORATORY DUPLICATES:

| SAMPLE ID 970495 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | 62.5 | 66.3 | 5.90 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | 3.51 | 3.54 | 0.85 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | 8.90 | 9.87 | 10.3 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | 170 | 166 | 2.38 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | 1.0 | 1.0 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 970495 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | 62.5 | 103 | 81.0 | 75 - 125 % | X | |
| Toluene | 50 | 3.51 | 55.0 | 103 | 75 - 125 % | X | |
| Ethylbenzene | 50 | 8.90 | 61.1 | 104 | 75 - 125 % | X | |
| m & p - Xylene | 100 | 170 | 255 | 85.0 | 75 - 125 % | X | |
| o - Xylene | 50 | 1.00 | 53.4 | 105 | 75 - 125 % | X | |

Narrative: Acceptable

ADDITIONAL ANALYTICAL BLANKS:

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

Narrative: Acceptable.

| SOIL VIAL BLANK | SOURCE Lot MB1461 | PPB (Analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

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

Narrative: Acceptable.

Reported By: mda

Approved By: John Loudon

Date: 6/5/97



QC Water 062997

# August 3, 1997

# ANALYTICAL REPORT

## Blanco Field Yard

## Monitor Well Results
## Lab Sample #'s 970888 to 970894

## Sampled 8/19/97
## Sampled by Dennis Bird

**REMARKS:**

These samples represent the 3rd Quarter 1997 compliance samples for this location. The only WQCC standard exceeded was for Benzene in Monitor Well #4.

**Distribution:** David Bays
Scott Pope, Philip Environmental
Results Log Book

El Paso Natural Gas Company

A 2058

# CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | Requested Analysis: NITRATE | | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | OLD BLANCO FIELD YARD | | | | | | | |
| Samplers: (Signature) Dennis Bird | Date: 8-19-97 | | | | | | | |

| MATRIX | Date | Time | Comp. | GRAB | Sample Number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 8/1997 | 0935 | | X | 970888 | G-1 | 4°C | X | | | | MONITOR WELL MW-1 |
| WATER | 8/1997 | 1110 | | X | 970889 | G-1 | 4°C | X | | | | MONITOR WELL MW-2 |
| WATER | 8/1997 | 1122 | | X | 970890 | G-1 | 4°C | X | X | | | MONITOR WELL MW-3 |
| WATER | 8/1997 | 1219 | | X | 970891 | G-1 | 4°C | X | X | | | MONITOR WELL MW-4 |
| WATER | 8/1997 | 1219 | | X | 970892 | G-1 | 4°C | X | X | | | MONITOR WELL MW-4 FIELD DUP |
| WATER | 8/1997 | 1349 | | X | 970893 | G-1 | 4°C | X | | | | MONITOR WELL MW-5 |
| WATER | 8/1997 | 1448 | | X | 970894 | G-1 | 4°C | X | | | | MONITOR WELL MW-6 |
| WATER | 8/1997 | — | | X | — | G-1 | 4°C | X | | | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 8/1997 1637 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Martha Hoppen | 8/20/97 0745 | | |
| Carrier Co: | | Carrier Phone No. | | Date Results Reported / by: (Signature) | |
| Air Bill No.: | | | | | |

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970888 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 0935 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-1 | Water |

Field Remarks: _____

## RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 81.6 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Faulds Date: 8/29/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970889 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 1110 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-2 | 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 95.5 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Gabelman Date: 8/29/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970890 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 1122 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-3 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 1.43 | PPB | | | | |
| TOLUENE | 3.86 | PPB | | | | |
| ETHYL BENZENE | 104 | PPB | | | | |
| TOTAL XYLENES | 229 | PPB | | | | |
| TOTAL BTEX | 338 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 97.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Labadie Date: 8/29/97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 970890 |
| DATE SAMPLED: | 08/19/97 |
| TIME SAMPLED (Hrs): | 1122 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-3 |

FIELD REMARKS:

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 135 | PPM | 01/12/96 |

Lab Remarks:

Reported By: JD

Approved By: John Fowler

Date: 8/29/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970891 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 1219 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-4 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 28.6 | PPB | | | | |
| TOLUENE | <1 | PPB | | | | |
| ETHYL BENZENE | 7.39 | PPB | | | | |
| TOTAL XYLENES | 16.4 | PPB | | | | |
| TOTAL BTEX | 52 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: _____ Date: 8/24/97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 970891 |
| DATE SAMPLED: | 08/19/97 |
| TIME SAMPLED (Hrs): | 1219 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 7.17 | PPM | 01/12/96 |

Lab Remarks:

Reported By: _____ Approved By: _____ Date: 8/29/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970892 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 1219 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-4 Field Duplicate | Water |

Field Remarks: Field Duplicate

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 34.5 | PPB | | | | |
| TOLUENE | < 1 | PPB | | | | |
| ETHYL BENZENE | 8.75 | PPB | | | | |
| TOTAL XYLENES | 22.5 | PPB | | | | |
| TOTAL BTEX | 66 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 90.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Saddler

Date: 8/29/97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 970892 |
| DATE SAMPLED: | 08/19/97 |
| TIME SAMPLED (Hrs): | 1219 |
| SAMPLED BY: | Dennis Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 Field Duplicate |

FIELD REMARKS:

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Nitrate as $N0_3$-N | 7.13 | PPM | 01/12/96 |

Lab Remarks:

Reported By: JF

Approved By: John Fortin

Date: 8/29/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970893 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 1348 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-5 | 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 91.1 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Fowler Date: 8/29/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 970894 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 8/19/97 | 1448 |
| PROJECT: | Quarterly Monitor Well Sampling | |
| DATE OF BTEX EXT. \| ANAL.: | 8/20/97 | 8/20/97 |
| TYPE \| DESCRIPTION: | MW-6 | 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 92.7 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Fowler Date: 8/29/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-1

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 5.10
Height of Water Column in Well (feet) 5.50
Diameter (inches) Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .96 | 2.9 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KOTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed (gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-19-97 | 0916 | | | | | | | | | | 21.1 | 6.82 | 1214 | | |
| 8-19-97 | 0922 | | | | | | 3.0 | 3.0 | | | 20.3 | 6.97 | 1162 | | |
| 8-19-97 | 0928 | | | | | | 2.0 | 5.0 | | | 20.1 | 7.08 | 1097 | 2.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments

Developer's Signature Dennis Bird Date 8-19-97 Reviewer John Saucier Date 8/29/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-2

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 7.10
Height of Water Column in Well (feet) 13.30
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 8.8 | 26.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-19-97 | 1000 | | | | | | | | | | 21.6 | 7.43 | 1044 | | |
| 8-19-97 | 1005 | | | | | | 5.0 | 5.0 | | | 19.7 | 7.36 | 1100 | | |
| 8-19-97 | 1011 | | | | | | 5.0 | 10.0 | | | 18.6 | 7.34 | 1190 | | |
| 8-19-97 | 1020 | | | | | | 5.0 | 15.0 | | | 18.7 | 7.38 | 1206 | | |
| 8-19-97 | 1045 | | | | | | 5.0 | 20.0 | | | 19.1 | 7.34 | 1236 | | |
| 8-19-97 | 1052 | | | | | | 5.0 | 25.0 | | | 18.9 | 7.38 | 1245 | 2.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments BAILED DRY @ 15.0 GALLONS.

Developer's Signature Dennis Bird Date 8-19-97 Reviewer John Tarlo Date 8/29/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |
| [ ] | Other | | |

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 7.55
Height of Water Column in Well (feet) 4.35
Diameter (inches) Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .76 | 2.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-19-97 | 1031 | | | | | | | | | | 21.5 | 8.55 | 12690 | | |
| 8-19-97 | 1038 | | | | | | 1.0 | 1.0 | | | 21.0 | 8.53 | 5460 | | |
| 8-19-97 | 1104 | | | | | | 2.0 | 3.0 | | | 21.1 | 8.52 | 3670 | 1.5 | |
| | | | | | | | | | | | | | | | |
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Comments THE WATER HAD A STRONG FREE AMMONIA SMELL.

Developer's Signature Dennis Bird Date 8-19-97 Reviewer John Turdi Date 8/29/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-4

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | | Bailer | |
|---|---|---|---|
| [ ] | Centrifugal | [X] | Bottom Valve |
| [ ] | Submersible | [ ] | Double Check Valve |
| [ ] | Peristaltic | [ ] | Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 5.68
Height of Water Column in Well (feet) 4.62
Diameter (inches) Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .80 | 2.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other D.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-19-97 | 1154 | | | | | | | | | | 24.7 | 7.37 | 1321 | | |
| 8-19-97 | 1158 | | | | | | 1.0 | 1.0 | | | 23.3 | 7.47 | 1334 | | |
| 8-19-97 | 1203 | | | | | | 2.0 | 3.0 | | | 23.4 | 7.55 | 1432 | | |
| 8-19-97 | 1208 | | | | | | 2.0 | 5.0 | | | 23.2 | 7.50 | 1456 | 2.5 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 8-19-97 Reviewer John Fowler Date 8/29/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-5

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 19.80
Initial Depth to Water (feet) 9.18
Height of Water Column in Well (feet) 10.62
Diameter (inches) Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.0 | 21.1 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |

[ ] Other

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 8-19-97 | 1311 | | | | | | | | | | 23.5 | 7.44 | 4900 | | |
| 8-19-97 | 1317 | | | | | | 5.0 | 5.0 | | | 20.0 | 7.42 | 5430 | | |
| 8-19-97 | 1322 | | | | | | 5.0 | 10.0 | | | 19.5 | 7.39 | 4510 | | |
| 8-19-97 | 1329 | | | | | | 5.0 | 15.0 | | | 19.6 | 7.41 | 4080 | | |
| 8-19-97 | 1335 | | | | | | 5.0 | 20.0 | | | 20.8 | 7.39 | 3510 | | |
| 8-19-97 | 1344 | | | | | | 5.0 | 25.0 | | | 20.0 | 7.40 | 3720 | 1.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Comments

Developer's Signature Dennis Bird Date 8-19-97 Reviewer John Fadi Date 8/29/97

EPFS
EL PASO FIELD SERVICES

# Well Development and Purging Data

[ ] Development
[X] Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code NA

## Development Criteria

[X] 3 to 5 Casing Volumes of Water Removel
[ ] Stabilization of Indicator Parameters
[ ] Other

## Methods of Development

| Pump | Bailer |
|---|---|
| [ ] Centrifugal | [X] Bottom Valve |
| [ ] Submersible | [ ] Double Check Valve |
| [ ] Peristaltic | [ ] Stainless-steel Kemmerer |

[ ] Other

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 9.13
Height of Water Column in Well (feet) 10.97
Diameter (inches). Well 4 Gravel Pack

| Item | Water Volume in Well Cubic Feet | Water Volume in Well Gallons | Gallons to be Removed |
|---|---|---|---|
| Well Casing | | 7.3 | 21.8 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

[X] pH Meter
[ ] DO Monitor
[X] Conductivity Meter
[X] Temperature Meter
[X] Other O.O. CHEMETS KIT

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method Pump | Development Method Bailer | Removal Rate (gal/min) | Intake Depth (feet) | Ending Water Depth (feet) | Water Volume Removed (gal) Increment | Water Volume Removed (gal) Cumulative | Product Volume Removed (gallons) Increment | Product Volume Removed (gallons) Cumulative | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8-19-97 | 1406 | | | | | | | | | | 23.8 | 7.33 | 1866 | | |
| 8-19-97 | 1412 | | | | | | 5.0 | 5.0 | | | 21.8 | 7.37 | 2290 | | |
| 8-19-97 | 1418 | | | | | | 5.0 | 10.0 | | | 21.0 | 7.33 | 2280 | | |
| 8-19-97 | 1425 | | | | | | 5.0 | 15.0 | | | 21.0 | 7.35 | 2410 | | |
| 8-19-97 | 1431 | | | | | | 5.0 | 20.0 | | | 20.7 | 7.34 | 2580 | | |
| 8-19-97 | 1438 | | | | | | 5.0 | 25.0 | | | 20.7 | 7.34 | 2620 | 1.5 | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |

Comments

Developer's Signature Dennis Bird Date 8-19-97 Reviewer Date

# December 3, 1997

# ANALYTICAL REPORT

## Blanco Field Yard
## Monitor Well Results
## Lab Sample #'s 971206 to 971212

## Sampled 11/11/97
## Sampled by Dennis Bird

**REMARKS:**

These samples represent the 4th Quarter 1997 compliance samples for this location. The only WQCC standard exceeded was for Benzene in Monitor Well #4.

**Distribution:** David Bays
Scott Pope, Philip Services Corp.
Results Log Book

El Paso Natural Gas Company

A 2139

## CHAIN OF CUSTODY RECORD

| Project No. | Project Name | Type and No. of Sample Containers | Preservation Technique | Requested Analysis: BTXE | GENERAL CHEMISTRY | RCRA 8 METALS | Remarks |
|---|---|---|---|---|---|---|---|
| | OLD BLANCO FIELD YARD | | | | | | |
| Samplers: (Signature) Dennis Bird | Date: 11-11-97 | | | | | | |

| | Date | Time | Comp. | GRAB | Sample Number | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WATER | 11-11-97 | 0939 | ✓ | X | 971206 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-1 |
| WATER | 11-11-97 | 1126 | ✓ | X | 971207 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-2 |
| WATER | 11-11-97 | 1150 | ✓ | X | 971208 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-3 |
| WATER | 11-11-97 | 1243 | ✓ | X | 971209 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-4 |
| WATER | 11-11-97 | 1243 | ✓ | X | 971210 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-4 FIELD DUP |
| WATER | 11-11-97 | 1419 | ✓ | X | 971211 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-5 |
| WATER | 11-11-97 | 1535 | ✓ | X | 971212 | P2 G-1 | 4°C | X | X | X | | MONITOR WELL MW-6 |
| WATER | 11-11-97 | — | | X | — | G-1 | 4°C | X | | | | TRIP BLANK |

| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
|---|---|---|---|---|---|
| Dennis Bird | 11-11-97 1728 | | | | |
| Relinquished by: (Signature) | Date/Time | Received by: (Signature) | Relinquished by: (Signature) | Date/Time | Received by: (Signature) |
| | | | | | |
| Relinquished by: (Signature) | Date/Time | Received for Laboratory by: (Signature) | Date/Time | Remarks: | |
| | | Marlon Hoppen | 11/12/97 0730 | | |

Carrier Co:

Carrier Phone No.

Date Results Reported / by: (Signature)

Air Bill No.:

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971206 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 0939 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-1 | Water |

Field Remarks: _____

## RESULTS

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

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 90.0 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Fowler Date: 11/18/97

# EL PASO FIELD SERVICES

## Field Services Laboratory
## Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971206 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 0939 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-1 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 7.93 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 477 | PPM | 11/12/97 |
| Calcium as Ca | 91.9 | PPM | 11/12/97 |
| Magnesium as Mg | 19.5 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 310 | PPM | 11/12/97 |
| Chloride as Cl | 7.6 | PPM | 11/12/97 |
| Sulfate as $S0_4$ | 239 | PPM | 11/12/97 |
| Fluoride as F | 0.61 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | <0.6 | PPM | 11/12/97 |
| Nitrite as $N0_2$-N | <0.6 | PPM | 11/12/97 |
| Ammonium as $NH_4^+$ | <0.3 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <0.6 | PPM | 11/12/97 |
| Potassium as K | 3.0 | PPM | 11/12/97 |
| Sodium as Na | 169 | PPM | 11/12/97 |
| Total Dissolved Solids | 784 | PPM | 11/12/97 |
| Conductivity | 1,060 | umhos/cm | 11/12/97 |
| Anion/Cation % | 2.1% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV Approved By: John Tabor Date: 11/18/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971206 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 0939 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-1 |

REMARKS: _____

## RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | <.004 | 0.100 |
| BARIUM (Ba) | 0.08 | 1.00 |
| CADMIUM (Cd) | <.0002 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | <.003 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: _____ Approved By: _____ Date: 12/3/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971207 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 1126 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-2 | 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 91.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Tarden Date: 11/18/97

971207BTEXMWOldBlanco,11/17/97

# EL PASO FIELD SERVICES

## Field Services Laboratory
## Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971207 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 1126 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-2 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 8.12 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 445 | PPM | 11/12/97 |
| Calcium as Ca | 82.2 | PPM | 11/12/97 |
| Magnesium as Mg | 15.1 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 267 | PPM | 11/12/97 |
| Chloride as Cl | 9.9 | PPM | 11/12/97 |
| Sulfate as $S0_4$ | 330 | PPM | 11/12/97 |
| Fluoride as F | 0.67 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | <0.6 | PPM | 11/12/97 |
| Nitrite as $N0_2$-N | <0.6 | PPM | 11/12/97 |
| Ammonium as $NH_4^+$ | <0.3 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <0.6 | PPM | 11/12/97 |
| Potassium as K | 4.4 | PPM | 11/12/97 |
| Sodium as Na | 219 | PPM | 11/12/97 |
| Total Dissolved Solids | 906 | PPM | 11/12/97 |
| Conductivity | 1,270 | umhos/cm | 11/12/97 |
| Anion/Cation % | 1.7% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV Approved By: John Saenz Date: 11/18/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971207 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 1126 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-2 |

REMARKS: _____

## RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | <.004 | 0.100 |
| BARIUM (Ba) | 0.08 | 1.00 |
| CADMIUM (Cd) | <.0002 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | <.003 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: CV Approved By: John Fowler Date: 12/3/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971208 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 1150 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-3 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | <1 | PPB | | | | |
| TOLUENE | 1.22 | PPB | | | | |
| ETHYL BENZENE | 70.9 | PPB | | | | |
| TOTAL XYLENES | 243 | PPB | | | | |
| TOTAL BTEX | 315 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 92.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/18/97

971208BTEXMWOldBlanco,11/17/97

# EL PASO FIELD SERVICES

## Field Services Laboratory
## Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971208 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 1150 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-3 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 8.30 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 1306 | PPM | 11/12/97 |
| Calcium as Ca | 44.6 | PPM | 11/12/97 |
| Magnesium as Mg | 19.4 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 191 | PPM | 11/12/97 |
| Chloride as Cl | 22.0 | PPM | 11/12/97 |
| Sulfate as $S0_4$ | 396 | PPM | 11/12/97 |
| Fluoride as F | 0.71 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | 125 | PPM | 11/12/97 |
| Nitrite as $N0_2$-N | 1.4 | PPM | 11/12/97 |
| Ammonium as $NH_4^+$ | 491 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <1.1 | PPM | 11/12/97 |
| Potassium as K | 16.9 | PPM | 11/12/97 |
| Sodium as Na | 251 | PPM | 11/12/97 |
| Total Dissolved Solids | 1,250 | PPM | 11/12/97 |
| Conductivity | 3,700 | umhos/cm | 11/12/97 |
| Anion/Cation % | 3.8% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV Approved By: John Tarbin Date: 11/18/97

EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971208 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 1150 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-3 |

REMARKS: _____

### RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | <.004 | 0.100 |
| BARIUM (Ba) | 0.06 | 1.00 |
| CADMIUM (Cd) | <.0002 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | <.003 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: CV Approved By: John Saunders Date: 12/3/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971209 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 1243 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-4 | Water |

Field Remarks: _____

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 29.7 | PPB | | | | |
| TOLUENE | <1 | PPB | | | | |
| ETHYL BENZENE | 26.7 | PPB | | | | |
| TOTAL XYLENES | 21.1 | PPB | | | | |
| TOTAL BTEX | 77 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 92.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Sanders Date: 11/18/97

971209BTEXMWOldBlanco,11/17/97

# EL PASO FIELD SERVICES

## Field Services Laboratory
## Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971209 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 1243 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 8.08 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 595 | PPM | 11/12/97 |
| Calcium as Ca | 92.8 | PPM | 11/12/97 |
| Magnesium as Mg | 18.7 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 309 | PPM | 11/12/97 |
| Chloride as Cl | 14.1 | PPM | 11/12/97 |
| Sulfate as $S0_4$ | 307 | PPM | 11/12/97 |
| Fluoride as F | 0.75 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | 0.7 | PPM | 11/12/97 |
| Nitrite as $N0_2$-N | <0.6 | PPM | 11/12/97 |
| Ammonium as $NH_4^+$ | 39.0 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <0.6 | PPM | 11/12/97 |
| Potassium as K | 5.1 | PPM | 11/12/97 |
| Sodium as Na | 220 | PPM | 11/12/97 |
| Total Dissolved Solids | 954 | PPM | 11/12/97 |
| Conductivity | 1,410 | umhos/cm | 11/12/97 |
| Anion/Cation % | 4.0% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV Approved By: John Sanders Date: 11/18/97

EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971209 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 1243 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 |

REMARKS: _____

### RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | <.004 | 0.100 |
| BARIUM (Ba) | 0.07 | 1.00 |
| CADMIUM (Cd) | .0004 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | .004 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: CV Approved By: John Loudermilk Date: 12/3/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971210 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 1243 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-4 | Water |

Field Remarks: Field Duplicate

## RESULTS

| PARAMETER | RESULT | UNITS | QUALIFIERS | | | |
|---|---|---|---|---|---|---|
| | | | DF | Q | | |
| BENZENE | 39.4 | PPB | | | | |
| TOLUENE | <1 | PPB | | | | |
| ETHYL BENZENE | 35.4 | PPB | | | | |
| TOTAL XYLENES | 29.7 | PPB | | | | |
| TOTAL BTEX | 105 | PPB | | | | |

--BTEX is by EPA Method 8020 --

The Surrogate Recovery was at 91.4 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/18/97

971210BTEXMWOldBlanco,11/17/97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971210 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 1243 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 Field Dup |

FIELD REMARKS:

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 8.11 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 599 | PPM | 11/12/97 |
| Calcium as Ca | 94.5 | PPM | 11/12/97 |
| Magnesium as Mg | 19.3 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 315 | PPM | 11/12/97 |
| Chloride as Cl | 15.0 | PPM | 11/13/97 |
| Sulfate as $S0_4$ | 315 | PPM | 11/13/97 |
| Fluoride as F | 0.76 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | 0.70 | PPM | 11/13/97 |
| Nitrite as $N0_2$-N | <0.3 | PPM | 11/13/97 |
| Ammonium as $NH_4^+$ | 41.7 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <0.3 | PPM | 11/13/97 |
| Potassium as K | 5.4 | PPM | 11/12/97 |
| Sodium as Na | 226 | PPM | 11/12/97 |
| Total Dissolved Solids | 942 | PPM | 11/12/97 |
| Conductivity | 1,400 | umhos/cm | 11/12/97 |
| Anion/Cation % | 4.8% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV

Approved By: John Taylor

Date: 11/18/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971210 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 1243 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-4 Field Dup |

REMARKS: _____

## RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | <.004 | 0.100 |
| BARIUM (Ba) | .07 | 1.00 |
| CADMIUM (Cd) | .0004 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | .004 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: CV Approved By: John Fowler Date: 12/3/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT
# OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971211 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 1419 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-5 | 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 92.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

Narrative:

Approved By: John Fowler Date: 11/18/97

971211BTEXMWOldBlanco,11/17/97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971211 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 1419 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-5 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 8.13 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 421 | PPM | 11/12/97 |
| Calcium as Ca | 56.1 | PPM | 11/12/97 |
| Magnesium as Mg | 8.3 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 174 | PPM | 11/12/97 |
| Chloride as Cl | 13.4 | PPM | 11/12/97 |
| Sulfate as $S0_4$ | 1,660 | PPM | 11/12/97 |
| Fluoride as F | 1.35 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | <1.1 | PPM | 11/12/97 |
| Nitrite as $N0_2$-N | <1.1 | PPM | 11/12/97 |
| Ammonium as $NH_4^+$ | <0.3 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <1.1 | PPM | 11/12/97 |
| Potassium as K | 7.2 | PPM | 11/12/97 |
| Sodium as Na | 905 | PPM | 11/12/97 |
| Total Dissolved Solids | 2,790 | PPM | 11/12/97 |
| Conductivity | 3,560 | umhos/cm | 11/12/97 |
| Anion/Cation % | 1.3% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV

Approved By: John Landa

Date: 11/18/97

EL PASO FIELD SERVICES

# FIELD SERVICES LABORATORY
# ANALYTICAL REPORT

## SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971211 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 1419 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-5 |

REMARKS: _____

## RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | 0006 | 0.100 |
| BARIUM (Ba) | .03 | 1.00 |
| CADMIUM (Cd) | <.0002 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | .005 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: CV Approved By: John Fortner Date: 12/3/97

# EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT
## OLD BLANCO FIELD YARD

## SAMPLE IDENTIFICATION

| | Field ID | Lab ID |
|---|---|---|
| SAMPLE NUMBER: | N/A | 971212 |
| MTR CODE \| SITE NAME: | N/A | Old Blanco Field Yard |
| SAMPLE DATE \| TIME (Hrs): | 11/11/97 | 1535 |
| PROJECT: | Monitor Well | |
| DATE OF BTEX EXT. \| ANAL.: | 11/13/97 | 11/13/97 |
| TYPE \| DESCRIPTION: | MW-6 | 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 91.2 % for this sample All QA/QC was acceptable.

DF = Dilution Factor Used

**Narrative:**

Approved By: John Fardi Date: 11/18/97

971212BTEXMWOldBlanco,11/17/97

EL PASO FIELD SERVICES

Field Services Laboratory

Analytical Report

## SAMPLE IDENTIFICATION

| | |
|---|---|
| EPFS LAB ID: | 971212 |
| DATE SAMPLED: | 11/11/97 |
| TIME SAMPLED (Hrs): | 1535 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-6 |

FIELD REMARKS: _____

## GENERAL CHEMISTRY WATER ANALYSIS RESULTS

| PARAMETER | RESULT | UNITS | DATE ANALYZED |
|---|---|---|---|
| Laboratory pH | 8.20 | Units | 11/12/97 |
| Alkalinity as $C0_3$ | 0 | PPM | 11/12/97 |
| Alkalinity as $HC0_3$ | 447 | PPM | 11/12/97 |
| Calcium as Ca | 84.8 | PPM | 11/12/97 |
| Magnesium as Mg | 14.4 | PPM | 11/12/97 |
| Total Hardness as CaC03 | 271 | PPM | 11/12/97 |
| Chloride as Cl | 16.7 | PPM | 11/12/97 |
| Sulfate as $S0_4$ | 1,330 | PPM | 11/12/97 |
| Fluoride as F | 1.34 | PPM | 11/12/97 |
| Nitrate as $N0_3$-N | <1.1 | PPM | 11/12/97 |
| Nitrite as $N0_2$-N | <1.1 | PPM | 11/12/97 |
| Ammonium as $NH_4^+$ | <0.3 | PPM | 11/12/97 |
| Phosphate as $PO_4$ | <1.1 | PPM | 11/12/97 |
| Potassium as K | 6.6 | PPM | 11/12/97 |
| Sodium as Na | 711 | PPM | 11/12/97 |
| Total Dissolved Solids | 2,340 | PPM | 11/12/97 |
| Conductivity | 3,010 | umhos/cm | 11/12/97 |
| Anion/Cation % | 1.3% | %, <5.0 Accepted | 12/23/96 |

Lab Remarks:

Reported By: CV Approved By: John Taylor Date: 11/18/97

EL PASO FIELD SERVICES

## FIELD SERVICES LABORATORY
## ANALYTICAL REPORT

### SAMPLE IDENTIFICATION

| | |
|---|---|
| SAMPLE NUMBER: | 971212 |
| SAMPLE DATE: | 11/11/97 |
| SAMPLE TIME (Hrs): | 1535 |
| SAMPLED BY: | D. Bird |
| MATRIX: | Water |
| METER CODE: | N/A |
| SAMPLE SITE NAME: | Old Blanco Field Yard |
| SAMPLE POINT: | MW-6 |

REMARKS: _____

### RESULTS

| PARAMETER | TOTAL RESULT (mg/L) | N. M. WQCC LIMIT (mg/L) |
|---|---|---|
| ARSENIC (As) | 0.0006 | 0.100 |
| BARIUM (Ba) | 0.03 | 1.00 |
| CADMIUM (Cd) | 0.0004 | 0.010 |
| CHROMIUM (Cr) | <.004 | 0.050 |
| LEAD (Pb) | 0.004 | 0.050 |
| MERCURY (Hg) | <.0002 | 0.002 |
| SELENIUM (Se) | <.011 | 0.050 |
| SILVER (Ag) | <.0004 | 0.050 |

**References:**


Method 3015, Microwave Assisted Acid Digestion of Aqueous Samples and Extracts, Test Methods for Evaluating Solid Waste, SW-846, Sept., 1994.

Method 7061A, Arsenic (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7081, Barium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.

Method 7131, Cadmium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7191, Chromium (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 7421, Lead (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1986.

Method 245.5, Mercury (Automated Cold Vapor Technique), Methods for the Determination of Metals in Environmental Samples, EPA 600/4-91/010, USEPA, June, 1991.

Method 7741A, Selenium (Atomic Absorption, Gaseous Hydride), Test Methods for Evaluating Solid Waste, SW-846, USEPA, Sept., 1994.

Method 7761, Silver (Atomic Absorption, Furnace Technique), Test Methods for Evaluating Solid Waste, SW-846, USEPA, July, 1992.


Reported By: CV Approved By: John Sanders Date: 12/3/97

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-1

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.60
Initial Depth to Water (feet) 4.92
Height of Water Column in Well (feet) 5.68
Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | .99 | 3.0 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-1-97 | 0920 | | | | | | | | | | 15.4 | 6.90 | 1168 | | |
| 11-11-97 | 0923 | | | | | | 1.0 | 1.0 | | | 15.9 | 7.02 | 1110 | | |
| 11-11-97 | 0928 | | | | | | 2.0 | 3.0 | | | 16.2 | 7.14 | 1136 | | |
| 11-11-97 | 0932 | | | | | | 2.0 | 5.0 | | | 16.1 | 7.19 | 1132 | 1.5 | |
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Comments

Developer's Signature Dennis Bird Date 11-11-97 Reviewer John Kolbe Date 11/18/97

**EL PASO FIELD SERVICES**

# Well Development and Purging Data

☐ Development
☒ Purging

**Well Number** MW-2

**Site Name** OLD BLANCO FIELD YARD

**Meter Code** _____

## Development Criteria

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

## Water Volume Calculation

Initial Depth of Well (feet) 20.40
Initial Depth to Water (feet) 6.94
Height of Water Column in Well (feet) 13.46
Diameter (inches): Well 4 Gravel Pack _____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 8.9 | 26.7 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Methods of Development

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

☐ Other _____

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-11-97 | 1012 | | | | | | | | | | 15.9 | 7.47 | 1211 | | |
| 11-11-97 | 1018 | | | | | | 5.0 | 5.0 | | | 16.9 | 7.40 | 1210 | | |
| 11-11-97 | 1023 | | | | | | 5.0 | 10.0 | | | 17.0 | 7.37 | 1247 | | |
| 11-11-97 | 1030 | | | | | | 5.0 | 15.0 | | | 16.8 | 7.40 | 1245 | | |
| 11-11-97 | 1107 | | | | | | 5.0 | 20.0 | | | 16.9 | 7.10 | 1289 | | |
| 11-11-97 | 1112 | | | | | | 5.0 | 25.0 | | | 17.1 | 7.49 | 1283 | | |
| 11-11-97 | 1118 | | | | | | 3.0 | 28.0 | | | 17.1 | 7.45 | 1292 | 2.5 | |
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Comments THE WELL BAILED DRY @ 15.0 GALLONS.

Developer's Signature Dennis Bird Date 11-11-97 Reviewer John Sarber Date 11/18/97

**EL PASO FIELD SERVICES**

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-3

Site Name OLD BLANCO FIELD YARD

Meter Code _____

## Development Criteria

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

## Methods of Development

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

☐ Other _____

## Water Volume Calculation

Initial Depth of Well (feet) 11.90
Initial Depth to Water (feet) 2.37
Height of Water Column in Well (feet) 4.53
Diameter (inches): Well 2 Gravel Pack _____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.79 | 2.4 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-11-97 | 1041 | | | | | | | | | | 15.4 | 8.65 | 7480 | | |
| 11-11-97 | 1045 | | | | | | 1.0 | 1.0 | | | 15.7 | 8.47 | 3820 | | |
| 11-11-97 | 1052 | | | | | | 1.0 | 2.0 | | | 15.8 | 8.37 | 2840 | | |
| 11-11-97 | 1100 | | | | | | 2.0 | 4.0 | | | 15.8 | 8.32 | 2580 | 2.0 | |
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Comments THE WATER HAD A FREE AMMONIA SMELL. REMOVED THE OXYGEN COMPOUND SOCK 22 DAYS BEFORE SAMPLING!

Developer's Signature Dennis Bird Date 11-11-97 Reviewer John Loftis Date 11/18/97

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-4

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 10.30
Initial Depth to Water (feet) 5.49
Height of Water Column in Well (feet) 4.81

Diameter (inches): Well 2 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 0.84 | 2.5 |
| 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

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-11-97 | 1221 | | | | | | | | | | 16.2 | 7.64 | 1368 | | |
| 11-11-97 | 1225 | | | | | | 1.0 | 1.0 | | | 16.3 | 7.48 | 1357 | | |
| 11-11-97 | 1229 | | | | | | 2.0 | 3.0 | | | 16.4 | 7.45 | 1355 | | |
| 11-11-97 | 1234 | | | | | | 2.0 | 5.0 | | | 16.1 | 7.43 | 1396 | 1.0 | |
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Comments REMOVED THE OXYGEN RELEASE COMPOUND SOCKS 22 DAYS BEFORE SAMPLING.

Developer's Signature Dennis Bird Date 11-11-97 Reviewer John Fowler Date 11/18/97

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-5

Site Name OLD BLANCO FIELD YARD

Meter Code

## Development Criteria

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

## Methods of Development

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

☐ Other

## Water Volume Calculation

Initial Depth of Well (feet) 19.80
Initial Depth to Water (feet) 8.91
Height of Water Column in Well (feet) 10.89
Diameter (inches): Well 4 Gravel Pack

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.2 | 21.6 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KVT2 SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-11-97 | 1342 | | | | | | | | | | 16.0 | 7.88 | 4980 | | |
| 11-11-97 | 1348 | | | | | | 5.0 | 5.0 | | | 16.1 | 7.71 | 5100 | | |
| 11-11-97 | 1353 | | | | | | 5.0 | 10.0 | | | 16.3 | 7.64 | 4300 | | |
| 11-11-97 | 1358 | | | | | | 5.0 | 15.0 | | | 16.3 | 7.54 | 3690 | | |
| 11-11-97 | 1404 | | | | | | 5.0 | 20.0 | | | 16.2 | 7.50 | 3380 | | |
| 11-11-97 | 1410 | | | | | | 5.0 | 25.0 | | | 16.1 | 7.47 | 3300 | 1.0 | |
| | | | | | | | | | | | | | | | |
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Comments

Developer's Signature Dennis Bird Date 11-11-97 Reviewer John Fowler Date 11/18/97

EL PASO FIELD SERVICES

# Well Development and Purging Data

☐ Development
☒ Purging

Well Number MW-6

Site Name OLD BLANCO FIELD YARD

Meter Code _____

## Development Criteria

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

## Methods of Development

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

☐ Other _____

## Water Volume Calculation

Initial Depth of Well (feet) 20.10
Initial Depth to Water (feet) 8.84
Height of Water Column in Well (feet) 11.26
Diameter (inches): Well 4 Gravel Pack _____

| Item | Water Volume in Well | | Gallons to be Removed |
|---|---|---|---|
| | Cubic Feet | Gallons | |
| Well Casing | | 7.4 | 22.3 |
| Gravel Pack | | | |
| Drilling Fluids | | | |
| Total | | | |

## Instruments

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

## Water Disposal

KUTZ SEPARATOR

## Water Removal Data

| Date | Time | Development Method | | Removal Rate | Intake Depth | Ending Water Depth | Water Volume Removed (gal) | | Product Volume Removed ( gallons) | | Temperature °C | pH | Conductivity µmho/cm | Dissolved Oxygen mg/L | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Pump | Bailer | (gal/min) | (feet) | (feet) | Increment | Cumulative | Increment | Cumulative | | | | | |
| 11-1-97 | 1452 | | | | | | | | | | 16.0 | 7.44 | 1912 | | |
| 11-1-97 | 1458 | | | | | | 5.0 | 5.0 | | | 16.7 | 7.42 | 2110 | | |
| 11-1-97 | 1503 | | | | | | 5.0 | 10.0 | | | 16.8 | 7.39 | 2980 | | |
| 11-1-97 | 1508 | | | | | | 5.0 | 15.0 | | | 16.4 | 7.37 | 2820 | | |
| 11-1-97 | 1513 | | | | | | 5.0 | 20.0 | | | 16.3 | 7.33 | 2830 | | |
| 11-1-97 | 1520 | | | | | | 5.0 | 25.0 | | | 15.6 | 7.25 | 2600 | 1.5 | |
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Comments _____

Developer's Signature Dennis Bird Date 11-1-97 Reviewer _____ Date _____

EL PASO FIELD SERVICES

QUALITY CONTROL REPORT
EPA METHOD 8020 - BTEX

**Samples: 971195 to 971204, 971206 to 971216**

QA/QC for 11/12/97 Sample Set

LABORATORY CALIBRATION CHECKS / LABORATORY CONTROL SAMPLES:

| SAMPLE NUMBER ICV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 47.2 | 94.3 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 46.8 | 94 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 47.4 | 95 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 94.1 | 94.1 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 47.2 | 94 | 75 - 125 % | X | |

| SAMPLE NUMBER LCS LA-45476 25 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 25.0 | 24.5 | 98.0 | 39 - 150 | X | |
| Toluene | Standard | 25.0 | 23.5 | 94 | 46 - 148 | X | |
| Ethylbenzene | Standard | 25.0 | 23.9 | 96 | 32 - 160 | X | |
| m & p - Xylene | Standard | 50.0 | 47.5 | 95 | Not Given | X | |
| o - Xylene | Standard | 25.0 | 24.0 | 96 | Not Given | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 47.9 | 95.8 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 47.0 | 93.9 | 75 - 125 % | X | |
| Ethylenzene | Standard | 50.0 | 47.3 | 94.7 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 94.8 | 94.8 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 47.6 | 95 | 75 - 125 % | X | |

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 47.3 | 94.6 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 46.2 | 92.4 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 46.3 | 92.7 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 92.6 | 92.6 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 46.7 | 93.3 | 75 - 125 % | X | |

Narrative: Acceptable.

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 47.1 | 94.1 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 45.7 | 91.5 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 45.5 | 91.0 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 90.5 | 90.5 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 45.9 | 91.8 | 75 - 125 % | X | |

Narrative: Acceptable.

| SAMPLE NUMBER CCV LA-52589 50 PPB | TYPE | EXPECTED RESULT PPB | ANALYTICAL RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Standard | 50.0 | 47.2 | 94.4 | 75 - 125 % | X | |
| Toluene | Standard | 50.0 | 46.3 | 92.6 | 75 - 125 % | X | |
| Ethylbenzene | Standard | 50.0 | 46.5 | 93.1 | 75 - 125 % | X | |
| m & p - Xylene | Standard | 100 | 93.3 | 93.3 | 75 - 125 % | X | |
| o - Xylene | Standard | 50.0 | 46.8 | 93.6 | 75 - 125 % | X | |

Narrative: Acceptable.

| SAMPLE ID 971199 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | <2 | <2 | 0.00 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 971199 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | <1 | 47.6 | 95.2 | 75 - 125 % | X | |
| Toluene | 50 | <1 | 46.5 | 93 | 75 - 125 % | X | |
| Ethylbenzene | 50 | <1 | 46.8 | 94 | 75 - 125 % | X | |
| m & p - Xylene | 100 | <2 | 93.6 | 93.6 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 46.9 | 94 | 75 - 125 % | X | |

Narrative: Acceptable

| SAMPLE ID 971207 | TYPE | SAMPLE RESULT PPB | DUPLICATE RESULT PPB | RPD | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Toluene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| Ethylbenzene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |
| m & p - Xylene | Matrix Duplicate | <2 | <2 | 0.00 | +/- 20 % | X | |
| o - Xylene | Matrix Duplicate | <1 | <1 | 0.00 | +/- 20 % | X | |

Narrative: Acceptable.

LABORATORY SPIKES:

| SAMPLE ID 2nd Analysis 971207 | SPIKE ADDED PPB | SAMPLE RESULT PPB | SPIKE SAMPLE RESULT PPB | %R | ACCEPTABLE RANGE | YES | NO |
|---|---|---|---|---|---|---|---|
| Benzene | 50 | <1 | 44.2 | 88.5 | 75 - 125 % | X | |
| Toluene | 50 | <1 | 43.0 | 86 | 75 - 125 % | X | |
| Ethylbenzene | 50 | <1 | 42.8 | 86 | 75 - 125 % | X | |
| m & p - Xylene | 100 | <2 | 85.6 | 85.6 | 75 - 125 % | X | |
| o - Xylene | 50 | <1 | 43.3 | 87 | 75 - 125 % | X | |

Narrative: Acceptable

| AUTO BLANK | SOURCE | PPB (2 analyzed with set) | STATUS |
|---|---|---|---|
| Benzene | Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

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

Narrative: Acceptable.

| CONTAMINATION CARRYOVER CHECK | SOURCE | PPB (none analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

| 11/12/97 TRIP and 11/13/97 BLANK 11/11/97 | SOURCE | PPB (4 analyzed with this set) | STATUS |
|---|---|---|---|
| Benzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Toluene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Ethylbenzene | Vial + Boiled Water | <1.0 | ACCEPTABLE |
| Total Xylenes | Vial + Boiled Water | <3.0 | ACCEPTABLE |

Narrative: Acceptable.

Reported By: CV Approved By: John Lawder Date: 11/18/97

EL PASO FIELD SERVICES

# QUALITY CONTROL REPORT

Sample ID: 971206 to 971212
Date Reported: 11/25/97

## STANDARD REFERENCE MATERIAL

| Analyte | Found Result (mg/L) | Known Value (mg/L) | % Recovery |
|---|---|---|---|
| Arsenic | 0.031 | 0.031 | 102% |
| Barium | 0.066 | 0.065 | 102% |
| Cadmium | 0.0013 | 0.0012 | 113% |
| Chromium | 0.008 | 0.007 | 103% |
| Lead | 0.030 | 0.027 | 110% |
| Mercury | 0.0037 | 0.0039 | 95.3% |
| Selenium | 0.038 | 0.036 | 105% |
| Silver | 0.0071 | 0.0068 | 104% |

## DUPLICATE ANALYSIS (mg/L)

| Analyte | Original Sample Result | Duplicate Sample Result | % RPD |
|---|---|---|---|
| Arsenic | ND | ND | NA |
| Barium | 0.077 | 0.076 | 1.2% |
| Cadmium | ND | ND | NA |
| Chromium | ND | ND | NA |
| Lead | ND | ND | NA |
| Mercury | ND | ND | NA |
| Selenium | ND | ND | NA |
| Silver | ND | ND | NA |

## SPIKE ANALYSIS (mg/L)

| Analyte | Original Sample Result | Spike Sample Result | Spike Added | Recovery Percent |
|---|---|---|---|---|
| Arsenic | ND | 0.108 | 0.100 | 108% |
| Barium | 0.08 | 1.05 | 1.00 | 97.3% |
| Cadmium | ND | 0.0094 | 0.010 | 94.2% |
| Chromium | ND | 0.050 | 0.050 | 101% |
| Lead | ND | 0.057 | 0.050 | 115% |
| Mercury | ND | 0.0018 | 0.0020 | 90.2% |
| Selenium | ND | 0.051 | 0.050 | 102% |
| Silver | ND | 0.0522 | 0.050 | 104% |

## METHOD BLANK

| Analyte | Found Result (mg/L) | Detection Level (mg/L) |
|---|---|---|
| Arsenic | ND | 0.004 |
| Barium | ND | 0.019 |
| Cadmium | ND | 0.0002 |
| Chromium | ND | 0.004 |
| Lead | ND | 0.003 |
| Mercury | ND | 0.00019 |
| Selenium | ND | 0.011 |
| Silver | ND | 0.0004 |

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

Reported By: mh Approved By: John Fowler Date: 12/3/97