# 1R – 428 - 44

# ANNUAL GW REPORT

# DATE: 2007

IR 428-44
Annual GW Mon Report
2007


# R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266-5004 ▲ Fax: 505.266-0745




January 24, 2008

Wayne Price
Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: 2007 Annual Ground Water Monitoring Report
F-29-1A Vent, Sec 29, T18S, R38E, Unit "F"
NMOCD Case #: None

Dear Mr. Wayne Price:

R.T. Hicks Consultants, Ltd is pleased to submit the 2007 Annual Ground Water Monitoring Report for the F-29-1A Vent site located in the Hobbs Salt Water Disposal System (SWD). This report consists of the following sections:

1. A table summarizing all laboratory results, depth to ground water and other pertinent data associated with ground water sampling at the site, including this past year.
2. Graphs showing chemical concentration over time for chloride, TDS, and sulfate.
3. Laboratory data sheets associated with the routine sampling for 2007.
4. Site Survey

A Corrective Action Plan was submitted to NMOCD on November 14, 2005. On February 15, 2006, NMOCD approved the Closure Report on the condition the monitoring wells remain active. A Closure Report will be submitted in the spring of 2008.

Thank you for your consideration of this annual summary information. The attached CD contains an electronic copy of this report. If you have any questions, please contact us at 505-266-5004, or Kristin Farris Pope at ROC, 505-393-9174.

Sincerely,
R.T. Hicks Consultants, Ltd.

Randall T. Hicks
Principal

Copy: Hobbs NMOCD office; Rice Operating Company

**F-29-1A Vent**

# *Table 1: chemistry over time*

| *Well Name* | *Date* | *DTW (ft)* | *Chloride (mg/L)* | *Sulfate (mg/L)* | *TDS (mg/L)* | *Benzene (mg/L)* | *Toluene (mg/L)* | *EthylBenzene (mg/L)* | *Total Xylenes (mg/L)* | *Comments* |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-1 (Deep) | 12/2/2004 | 60.74 | 100 | *No Results | 465 | <0.001 | <0.001 | <0.001 | <0.001 | clear; no odor |
| MW-1 (Deep) | 3/22/2005 | 60.10 | 613 | 154 | 930 | <0.001 | <0.001 | <0.001 | <0.001 | gray; no odor |
| MW-1 (Deep) | 5/19/2005 | 60.13 | 332 | 84.5 | 1260 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-1 (Deep) | 8/9/2005 | 60.22 | 322 | 75.7 | 1080 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-1 (Deep) | 11/1/2005 | 60.45 | 300 | 63.2 | 986 | <0.001 | <0.0001 | <0.001 | <0.001 | clear; no odor |
| MW-1 (Deep) | 1/31/2006 | 60.54 | 270 | 58.1 | 1000 | <0.001 | <0.001 | <0.001 | <0.001 | clear; no odor |
| MW-1 (Deep) | 5/2/2006 | 60.61 | 298 | 62.9 | 996 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-1 (Deep) | 11/3/2006 | 60.79 | 285 | 86.1 | 866 | <0.001 | <0.001 | <0.001 | <0.001 | Clear no odor |
| MW-1 (Deep) | 1/31/2007 | 60.75 | 325 | 104 | 826 | <0.001 | <0.001 | <0.001 | <0.001 | Clear/ |
| MW-1 (Deep) | 4/26/2007 | 60.83 | 279 | 95.7 | 850 | <0.001 | <0.001 | <0.001 | <0.001 | clear no odor |
| MW-1 (Deep) | 8/1/2007 | 61.10 | 263 | 102 | 1160 | <0.001 | <0.001 | <0.001 | <0.002 | Clear No Odor |
| MW-1 (Deep) | 10/19/2007 | 61.09 | 292 | 130 | 1047 | <0.001 | <0.001 | <0.001 | <0.003 | Clear No odor |

**F-29-1A Vent**

# *Table 1: chemistry over time*

| *Well Name* | *Date* | *DTW (ft)* | *Chloride (mg/L)* | *Sulfate (mg/L)* | *TDS (mg/L)* | *Benzene (mg/L)* | *Toluene (mg/L)* | *EthylBenzene (mg/L)* | *Total Xylenes (mg/L)* | *Comments* |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 (Shallow) | 12/2/2004 | 60.64 | 725 | *No Results | 3280 | <0.001 | <0.001 | <0.001 | <0.001 | gray; no odor |
| MW-2 (Shallow) | 3/22/2005 | 60.08 | 879 | 1780 | 3960 | <0.001 | <0.001 | <0.001 | <0.001 | gray; no odor |
| MW-2 (Shallow) | 5/19/2005 | 60.04 | 626 | 788 | 2750 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-2 (Shallow) | 8/9/2005 | 60.14 | 470 | 475 | 1780 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-2 (Shallow) | 11/1/2005 | 60.34 | 226 | 218 | 1100 | <0.001 | <0.001 | <0.001 | <0.001 | Clear; no odor |
| MW-2 (Shallow) | 1/31/2006 | 60.42 | 144 | 58.1 | 924 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-2 (Shallow) | 5/2/2006 | 60.50 | 160 | 153 | 1040 | <0.001 | <0.001 | <0.001 | <0.001 | |
| MW-2 (Shallow) | 11/3/2006 | 60.69 | 79.6 | 111 | 592 | <0.001 | <0.001 | <0.001 | <0.001 | Clear no odor |
| MW-2 (Shallow) | 1/31/2007 | 60.63 | 98.2 | 125 | 556 | <0.001 | <0.001 | <0.001 | <0.001 | Clear/ |
| MW-2 (Shallow) | 4/26/2007 | 60.63 | 89.4 | 107 | 556 | <0.001 | <0.001 | <0.001 | <0.001 | clear no odor |
| MW-2 (Shallow) | 8/1/2007 | 60.98 | 27.2 | XXX | 592 | <0.001 | <0.001 | <0.001 | <0.002 | Clear No Odor |
| MW-2 (Shallow) | 10/19/2007 | 60.98 | 100 | 125 | 624 | <0.001 | <0.001 | <0.001 | <0.003 | Clear No odor |

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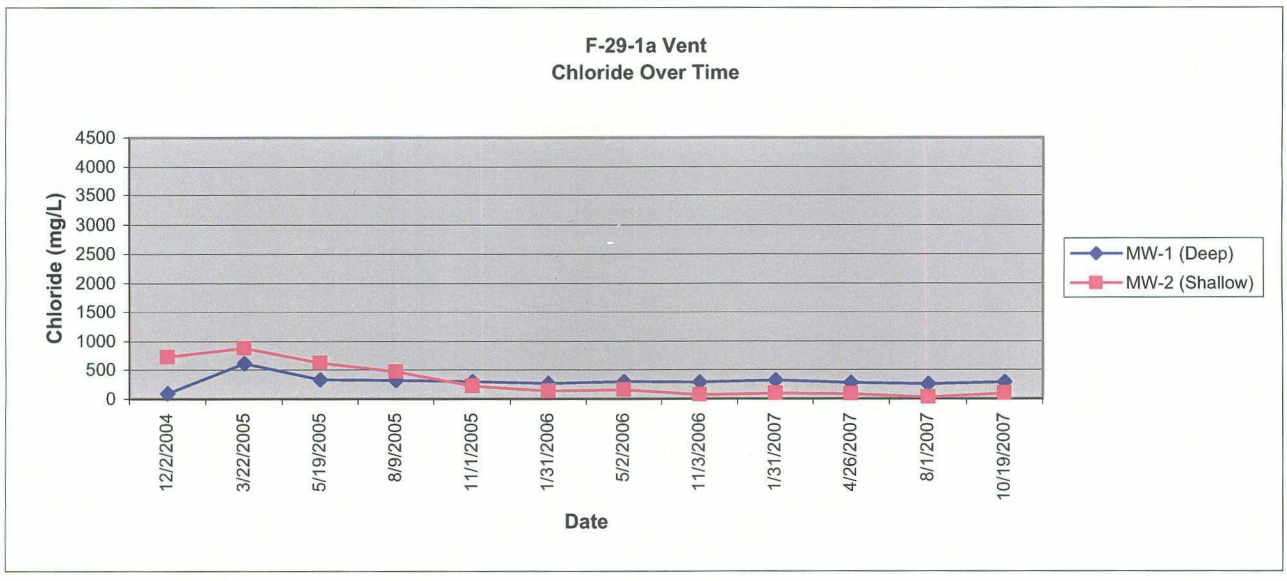


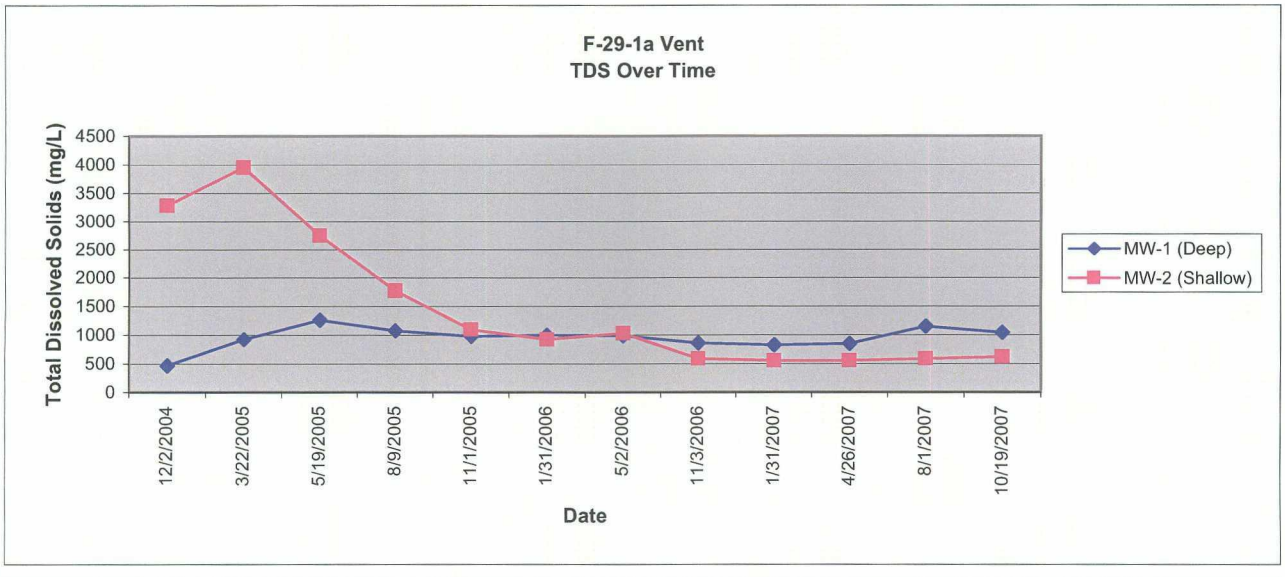


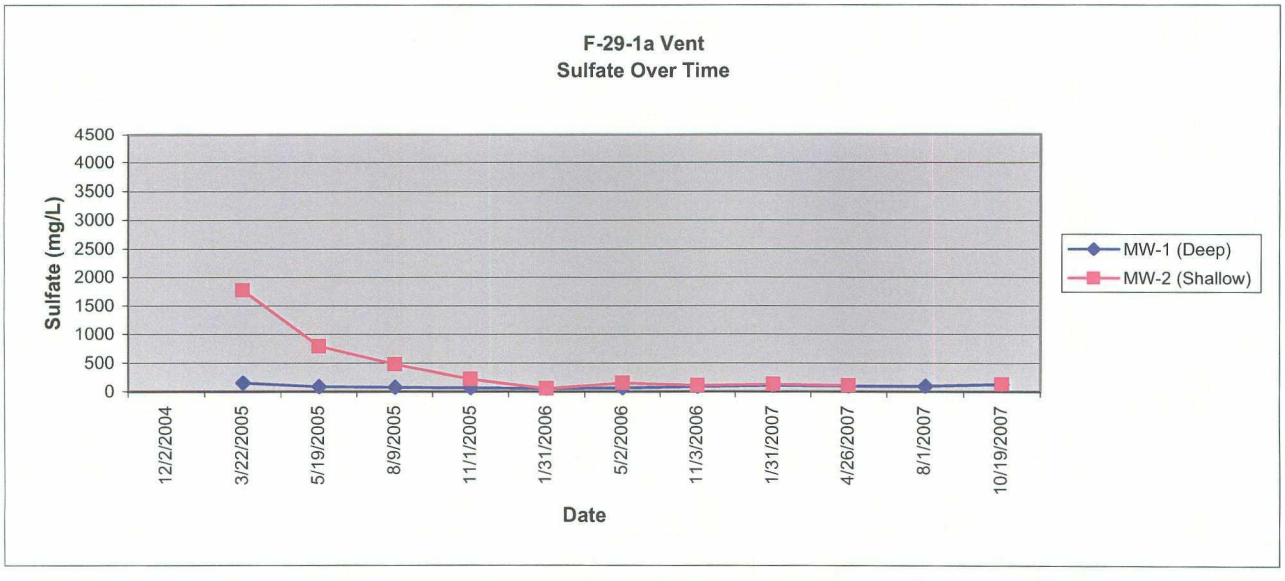


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|---|---|---|
| R.T. Hicks Consultants, Ltd<br>901 Rio Grande Blvd NW, Suite F-142<br>Albuquerque, NM 87104<br>505-266-5004 | Ground Water Chemistry | F-29-1a Vent |
| | Rice Operating Company<br>2007 Annual Report | 1/24/2008 |

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

A Xenco Laboratories Company

# Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: Hobbs Jct. F-29-1A

Project Number: None Given

Location: T18S R38E Sec29F Lea Co., NM

Lab Order Number: 7B01021

Report Date: 02/13/07

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| Monitor Well #1- Deep | 7B01021-01 | Water | 01/31/07 10:20 | 02-01-2007 15:42 |
| Monitor Well #2- Shallow | 7B01021-02 | Water | 01/31/07 09:45 | 02-01-2007 15:42 |



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| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Organics by GC

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1- Deep (7B01021-01) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EB70703 | 02/07/07 | 02/09/07 | EPA 8021B | |
| Toluene | ND | 0.00100 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *86.2 %* | | *80-120* | | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *91.4 %* | | *80-120* | | " | " | " | |
| **Monitor Well #2- Shallow (7B01021-02) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EB70703 | 02/07/07 | 02/09/07 | EPA 8021B | |
| Toluene | ND | 0.00100 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *86.0 %* | | *80-120* | | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *90.0 %* | | *80-120* | | " | " | " | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## General Chemistry Parameters by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1- Deep (7B01021-01) Water** | | | | | | | | | |
| **Total Alkalinity** | **164** | 2.00 | mg/L | 1 | EB70209 | 02/02/07 | 02/02/07 | EPA 310.1M | |
| **Chloride** | **325** | 5.00 | " | 10 | EB70208 | 02/02/07 | 02/03/07 | EPA 300.0 | |
| **Total Dissolved Solids** | **826** | 10.0 | " | 1 | EB70302 | 02/02/07 | 02/03/07 | EPA 160.1 | |
| **Sulfate** | **104** | 5.00 | " | 10 | EB70208 | 02/02/07 | 02/03/07 | EPA 300.0 | |
| **Monitor Well #2- Shallow (7B01021-02) Water** | | | | | | | | | |
| **Total Alkalinity** | **228** | 2.00 | mg/L | 1 | EB70209 | 02/02/07 | 02/02/07 | EPA 310.1M | |
| **Chloride** | **98.2** | 5.00 | " | 10 | EB70208 | 02/02/07 | 02/03/07 | EPA 300.0 | |
| **Total Dissolved Solids** | **556** | 10.0 | " | 1 | EB70302 | 02/02/07 | 02/03/07 | EPA 160.1 | |
| **Sulfate** | **125** | 5.00 | " | 10 | EB70208 | 02/02/07 | 02/03/07 | EPA 300.0 | |

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|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Total Metals by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1- Deep (7B01021-01) Water** | | | | | | | | | |
| **Calcium** | **138** | 4.05 | mg/L | 50 | EB70612 | 02/06/07 | 02/06/07 | EPA 6010B | |
| **Magnesium** | **26.9** | 0.360 | " | 10 | " | " | " | " | |
| **Potassium** | **3.85** | 0.600 | " | " | " | " | " | " | |
| **Sodium** | **84.3** | 2.15 | " | 50 | " | " | " | " | |
| **Monitor Well #2- Shallow (7B01021-02) Water** | | | | | | | | | |
| **Calcium** | **27.5** | 0.810 | mg/L | 10 | EB70612 | 02/06/07 | 02/06/07 | EPA 6010B | |
| **Magnesium** | **15.0** | 0.360 | " | " | " | " | " | " | |
| **Potassium** | **2.68** | 0.600 | " | " | " | " | " | " | |
| **Sodium** | **124** | 2.15 | " | 50 | " | " | " | " | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Organics by GC - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EB70703 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (EB70703-BLK1)** | | | | Prepared: 02/07/07 Analyzed: 02/10/07 | | | | | | |
| Benzene | ND | 0.00100 | mg/L | | | | | | | |
| Toluene | ND | 0.00100 | " | | | | | | | |
| Ethylbenzene | ND | 0.00100 | " | | | | | | | |
| Xylene (p/m) | ND | 0.00100 | " | | | | | | | |
| Xylene (o) | ND | 0.00100 | " | | | | | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *41.0* | | *ug/l* | *50.0* | | *82.0* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.5* | | " | *50.0* | | *87.0* | *80-120* | | | |
| **LCS (EB70703-BS1)** | | | | Prepared: 02/07/07 Analyzed: 02/09/07 | | | | | | |
| Benzene | 0.0524 | 0.00100 | mg/L | 0.0500 | | 105 | 80-120 | | | |
| Toluene | 0.0527 | 0.00100 | " | 0.0500 | | 105 | 80-120 | | | |
| Ethylbenzene | 0.0524 | 0.00100 | " | 0.0500 | | 105 | 80-120 | | | |
| Xylene (p/m) | 0.111 | 0.00100 | " | 0.100 | | 111 | 80-120 | | | |
| Xylene (o) | 0.0478 | 0.00100 | " | 0.0500 | | 95.6 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *47.2* | | *ug/l* | *50.0* | | *94.4* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *53.0* | | " | *50.0* | | *106* | *80-120* | | | |
| **Calibration Check (EB70703-CCV1)** | | | | Prepared: 02/07/07 Analyzed: 02/10/07 | | | | | | |
| Benzene | 55.4 | | ug/l | 50.0 | | 111 | 80-120 | | | |
| Toluene | 53.4 | | " | 50.0 | | 107 | 80-120 | | | |
| Ethylbenzene | 53.1 | | " | 50.0 | | 106 | 80-120 | | | |
| Xylene (p/m) | 110 | | " | 100 | | 110 | 80-120 | | | |
| Xylene (o) | 46.7 | | " | 50.0 | | 93.4 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *46.8* | | " | *50.0* | | *93.6* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *55.8* | | " | *50.0* | | *112* | *80-120* | | | |
| **Matrix Spike (EB70703-MS1)** | **Source: 7B01020-01** | | | Prepared: 02/07/07 Analyzed: 02/09/07 | | | | | | |
| Benzene | 0.0598 | 0.00100 | mg/L | 0.0500 | ND | 120 | 80-120 | | | |
| Toluene | 0.0587 | 0.00100 | " | 0.0500 | ND | 117 | 80-120 | | | |
| Ethylbenzene | 0.0579 | 0.00100 | " | 0.0500 | ND | 116 | 80-120 | | | |
| Xylene (p/m) | 0.125 | 0.00100 | " | 0.100 | ND | 125 | 80-120 | | | M1 |
| Xylene (o) | 0.0550 | 0.00100 | " | 0.0500 | ND | 110 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *51.3* | | *ug/l* | *50.0* | | *103* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *58.7* | | " | *50.0* | | *117* | *80-120* | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Organics by GC - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EB70703 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (EB70703-MSD1)** | **Source: 7B01020-01** | | | Prepared: 02/07/07 Analyzed: 02/10/07 | | | | | | |
| Benzene | 0.0598 | 0.00100 | mg/L | 0.0500 | ND | 120 | 80-120 | 0.00 | 20 | |
| Toluene | 0.0593 | 0.00100 | " | 0.0500 | ND | 119 | 80-120 | 1.69 | 20 | |
| Ethylbenzene | 0.0599 | 0.00100 | " | 0.0500 | ND | 120 | 80-120 | 3.39 | 20 | |
| Xylene (p/m) | 0.128 | 0.00100 | " | 0.100 | ND | 128 | 80-120 | 2.37 | 20 | M1 |
| Xylene (o) | 0.0562 | 0.00100 | " | 0.0500 | ND | 112 | 80-120 | 1.80 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *52.6* | | *ug/l* | *50.0* | | *105* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *60.3* | | " | *50.0* | | *121* | *80-120* | | | *S-04* |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EB70208 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EB70208-BLK1)** | | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Sulfate | 0.459 | 0.500 | mg/L | | | | | | | B, J |
| Chloride | ND | 0.500 | " | | | | | | | |
| **LCS (EB70208-BS1)** | | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Chloride | 10.7 | 0.500 | mg/L | 10.0 | | 107 | 80-120 | | | |
| Sulfate | 11.6 | 0.500 | " | 10.0 | | 116 | 80-120 | | | |
| **Calibration Check (EB70208-CCV1)** | | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Chloride | 10.5 | | mg/L | 10.0 | | 105 | 80-120 | | | |
| Sulfate | 11.8 | | " | 10.0 | | 118 | 80-120 | | | |
| **Duplicate (EB70208-DUP1)** | **Source: 7B01017-01** | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Sulfate | 93.0 | 5.00 | mg/L | | 96.4 | | | 3.59 | 20 | |
| Chloride | 127 | 5.00 | " | | 132 | | | 3.86 | 20 | |
| **Duplicate (EB70208-DUP2)** | **Source: 7B01020-02** | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Chloride | 2220 | 50.0 | mg/L | | 2240 | | | 0.897 | 20 | |
| Sulfate | 2410 | 50.0 | " | | 2400 | | | 0.416 | 20 | |
| **Matrix Spike (EB70208-MS1)** | **Source: 7B01017-01** | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Sulfate | 204 | 5.00 | mg/L | 100 | 96.4 | 108 | 80-120 | | | |
| Chloride | 240 | 5.00 | " | 100 | 132 | 108 | 80-120 | | | |
| **Matrix Spike (EB70208-MS2)** | **Source: 7B01020-02** | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Sulfate | 3500 | 50.0 | mg/L | 1000 | 2400 | 110 | 80-120 | | | |
| Chloride | 3330 | 50.0 | " | 1000 | 2240 | 109 | 80-120 | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EB70209 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EB70209-BLK1)** | | | | Prepared & Analyzed: 02/02/07 | | | | | | |
| Total Alkalinity | ND | 2.00 | mg/L | | | | | | | |
| **Duplicate (EB70209-DUP1)** | **Source: 7B01016-01** | | | Prepared & Analyzed: 02/02/07 | | | | | | |
| Total Alkalinity | 310 | 2.00 | mg/L | | 314 | | | 1.28 | 20 | |
| **Reference (EB70209-SRM1)** | | | | Prepared & Analyzed: 02/02/07 | | | | | | |
| Total Alkalinity | 246 | | mg/L | 250 | | 98.4 | 90-110 | | | |
| **Batch EB70302 - Filtration Preparation** | | | | | | | | | | |
| **Blank (EB70302-BLK1)** | | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Total Dissolved Solids | ND | 10.0 | mg/L | | | | | | | |
| **Duplicate (EB70302-DUP1)** | **Source: 7B01016-01** | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Total Dissolved Solids | 1920 | 10.0 | mg/L | | 1840 | | | 4.26 | 20 | |
| **Duplicate (EB70302-DUP2)** | **Source: 7B01020-01** | | | Prepared: 02/02/07 Analyzed: 02/03/07 | | | | | | |
| Total Dissolved Solids | 6280 | 10.0 | mg/L | | 5700 | | | 9.68 | 20 | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Total Metals by EPA / Standard Methods - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EB70612 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (EB70612-BLK1)** | | | | Prepared & Analyzed: 02/06/07 | | | | | | |
| Calcium | ND | 0.0810 | mg/L | | | | | | | |
| Magnesium | ND | 0.0360 | " | | | | | | | |
| Potassium | ND | 0.0600 | " | | | | | | | |
| Sodium | ND | 0.0430 | " | | | | | | | |
| **Calibration Check (EB70612-CCV1)** | | | | Prepared & Analyzed: 02/06/07 | | | | | | |
| Calcium | 1.79 | | mg/L | 2.00 | | 89.5 | 85-115 | | | |
| Magnesium | 1.98 | | " | 2.00 | | 99.0 | 85-115 | | | |
| Potassium | 1.80 | | " | 2.00 | | 90.0 | 85-115 | | | |
| Sodium | 1.74 | | " | 2.00 | | 87.0 | 85-115 | | | |
| **Duplicate (EB70612-DUP1)** | **Source: 7B01016-01** | | | Prepared & Analyzed: 02/06/07 | | | | | | |
| Calcium | 172 | 4.05 | mg/L | | 176 | | | 2.30 | 20 | |
| Magnesium | 111 | 1.80 | " | | 109 | | | 1.82 | 20 | |
| Potassium | 17.0 | 0.600 | " | | 16.8 | | | 1.18 | 20 | |
| Sodium | 306 | 4.30 | " | | 305 | | | 0.327 | 20 | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Notes and Definitions

| | |
|---|---|
| S-04 | The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect. |
| M1 | The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS). |
| J | Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). |
| B | Analyte is found in the associated blank as well as in the sample (CLP B-flag). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |
| LCS | Laboratory Control Spike |
| MS | Matrix Spike |
| Dup | Duplicate |

Report Approved By: Brent Barron Date: 2/13/2007

Brent Barron, Laboratory Director/Corp. Technical Director
Celey D. Keene, Org. Tech Director
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer
Jeanne Mc Murrey, Inorg. Tech Director









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# Environmental Lab of Texas

*CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST*

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Kristin Farris Pope kpope@riceswd.com

Company Name: RICE Operating Company

Company Address: 122 W. Taylor Street

City/State/Zip: Hobbs, New Mexico 88240

Telephone No: (505) 393-9174 Fax No: (505) 397-1471

Sampler Signature: Rozanne Johnson (505)631-9310 e-mail: rozanne@valornet.com

Project Name: Hobbs Junction F-29-1A

Project #:

Project Loc: T18S R38E Sec29 F ~ Lea County New Mexico

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)
ORDER #: 730102

| LAB # (lab use only) | FIELD CODE | Beginning Depth | Ending Depth | Date Sampled | Time Sampled | Field Filtered | Total # of Containers | Preservation & # of Containers: Ice | $HNO_3$ | HCl (2) 40 ml glass vials | $H_2SO_4$ | NaOH | $Na_2S_2O_3$ | None (1) 1 Liter HDPE | Other ( Specify) | Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other | Analyze For: TPH: 418.1 8015M | TPH: TX 1005 TX 1006 | Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, Alkalinity) | SAR / ESP / CEC | Metals: As Ag Ba Cd Cr Pb Hg Se | Volatiles | Semivolatiles | BTEX 8021B/5030 | RCI | N.O.R.M. | Total Dissolved Solids | RUSH TAT (Pre-Schedule) 24, 48, 72 hrs | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -01 | Monitor Well #1-Deep | | | 1/31/2007 | 10:20 | | 3 | X | | 2 | | | | 1 | | GW | | | X | X | | | | | X | | | X | | X |
| -02 | Monitor Well #2-Shallow | | | 1/31/2007 | 9:45 | | 3 | X | | 2 | | | | 1 | | GW | | | X | X | | | | | X | | | X | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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TCLP:
TOTAL: X

Special Instructions:
Please email to : kpope@riceswd.com mfranks@riceswd.com rozanne@valornet.com

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| Rozanne Johnson | 2-1-07 | 12:00 | James Johnson | 2-1-07 | 12:01 |
| Relinquished by: James Johnson | 2-1-07 | 15:42 | Received by: | Date | Time |
| Relinquished by: | Date | Time | Received by ELOT: | Date | Time |
| | | | | 02/01/07 | 1542 |

**Laboratory Comments:**

| | | |
|---|---|---|
| Sample Containers Intact? | Y | N |
| VOCs Free of Headspace? | Y | N |
| Labels on container(s) | Y | N |
| Custody seals on container(s) | Y | N |
| Custody seals on cooler(s) | Y | N |
| Sample Hand Delivered by Sampler/Client Rep. ? | Y | N |

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 4.0 °C

# Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

Client: RICO DP.

Date/ Time: 2-1-07 15:42

Lab ID # : 81801621

Initials: CK

## Sample Receipt Checklist

| | | | | | Client Initials |
|---|---|---|---|---|---|
| #1 | Temperature of container/ cooler? | Yes | No | 4.0 °C | |
| #2 | Shipping container in good condition? | Yes | No | | |
| #3 | Custody Seals intact on shipping container/ cooler? | Yes | No | Not Present | |
| #4 | Custody Seals intact on sample bottles/ container? | Yes | No | Not Present | |
| #5 | Chain of Custody present? | Yes | No | | |
| #6 | Sample instructions complete of Chain of Custody? | Yes | No | | |
| #7 | Chain of Custody signed when relinquished/ received? | Yes | No | | |
| #8 | Chain of Custody agrees with sample label(s)? | Yes | No | ID written on Cont./ Lid | |
| #9 | Container label(s) legible and intact? | Yes | No | Not Applicable | |
| #10 | Sample matrix/ properties agree with Chain of Custody? | Yes | No | | |
| #11 | Containers supplied by ELOT? | Yes | No | | |
| #12 | Samples in proper container/ bottle? | Yes | No | See Below | |
| #13 | Samples properly preserved? | Yes | No | See Below | |
| #14 | Sample bottles intact? | Yes | No | | |
| #15 | Preservations documented on Chain of Custody? | Yes | No | | |
| #16 | Containers documented on Chain of Custody? | Yes | No | | |
| #17 | Sufficient sample amount for indicated test(s)? | Yes | No | See Below | |
| #18 | All samples received within sufficient hold time? | Yes | No | See Below | |
| #19 | Subcontract of sample(s)? | Yes | No | Not Applicable | |
| #20 | VOC samples have zero headspace? | Yes | No | Not Applicable | |

## Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

ENVIRONMENTAL LAB OF
12600 West I-20 East - Odessa, Texas 79765
A Xenco Laboratories Company

# Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: Hobbs Jct. F-29-1A

Project Number: None Given

Location: T18S R38E Sec29 F ~ Lea County New Mexico

Lab Order Number: 7D26011

Report Date: 05/07/07

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| Monitor Well # 1- Deep | 7D26011-01 | Water | 04/26/07 11:00 | 04-26-2007 16:25 |
| Monitor Well # 2- Shallow | 7D26011-02 | Water | 04/26/07 10:05 | 04-26-2007 16:25 |



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| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Organics by GC

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well # 1- Deep (7D26011-01) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | ED73007 | 04/30/07 | 05/01/07 | EPA 8021B | |
| Toluene | ND | 0.00100 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *108 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *101 %* | *80-120* | | " | " | " | " | |
| **Monitor Well # 2- Shallow (7D26011-02) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | ED73007 | 04/30/07 | 05/01/07 | EPA 8021B | |
| Toluene | ND | 0.00100 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (p/m) | ND | 0.00100 | " | " | " | " | " | " | |
| Xylene (o) | ND | 0.00100 | " | " | " | " | " | " | |
| *Surrogate: a,a,a-Trifluorotoluene* | | *108 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *97.6 %* | *80-120* | | " | " | " | " | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## General Chemistry Parameters by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well # 1- Deep (7D26011-01) Water** | | | | | | | | | |
| **Total Alkalinity** | **160** | 2.00 | mg/L | 1 | ED73002 | 04/30/07 | 04/30/07 | EPA 310.1M | |
| **Chloride** | **279** | 5.00 | " | 10 | EE70307 | 05/03/07 | 05/03/07 | EPA 300.0 | |
| **Total Dissolved Solids** | **850** | 10.0 | " | 1 | EE70209 | 04/27/07 | 05/02/07 | EPA 160.1 | |
| **Sulfate** | **95.7** | 5.00 | " | 10 | EE70307 | 05/03/07 | 05/03/07 | EPA 300.0 | |
| **Monitor Well # 2- Shallow (7D26011-02) Water** | | | | | | | | | |
| **Total Alkalinity** | **232** | 2.00 | mg/L | 1 | ED73002 | 04/30/07 | 04/30/07 | EPA 310.1M | |
| **Chloride** | **89.4** | 5.00 | " | 10 | EE70307 | 05/03/07 | 05/03/07 | EPA 300.0 | |
| **Total Dissolved Solids** | **556** | 10.0 | " | 1 | EE70209 | 04/27/07 | 05/02/07 | EPA 160.1 | |
| **Sulfate** | **107** | 5.00 | " | 10 | EE70307 | 05/03/07 | 05/03/07 | EPA 300.0 | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Total Metals by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well # 1- Deep (7D26011-01) Water** | | | | | | | | | |
| **Calcium** | **181** | 4.05 | mg/L | 50 | ED72704 | 04/27/07 | 04/27/07 | EPA 6010B | |
| **Magnesium** | **25.5** | 0.360 | " | 10 | " | " | " | " | |
| **Potassium** | **4.45** | 0.600 | " | " | " | " | " | " | |
| **Sodium** | **86.4** | 2.15 | " | 50 | " | " | " | " | |
| **Monitor Well # 2- Shallow (7D26011-02) Water** | | | | | | | | | |
| **Calcium** | **67.6** | 4.05 | mg/L | 50 | ED72704 | 04/27/07 | 04/27/07 | EPA 6010B | |
| **Magnesium** | **14.9** | 0.360 | " | 10 | " | " | " | " | |
| **Potassium** | **2.03** | 0.600 | " | " | " | " | " | " | |
| **Sodium** | **117** | 2.15 | " | 50 | " | " | " | " | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Organics by GC - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch ED73007 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (ED73007-BLK1)** | | | | Prepared & Analyzed: 04/30/07 | | | | | | |
| Benzene | ND | 0.00100 | mg/L | | | | | | | |
| Toluene | ND | 0.00100 | " | | | | | | | |
| Ethylbenzene | ND | 0.00100 | " | | | | | | | |
| Xylene (p/m) | ND | 0.00100 | " | | | | | | | |
| Xylene (o) | ND | 0.00100 | " | | | | | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *51.7* | | *ug/l* | *50.0* | | *103* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *52.3* | | *"* | *50.0* | | *105* | *80-120* | | | |
| **LCS (ED73007-BS1)** | | | | Prepared & Analyzed: 04/30/07 | | | | | | |
| Benzene | 0.0564 | 0.00100 | mg/L | 0.0500 | | 113 | 80-120 | | | |
| Toluene | 0.0571 | 0.00100 | " | 0.0500 | | 114 | 80-120 | | | |
| Ethylbenzene | 0.0575 | 0.00100 | " | 0.0500 | | 115 | 80-120 | | | |
| Xylene (p/m) | 0.106 | 0.00100 | " | 0.100 | | 106 | 80-120 | | | |
| Xylene (o) | 0.0575 | 0.00100 | " | 0.0500 | | 115 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *55.4* | | *ug/l* | *50.0* | | *111* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *54.8* | | *"* | *50.0* | | *110* | *80-120* | | | |
| **Calibration Check (ED73007-CCV1)** | | | | Prepared: 04/30/07 Analyzed: 05/01/07 | | | | | | |
| Benzene | 0.0547 | | mg/L | 0.0500 | | 109 | 80-120 | | | |
| Toluene | 0.0555 | | " | 0.0500 | | 111 | 80-120 | | | |
| Ethylbenzene | 0.0550 | | " | 0.0500 | | 110 | 80-120 | | | |
| Xylene (p/m) | 0.102 | | " | 0.100 | | 102 | 80-120 | | | |
| Xylene (o) | 0.0566 | | " | 0.0500 | | 113 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *53.8* | | *ug/l* | *50.0* | | *108* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *53.8* | | *"* | *50.0* | | *108* | *80-120* | | | |
| **Matrix Spike (ED73007-MS1)** | **Source: 7D26012-01** | | | Prepared: 04/30/07 Analyzed: 05/01/07 | | | | | | |
| Benzene | 0.0565 | 0.00100 | mg/L | 0.0500 | ND | 113 | 80-120 | | | |
| Toluene | 0.0568 | 0.00100 | " | 0.0500 | ND | 114 | 80-120 | | | |
| Ethylbenzene | 0.0549 | 0.00100 | " | 0.0500 | ND | 110 | 80-120 | | | |
| Xylene (p/m) | 0.105 | 0.00100 | " | 0.100 | ND | 105 | 80-120 | | | |
| Xylene (o) | 0.0577 | 0.00100 | " | 0.0500 | ND | 115 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *54.0* | | *ug/l* | *50.0* | | *108* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *53.6* | | *"* | *50.0* | | *107* | *80-120* | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Organics by GC - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch ED73007 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (ED73007-MSD1)** | **Source: 7D26012-01** | | | Prepared: 04/30/07 Analyzed: 05/01/07 | | | | | | |
| Benzene | 0.0542 | 0.00100 | mg/L | 0.0500 | ND | 108 | 80-120 | 4.52 | 20 | |
| Toluene | 0.0551 | 0.00100 | " | 0.0500 | ND | 110 | 80-120 | 3.57 | 20 | |
| Ethylbenzene | 0.0561 | 0.00100 | " | 0.0500 | ND | 112 | 80-120 | 1.80 | 20 | |
| Xylene (p/m) | 0.102 | 0.00100 | " | 0.100 | ND | 102 | 80-120 | 2.90 | 20 | |
| Xylene (o) | 0.0557 | 0.00100 | " | 0.0500 | ND | 111 | 80-120 | 3.54 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *52.7* | | *ug/l* | *50.0* | | *105* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *52.8* | | *"* | *50.0* | | *106* | *80-120* | | | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch ED73002 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (ED73002-BLK1)** | | | | Prepared & Analyzed: 04/30/07 | | | | | | |
| Total Alkalinity | ND | 2.00 | mg/L | | | | | | | |
| **LCS (ED73002-BS1)** | | | | Prepared & Analyzed: 04/30/07 | | | | | | |
| Total Alkalinity | 0.00 | 2.00 | mg/L | | | | 85-115 | | | |
| Bicarbonate Alkalinity | 180 | 2.00 | " | 200 | | 90.0 | 85-115 | | | |
| **Duplicate (ED73002-DUP1)** | **Source: 7D26006-01** | | | Prepared & Analyzed: 04/30/07 | | | | | | |
| Total Alkalinity | 214 | 2.00 | mg/L | | 218 | | | 1.85 | 20 | |
| Bicarbonate Alkalinity | 0.00 | 2.00 | " | | 0.00 | | | | 20 | |
| **Reference (ED73002-SRM1)** | | | | Prepared & Analyzed: 04/30/07 | | | | | | |
| Total Alkalinity | 256 | | mg/L | 250 | | 102 | 90-110 | | | |
| **Batch EE70209 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EE70209-BLK1)** | | | | Prepared: 04/27/07 Analyzed: 05/02/07 | | | | | | |
| Total Dissolved Solids | ND | 10.0 | mg/L | | | | | | | |
| **Duplicate (EE70209-DUP1)** | **Source: 7D26007-01** | | | Prepared: 04/27/07 Analyzed: 05/02/07 | | | | | | |
| Total Dissolved Solids | 1500 | 10.0 | mg/L | | 1470 | | | 2.02 | 20 | |
| **Duplicate (EE70209-DUP2)** | **Source: 7D26009-01** | | | Prepared: 04/27/07 Analyzed: 05/02/07 | | | | | | |
| Total Dissolved Solids | 712 | 10.0 | mg/L | | 684 | | | 4.01 | 20 | |
| **Batch EE70307 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EE70307-BLK1)** | | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Chloride | ND | 0.500 | mg/L | | | | | | | |
| Sulfate | ND | 0.500 | " | | | | | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## General Chemistry Parameters by EPA / Standard Methods - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch EE70307 - General Preparation (WetChem)** | | | | | | | | | | |
| **LCS (EE70307-BS1)** | | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Chloride | 9.62 | 0.500 | mg/L | 10.0 | | 96.2 | 80-120 | | | |
| Sulfate | 10.0 | 0.500 | " | 10.0 | | 100 | 80-120 | | | |
| **Calibration Check (EE70307-CCV1)** | | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Sulfate | 11.6 | | mg/L | 10.0 | | 116 | 80-120 | | | |
| Chloride | 8.93 | | " | 10.0 | | 89.3 | 80-120 | | | |
| **Duplicate (EE70307-DUP1)** | **Source: 7D26006-01** | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Sulfate | 342 | 12.5 | mg/L | | 339 | | | 0.881 | 20 | |
| Chloride | 941 | 50.0 | " | | 917 | | | 2.58 | 20 | |
| **Duplicate (EE70307-DUP2)** | **Source: 7D26010-01** | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Sulfate | 74.1 | 5.00 | mg/L | | 75.5 | | | 1.87 | 20 | |
| Chloride | 93.1 | 5.00 | " | | 94.3 | | | 1.28 | 20 | |
| **Matrix Spike (EE70307-MS1)** | **Source: 7D26006-01** | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Sulfate | 728 | 12.5 | mg/L | 250 | 339 | 156 | 80-120 | | | M1 |
| **Matrix Spike (EE70307-MS2)** | **Source: 7D26010-01** | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Chloride | 278 | 5.00 | mg/L | 100 | 94.3 | 184 | 80-120 | | | M1 |
| Sulfate | 204 | 5.00 | " | 100 | 75.5 | 128 | 80-120 | | | M1 |
| **Matrix Spike (EE70307-MS3)** | **Source: 7D26006-01** | | | Prepared & Analyzed: 05/03/07 | | | | | | |
| Chloride | 1800 | 50.0 | mg/L | 1000 | 917 | 88.3 | 80-120 | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Total Metals by EPA / Standard Methods - Quality Control

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch ED72704 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (ED72704-BLK1)** | | | | Prepared & Analyzed: 04/27/07 | | | | | | |
| Calcium | ND | 0.0810 | mg/L | | | | | | | |
| Magnesium | ND | 0.0360 | " | | | | | | | |
| Potassium | ND | 0.0600 | " | | | | | | | |
| Sodium | ND | 0.0430 | " | | | | | | | |
| **Calibration Check (ED72704-CCV1)** | | | | Prepared & Analyzed: 04/27/07 | | | | | | |
| Calcium | 2.13 | | mg/L | 2.00 | | 106 | 85-115 | | | |
| Magnesium | 2.15 | | " | 2.00 | | 108 | 85-115 | | | |
| Potassium | 2.14 | | " | 2.00 | | 107 | 85-115 | | | |
| Sodium | 1.98 | | " | 2.00 | | 99.0 | 85-115 | | | |
| **Duplicate (ED72704-DUP1)** | **Source: 7D23010-01** | | | Prepared & Analyzed: 04/27/07 | | | | | | |
| Calcium | 44.1 | 0.810 | mg/L | | 42.4 | | | 3.93 | 20 | |
| Magnesium | 43.0 | 0.360 | " | | 42.4 | | | 1.41 | 20 | |
| Potassium | 22.7 | 0.600 | " | | 22.1 | | | 2.68 | 20 | |
| Sodium | 41.9 | 0.430 | " | | 40.8 | | | 2.66 | 20 | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: Hobbs Jct. F-29-1A | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Notes and Definitions

| | |
|---|---|
| M1 | The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS). |
| DET | Analyte DETECTED |
| ND | Analyte NOT DETECTED at or above the reporting limit |
| NR | Not Reported |
| dry | Sample results reported on a dry weight basis |
| RPD | Relative Percent Difference |
| LCS | Laboratory Control Spike |
| MS | Matrix Spike |
| Dup | Duplicate |

Report Approved By: Brent Barron Date: 5/7/2007

Brent Barron, Laboratory Director/Corp. Technical Director
Celey D. Keene, Org. Tech Director
Raland K. Tuttle, Laboratory Consultant

James Mathis, QA/QC Officer
Jeanne Mc Murrey, Inorg. Tech Director

# Environmental Lab of Texas

*CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST*

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Kristin Farris Pope kpope@riceswd.com

Company Name: RICE Operating Company

Company Address: 122 W. Taylor Street

City/State/Zip: Hobbs, New Mexico 88240

Telephone No: (505) 393-9174 Fax No: (505) 397-1471

Sampler Signature: Rozanne Johnson (505)631-9310 e-mail: rozanne@valornet.com

Project Name: Hobbs Junction F-29-1A

Project #:

Project Loc: T18S R38E Sec29 F ~ Lea County New Mexico

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 7026011

| LAB # (lab use only) | FIELD CODE | Beginning Depth | Ending Depth | Date Sampled | Time Sampled | Field Filtered | Total # of Containers | Preservation & # of Containers: Ice | $HNO_3$ | HCl (2) 40 ml glass vials | $H_2SO_4$ | NaOH | $Na_2S_2O_3$ | None (1) 1 Liter HDPE | Other (Specify) | Matrix: DW-Drinking Water SL-Sludge | GW - Groundwater S-Soil/Solid | NP- Non-Potable Specify Other | Analyze For: TCLP: TPH: 418.1 8015M 8015B | TPH: TX 1005 TX 1006 | Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, Alkalinity) | SAR / ESP / CEC | Metals: As Ag Ba Cd Cr Pb Hg Se | Volatiles | Semivolatiles | TOTAL: BTEX 8021B/5030 | RCI | N.O.R.M. | Total Dissolved Solids | | | RUSH TAT (Pre-Schedule) 24, 48, 72 hrs | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 281557 | | | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | |
| 01 | Monitor Well #1-Deep | | | 4/26/2007 | 11:00 | | 3 | X | | 2 | | | | 1 | | | GW | | | | X | X | | | | | X | | | X | | | | X |
| 02 | Monitor Well #2-Shallow | | | 4/26/2007 | 10:05 | | 3 | X | | 2 | | | | 1 | | | GW | | | | X | X | | | | | X | | | X | | | | X |

Special Instructions:

Please email to : kpope@riceswd.com matt@riceswd.com rozanne@valornet.com
jpurvis@riceswd.com

| | Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|---|
| 1 | Rozanne Johnson | 4/26/07 | 12:40 | James Johnson | 4-26-07 | 12:41 |
| 2 | James Johnson | 4-26-07 | 4:25 | | | |
| 3 | | | | Received by ELOT: Cindy Pe | 4-26-07 | 4:25 |

Laboratory Comments:

| | | |
|---|---|---|
| Sample Containers Intact? | Y | N |
| VOCs Free of Headspace? | Y | N |
| Labels on container(s) | Y | N |
| Custody seals on container(s) | Y | N |
| Custody seals on cooler(s) | Y | N |
| Sample Hand Delivered by Sampler/Client Rep.? | Y | N |
| by Courier? UPS DHL FedEx Lone Star | | |

Temperature Upon Receipt: -1.0 °C

# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Rice

Date/ Time: 4-26-07 4:25

Lab ID # : 70226011

Initials: CL

### Sample Receipt Checklist

| | | | | | Client Initials |
|---|---|---|---|---|---|
| #1 | Temperature of container/ cooler? | (Yes) | No | -1.0 °C | |
| #2 | Shipping container in good condition? | (Yes) | No | | |
| #3 | Custody Seals intact on shipping container/ cooler? | (Yes) | No | Not Present | |
| #4 | Custody Seals intact on sample bottles/ container? | (Yes) | No | Not Present | |
| #5 | Chain of Custody present? | (Yes) | No | | |
| #6 | Sample instructions complete of Chain of Custody? | (Yes) | No | | |
| #7 | Chain of Custody signed when relinquished/ received? | (Yes) | No | | |
| #8 | Chain of Custody agrees with sample label(s)? | (Yes) | No | ID written on Cont./ Lid | |
| #9 | Container label(s) legible and intact? | (Yes) | No | Not Applicable | |
| #10 | Sample matrix/ properties agree with Chain of Custody? | (Yes) | No | | |
| #11 | Containers supplied by ELOT? | (Yes) | No | | |
| #12 | Samples in proper container/ bottle? | (Yes) | No | See Below | |
| #13 | Samples properly preserved? | (Yes) | No | See Below | |
| #14 | Sample bottles intact? | (Yes) | No | | |
| #15 | Preservations documented on Chain of Custody? | (Yes) | No | | |
| #16 | Containers documented on Chain of Custody? | (Yes) | No | | |
| #17 | Sufficient sample amount for indicated test(s)? | (Yes) | No | See Below | |
| #18 | All samples received within sufficient hold time? | (Yes) | No | See Below | |
| #19 | Subcontract of sample(s)? | Yes | No | (Not Applicable) | |
| #20 | VOC samples have zero headspace? | (Yes) | No | Not Applicable | |

### Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

# Analytical Report 287160

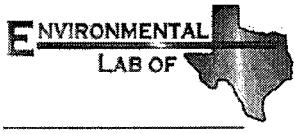
## for

## Rice Operating Co.

**Project Manager: Kristin Pope**

**Hobbs Junction F-29-1A**

**13-AUG-07**




**12600 West I-20 East Odessa, Texas 79765**

**A Xenco Laboratories Company**

NELAC certification numbers:
Houston, TX E871002 - Miami, FL E86678 - Tampa, FL E86675

Houston - Dallas - San Antonio - Austin - Tampa - Miami - Latin America

13-AUG-07

Project Manager: **Kristin Pope**
**Rice Operating Co.**
122 West Taylor
Hobbs, NM 88240

Reference: XENCO Report No: **287160**
**Hobbs Junction F-29-1A**
Project Address:T18S R38E Sec29 F E ~ Lea County New Mexico

**Kristin Pope**:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number287160. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. Estimation of data uncertainty for this report is found in the quality control section of this report unless otherwise noted. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report N287160 will be filed for 60 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

**Brent Barron**
Odessa Laboratory Director

# Certificate of Analysis Summary 287160

## Rice Operating Co., Hobbs, NM

### Project Name: Hobbs Junction F-29-1A

**Project Id:**
**Contact:** Kristin Pope
**Project Location:** T18S R38E Sec29 F E ~ Lea County New

**Date Received in Lab** Aug-02-07 12:50 pm
**Report Date:** 13-AUG-07
**Project Manager:** Brent Barron, II

| *Analysis Requested* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Lab Id:* | 287160-001 | | 287160-002 | | | | |
| | *Field Id:* | Monitor Well # 1-Deep | | Monitor Well # 2-Shallow | | | | |
| | *Depth:* | | | | | | | |
| | *Matrix:* | WATER | | WATER | | | | |
| | *Sampled:* | Aug-01-07 10:25 | | Aug-01-07 09:10 | | | | |
| **Alkalinity by EPA 310.1** | *Extracted:* | | | | | | | |
| | *Analyzed:* | Aug-07-07 13:00 | | Aug-07-07 13:00 | | | | |
| | *Units/RL:* | mg/L | RL | mg/L | RL | | | |
| Alkalinity, Total (as CaCO3) | | 188 | 4.00 | 240 | 4.00 | | | |
| **BTEX by EPA 8021B** | *Extracted:* | Aug-02-07 16:55 | | Aug-02-07 16:55 | | | | |
| | *Analyzed:* | Aug-05-07 19:23 | | Aug-05-07 19:44 | | | | |
| | *Units/RL:* | mg/L | RL | mg/L | RL | | | |
| Benzene | | ND | 0.0010 | ND | 0.0010 | | | |
| Toluene | | ND | 0.0010 | ND | 0.0010 | | | |
| Ethylbenzene | | ND | 0.0010 | ND | 0.0010 | | | |
| m,p-Xylene | | ND | 0.0020 | ND | 0.0020 | | | |
| o-Xylene | | ND | 0.0010 | ND | 0.0010 | | | |
| Total Xylenes | | ND | | ND | | | | |
| Total BTEX | | ND | | ND | | | | |
| **Inorganic Anions by EPA 300** | *Extracted:* | | | | | | | |
| | *Analyzed:* | Aug-07-07 11:48 | | Aug-07-07 11:48 | | | | |
| | *Units/RL:* | mg/L | RL | mg/L | RL | | | |
| Chloride | | 263 | 10.0 | 27.2 | 5.00 | | | |
| Sulfate | | 102 | 10.0 | 26.2 | 5.00 | | | |
| **Metals per ICP by SW846 6010B** | *Extracted:* | | | | | | | |
| | *Analyzed:* | Aug-03-07 14:39 | | Aug-03-07 14:39 | | | | |
| | *Units/RL:* | mg/L | RL | mg/L | RL | | | |
| Calcium | | 197 | 0.100 | 76.8 | 0.100 | | | |
| Magnesium | | 18.5 | 0.010 | 12.4 | 0.010 | | | |
| Potassium | | 3.52 | 0.500 | 2.23 | 0.500 | | | |
| Sodium | | 69.1 | 0.500 | 111 | 0.500 | | | |
| **Residue, Filterable (TDS) by EPA 160.1** | *Extracted:* | | | | | | | |
| | *Analyzed:* | Aug-06-07 16:20 | | Aug-06-07 16:20 | | | | |
| | *Units/RL:* | mg/L | RL | mg/L | RL | | | |
| Total dissolved solids | | 1160 | 5.00 | 592 | 5.00 | | | |





Brent Barron
Odessa Laboratory Director

XENCO Laboratories

# Flagging Criteria

**X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to effect the recovery of the spike concentration. This condition could also effect the relative percent difference in the MS/MSD.

**B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

**D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

**E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

**F** RPD exceeded lab control limits.

**J** The target analyte was positively identified below the MQL and above the SQL.

**U** Analyte was not detected.

**L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

**H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

**K** Sample analyzed outside of recommended hold time.

# Form 2 - Surrogate Recoveries

**Project Name: Hobbs Junction F-29-1A**

**Work Order #:** 287160 **Project ID:**

**Lab Batch #:** 701934 **Sample:** 287160-001 / SMP **Batch:** 1 **Matrix:** Water

**Units:** mg/L

| BTEX by EPA 8021B | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
| 4-Bromofluorobenzene | 0.0436 | 0.0500 | 87 | 80-120 | |

**Lab Batch #:** 701934 **Sample:** 287160-002 / SMP **Batch:** 1 **Matrix:** Water

**Units:** mg/L

| BTEX by EPA 8021B | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
| 4-Bromofluorobenzene | 0.0403 | 0.0500 | 81 | 80-120 | |

**Lab Batch #:** 701934 **Sample:** 287160-002 S / MS **Batch:** 1 **Matrix:** Water

**Units:** mg/L

| BTEX by EPA 8021B | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
| 4-Bromofluorobenzene | 0.0495 | 0.0500 | 99 | 80-120 | |

**Lab Batch #:** 701934 **Sample:** 287160-002 SD / MSD **Batch:** 1 **Matrix:** Water

**Units:** mg/L

| BTEX by EPA 8021B | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
| 4-Bromofluorobenzene | 0.0457 | 0.0500 | 91 | 80-120 | |

**Lab Batch #:** 701934 **Sample:** 497877-1-BKS / BKS **Batch:** 1 **Matrix:** Water

**Units:** mg/L

| BTEX by EPA 8021B | SURROGATE RECOVERY STUDY | | | | |
|---|---|---|---|---|---|
| Analytes | Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
| 4-Bromofluorobenzene | 0.0497 | 0.0500 | 99 | 80-120 | |

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

# Form 2 - Surrogate Recoveries

**Project Name: Hobbs Junction F-29-1A**

**Work Order #:** 287160 **Project ID:**

**Lab Batch #:** 701934 **Sample:** 497877-1-BLK / BLK **Batch:** 1 **Matrix:** Water

**Units:** mg/L

| BTEX by EPA 8021B<br>Analytes | SURROGATE RECOVERY STUDY<br>Amount Found [A] | True Amount [B] | Recovery %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|
| 4-Bromofluorobenzene | 0.0467 | 0.0500 | 93 | 80-120 | |

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

# Blank Spike Recovery

## Project Name: Hobbs Junction F-29-1A

**Work Order #:** 287160 **Project ID:**

**Lab Batch #:** 701789 **Sample:** 701789-1-BKS **Matrix:** Water
**Date Analyzed:** 08/07/2007 **Date Prepared:** 08/07/2007 **Analyst:** WRU
**Reporting Units:** mg/L **Batch #:** 1

| Alkalinity by EPA 310.1 Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| | BLANK /BLANK SPIKE RECOVERY STUDY | | | | | |
| Alkalinity, Total (as CaCO3) | ND | 200 | 194 | 97 | 80-120 | |

**Lab Batch #:** 701934 **Sample:** 497877-1-BKS **Matrix:** Water
**Date Analyzed:** 08/05/2007 **Date Prepared:** 08/04/2007 **Analyst:** CELKEE
**Reporting Units:** mg/L **Batch #:** 1

| BTEX by EPA 8021B Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| | BLANK /BLANK SPIKE RECOVERY STUDY | | | | | |
| Benzene | ND | 0.0500 | 0.0512 | 102 | 70-125 | |
| Toluene | ND | 0.0500 | 0.0531 | 106 | 70-125 | |
| Ethylbenzene | ND | 0.0500 | 0.0573 | 115 | 71-129 | |
| m,p-Xylene | ND | 0.1000 | 0.1029 | 103 | 70-131 | |
| o-Xylene | ND | 0.0500 | 0.0554 | 111 | 71-133 | |

**Lab Batch #:** 701864 **Sample:** 701864-1-BKS **Matrix:** Water
**Date Analyzed:** 08/07/2007 **Date Prepared:** 08/07/2007 **Analyst:** IRO
**Reporting Units:** mg/L **Batch #:** 1

| Inorganic Anions by EPA 300 Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| | BLANK /BLANK SPIKE RECOVERY STUDY | | | | | |
| Chloride | ND | 10.0 | 9.03 | 90 | 90-110 | |
| Sulfate | ND | 10.0 | 9.63 | 96 | 90-110 | |

**Lab Batch #:** 701571 **Sample:** 701571-1-BKS **Matrix:** Water
**Date Analyzed:** 08/03/2007 **Date Prepared:** 08/03/2007 **Analyst:** LATCOR
**Reporting Units:** mg/L **Batch #:** 1

| Metals per ICP by SW846 6010B Analytes | Blank Result [A] | Spike Added [B] | Blank Spike Result [C] | Blank Spike %R [D] | Control Limits %R | Flags |
|---|---|---|---|---|---|---|
| | BLANK /BLANK SPIKE RECOVERY STUDY | | | | | |
| Calcium | ND | 2.00 | 1.83 | 92 | 75-125 | |
| Magnesium | ND | 2.00 | 2.08 | 104 | 75-125 | |
| Potassium | ND | 2.00 | 2.28 | 114 | 75-125 | |
| Sodium | ND | 2.00 | 1.94 | 97 | 75-125 | |

Blank Spike Recovery [D] = 100*[C]/[B]
All results are based on MDL and validated for QC purposes.

# Form 3 - MS Recoveries

## Project Name: Hobbs Junction F-29-1A

**Work Order #:** 287160
**Lab Batch #:** 701864
**Date Analyzed:** 08/07/2007
**QC- Sample ID:** 287159-003 S
**Reporting Units:** mg/L

**Project ID:**
**Date Prepared:** 08/07/2007
**Analyst:** IRO
**Batch #:** 1
**Matrix:** Water

| Inorganic Anions by EPA 300 | MATRIX / MATRIX SPIKE RECOVERY STUDY | | | | | |
|---|---|---|---|---|---|---|
| Analytes | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | %R [D] | Control Limits %R | Flag |
| Chloride | 548 | 250 | 862 | 126 | 90-110 | X |

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference [E] = 200*(C-A)/(C+B)
All Results are based on MDL and Validated for QC Purposes

# Form 3 - MS / MSD Recoveries

## Project Name: Hobbs Junction F-29-1A

**Work Order #** 287160 **Project ID:**

***Lab Batch ID:*** *701934* ***QC- Sample ID:*** *287160-002 S* ***Batch #:*** *1* ***Matrix:*** *Water*

**Date Analyzed:** 08/05/2007 **Date Prepared:** 08/04/2007 **Analyst:** CELKEE

**Reporting Units:** mg/L

| BTEX by EPA 8021B Analytes | MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY STUDY | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Parent Sample Result [A] | Spike Added [B] | Spiked Sample Result [C] | Spiked Sample %R [D] | Spike Added [E] | Duplicate Spiked Sample Result [F] | Spiked Dup. %R [G] | RPD % | Control Limits %R | Control Limits %RPD | Flag |
| Benzene | ND | 0.0500 | 0.0510 | 102 | 0.0500 | 0.0510 | 102 | 0 | 70-125 | 25 | |
| Toluene | ND | 0.0500 | 0.0528 | 106 | 0.0500 | 0.0528 | 106 | 0 | 70-125 | 25 | |
| Ethylbenzene | ND | 0.0500 | 0.0573 | 115 | 0.0500 | 0.0562 | 112 | 3 | 71-129 | 25 | |
| m,p-Xylene | ND | 0.1000 | 0.1023 | 102 | 0.1000 | 0.0994 | 99 | 3 | 70-131 | 25 | |
| o-Xylene | ND | 0.0500 | 0.0554 | 111 | 0.0500 | 0.0536 | 107 | 4 | 71-133 | 25 | |

Matrix Spike Percent Recovery [D] = 100*(C-A)/B
Relative Percent Difference RPD = 200*(D-G)/(D+G)

Matrix Spike Duplicate Percent Recovery [G] = 100*(F-A)/E

ND = Not Detected, J = Present Below Reporting Limit, B = Present in Blank, NR = Not Requested, I = Interference, NA = Not ApplicableN = See Narrative, EQL = Estimated Quantitation Limit

# Sample Duplicate Recovery

## Project Name: Hobbs Junction F-29-1A

**Work Order #:** 287160

**Lab Batch #:** 701789 **Project ID:**
**Date Analyzed:** 08/07/2007 **Date Prepared:** 08/07/2007 **Analyst:** WRU
**QC- Sample ID:** 287122-001 D **Batch #:** 1 **Matrix:** Water
**Reporting Units:** mg/L

| Alkalinity by EPA 310.1 | SAMPLE / SAMPLE DUPLICATE RECOVERY | | | | |
|---|---|---|---|---|---|
| Analyte | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Alkalinity, Total (as CaCO3) | 216 | 216 | 0 | 20 | |

**Lab Batch #:** 701571
**Date Analyzed:** 08/03/2007 **Date Prepared:** 08/03/2007 **Analyst:** LATCOR
**QC- Sample ID:** 287179-001 D **Batch #:** 1 **Matrix:** Water
**Reporting Units:** mg/L

| Metals per ICP by SW846 6010B | SAMPLE / SAMPLE DUPLICATE RECOVERY | | | | |
|---|---|---|---|---|---|
| Analyte | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Calcium | 301 | 285 | 5 | 25 | |
| Magnesium | 120 | 134 | 11 | 25 | |
| Potassium | 20.1 | 15.8 | 24 | 25 | |
| Sodium | 284 | 265 | 7 | 25 | |

**Lab Batch #:** 701790
**Date Analyzed:** 08/06/2007 **Date Prepared:** 08/06/2007 **Analyst:** IRO
**QC- Sample ID:** 287122-001 D **Batch #:** 1 **Matrix:** Water
**Reporting Units:** mg/L

| Residue, Filterable (TDS) by EPA 160.1 | SAMPLE / SAMPLE DUPLICATE RECOVERY | | | | |
|---|---|---|---|---|---|
| Analyte | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Total dissolved solids | 754 | 784 | 4 | 30 | |

**Lab Batch #:** 701790
**Date Analyzed:** 08/06/2007 **Date Prepared:** 08/06/2007 **Analyst:** IRO
**QC- Sample ID:** 287348-002 D **Batch #:** 1 **Matrix:** Water
**Reporting Units:** mg/L

| Residue, Filterable (TDS) by EPA 160.1 | SAMPLE / SAMPLE DUPLICATE RECOVERY | | | | |
|---|---|---|---|---|---|
| Analyte | Parent Sample Result [A] | Sample Duplicate Result [B] | RPD | Control Limits %RPD | Flag |
| Total dissolved solids | 6250 | 6290 | 1 | 30 | |

Spike Relative Difference RPD 200 * | (B-A)/(B+A) |
All Results are based on MDL and validated for QC purposes.

# Environmental Lab of Texas

*CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST*

12600 West I-20 East
Odessa, Texas 79765

Phone: 432-563-1800
Fax: 432-563-1713

Project Manager: Kristin Farris Pope kpope@riceswd.com

Company Name: RICE Operating Company

Company Address: 122 W. Taylor Street

City/State/Zip: Hobbs, New Mexico 88240

Telephone No: (505) 393-9174 Fax No: (505) 397-1471

Sampler Signature: Rozanne Johnson (505)631-9310 e-mail: rozanne@valornet.com

Project Name: Hobbs Junction F-29-1A

Project #:

Project Loc: T18S R38E Sec29 F ~ Lea County New Mexico

PO #:

Report Format: [X] Standard [ ] TRRP [ ] NPDES

(lab use only)

ORDER #: 287160

| LAB # (lab use only) | FIELD CODE | Beginning Depth | Ending Depth | Date Sampled | Time Sampled | Field Filtered | Total # of Containers | Preservation & # of Containers: Ice | $HNO_3$ | HCl (2) 40 ml glass vials | $H_2SO_4$ | NaOH | $Na_2S_2O_3$ | None (1) 1 Liter HDPE | Other ( Specify) | Matrix: DW=Drinking Water SL=Sludge GW = Groundwater S=Soil/Solid NP=Non-Potable Specify Other | Analyze For: TPH: 418.1 8015M 8015B | TPH: TX 1005 TX 1006 | Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, Alkalinity) | SAR / ESP / CEC | Metals: As Ag Ba Cd Cr Pb Hg Se | Volatiles | Semivolatiles | BTEX 8021B/5030 | RCI | N.O.R.M. | Total Dissolved Solids | | | RUSH TAT (Pre-Schedule) 24, 48, 72 hrs | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | TCLP: | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | TOTAL: | | | | | | | | X | | | | | | | |
| 01 | Monitor Well #1-Deep | | | 8/1/2007 | 10:25 | | 3 | X | | 2 | | | | 1 | | GW | | | X | X | | | | | X | | | X | | | | X |
| 02 | Monitor Well #2-Shallow | | | 8/1/2007 | 9:10 | | 3 | X | | 2 | | | | 1 | | GW | | | X | X | | | | | X | | | X | | | | X |

**Special Instructions:**

Please email to : kpope@riceswd.com rozanne@valornet.com

| | | | | | |
|---|---|---|---|---|---|
| Relinquished by: Rozanne Johnson | Date 8/2/07 | Time 9:15 | Received by: Raelyn Gardner | Date 8/2/07 | Time 9:16 |
| Relinquished by: Raelyn Gardner | Date 8/2/07 | Time 12:30 | Received by: | Date | Time |
| Relinquished by: | Date | Time | Received by ELOT: Andrea Lamm | Date 8-7-07 | Time 12:50 |

**Laboratory Comments:**

| | | |
|---|---|---|
| Sample Containers Intact? | Y | N |
| VOCs Free of Headspace? | Y | N |
| Labels on container(s) | Y | N |
| Custody seals on container(s) | Y | N |
| Custody seals on cooler(s) | Y | N |
| Sample Hand Delivered | Y | N |
| by Sampler/Client Rep. ? | Y | N |

by Courier? UPS DHL FedEx Lone Star

Temperature Upon Receipt: 1.5 °C

# Environmental Lab of Texas

## Variance/ Corrective Action Report- Sample Log-In

Client: Fil

Date/ Time: 8.2.07 12:50

Lab ID # : 28716C

Initials: AL

### Sample Receipt Checklist

| | | | | | Client Initials |
|---|---|---|---|---|---|
| #1 | Temperature of container/ cooler? | Yes | No | 1.5 °C | |
| #2 | Shipping container in good condition? | Yes | No | | |
| #3 | Custody Seals intact on shipping container/ cooler? | Yes | No | Not Present | |
| #4 | Custody Seals intact on sample bottles/ container? | Yes | No | Not Present | |
| #5 | Chain of Custody present? | Yes | No | | |
| #6 | Sample instructions complete of Chain of Custody? | Yes | No | | |
| #7 | Chain of Custody signed when relinquished/ received? | Yes | No | | |
| #8 | Chain of Custody agrees with sample label(s)? | Yes | No | ID written on Cont./ Lid | |
| #9 | Container label(s) legible and intact? | Yes | No | Not Applicable | |
| #10 | Sample matrix/ properties agree with Chain of Custody? | Yes | No | | |
| #11 | Containers supplied by ELOT? | Yes | No | | |
| #12 | Samples in proper container/ bottle? | Yes | No | See Below | |
| #13 | Samples properly preserved? | Yes | No | See Below | |
| #14 | Sample bottles intact? | Yes | No | | |
| #15 | Preservations documented on Chain of Custody? | Yes | No | | |
| #16 | Containers documented on Chain of Custody? | Yes | No | | |
| #17 | Sufficient sample amount for indicated test(s)? | Yes | No | See Below | |
| #18 | All samples received within sufficient hold time? | Yes | No | See Below | |
| #19 | Subcontract of sample(s)? | Yes | No | Not Applicable | |
| #20 | VOC samples have zero headspace? | Yes | No | Not Applicable | |

### Variance Documentation

Contact: _____ Contacted by: _____ Date/ Time: _____

Regarding: _____

Corrective Action Taken: _____

Check all that Apply:

- ☐ See attached e-mail/ fax
- ☐ Client understands and would like to proceed with analysis
- ☐ Cooling process had begun shortly after sampling event

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 W. TAYLOR STREET
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 10/22/07
Reporting Date: 10/26/07
Project Number: NOT GIVEN
Project Name: HOBBS JUNCTION F-29-1A
Project Location: T18S-R38E-SEC29 F~LEA COUNTY, NM

Sampling Date: 10/19/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: SB
Analyzed By: HM/KS

| LAB NUMBER | SAMPLE ID | Na (mg/L) | Ca (mg/L) | Mg (mg/L) | K (mg/L) | Conductivity (u S/cm) | T-Alkalinity ($mgCaCO_3$/L) |
|---|---|---|---|---|---|---|---|
| ANALYSIS DATE: | | 10/26/07 | 10/25/07 | 10/25/07 | 10/25/07 | 10/24/07 | 10/24/07 |
| H13553-1 | M.W. #1~DEEP | 84 | 174 | 22.6 | 2.65 | 1,472 | 168 |
| H13553-2 | M.W. #2~SHALLOW | 105 | 71.9 | 17.7 | 1.11 | 955 | 212 |
| | | | | | | | |
| Quality Control | | NR | 49.2 | 51.6 | 2.73 | 1,386 | NR |
| True Value QC | | NR | 50.0 | 50.0 | 3.00 | 1,404 | NR |
| % Recovery | | NR | 98.4 | 103 | 91.0 | 98.7 | NR |
| Relative Percent Difference | | NR | < 0.1 | < 0.1 | 6.7 | 1.3 | NR |
| METHODS: | | | SM3500-Ca-D | 3500-Mg E | 8049 | 120.1 | 310.1 |

| LAB NUMBER | SAMPLE ID | $Cl^-$ (mg/L) | $SO_4$ (mg/L) | $CO_3$ (mg/L) | $HCO_3$ (mg/L) | pH (s.u.) | TDS (mg/L) |
|---|---|---|---|---|---|---|---|
| ANALYSIS DATE: | | 10/25/07 | 10/26/07 | 10/24/07 | 10/24/07 | 10/24/07 | 10/24/07 |
| H13553-1 | M.W. #1~DEEP | 292 | 130 | 0 | 205 | 7.37 | 1,047 |
| H13553-2 | M.W. #2~SHALLOW | 100 | 125 | 0 | 259 | 7.55 | 624 |
| | | | | | | | |
| Quality Control | | 500 | 23.5 | NR | 1000 | 6.97 | NR |
| True Value QC | | 500 | 25.0 | NR | 1000 | 7.00 | NR |
| % Recovery | | 100 | 93.9 | NR | 100 | 99.6 | NR |
| Relative Percent Difference | | 2.0 | 12.5 | NR | 1.2 | 0.1 | NR |
| METHODS: | | SM4500-Cl-B | 375.4 | 310.1 | 310.1 | 150.1 | 160.1 |

Kristin Supobo
Chemist

10/26/07
Date



H13553 RICE

CARDINAL LABORATORIES

PHONE (325) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING COMPANY
ATTN: KRISTIN FARRIS-POPE
122 WEST TAYLOR
HOBBS, NM 88240
FAX TO: (575) 397-1471

Receiving Date: 10/22/07
Reporting Date: 10/24/07
Project Number: NOT GIVEN
Project Name: HOBBS JUNCTION F-29-1A
Project Location: T18S R38E SEC29 F - LEA COUNTY, NM

Sampling Date: 10/19/07
Sample Type: WATER
Sample Condition: COOL & INTACT
Sample Received By: SB
Analyzed By: CK

| LAB NUMBER | SAMPLE ID | BENZENE (mg/L) | TOLUENE (mg/L) | ETHYL BENZENE (mg/L) | TOTAL XYLENES (mg/L) |
|---|---|---|---|---|---|
| ANALYSIS DATE | | 10/23/07 | 10/23/07 | 10/23/07 | 10/23/07 |
| H13553-1 | MONITOR WELL #1 - DEEP | <0.001 | <0.001 | <0.001 | <0.003 |
| H13553-2 | MONITOR WELL #2 - SHALLOW | <0.001 | <0.001 | <0.001 | <0.003 |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| Quality Control | | 0.106 | 0.101 | 0.102 | 0.310 |
| True Value QC | | 0.100 | 0.100 | 0.100 | 0.300 |
| % Recovery | | 106 | 101 | 102 | 103 |
| Relative Percent Difference | | 1.8 | 1.0 | 1.9 | 1.0 |

METHOD: EPA SW-846 8021B

Chemist

10/26/07
Date

H13553b Rice

101 East Marland - Hobbs, New Mexico 88240
Tel (505) 393-2326
Fax (505) 393-2476

# Cardinal Laboratories, Inc.

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

| | |
|---|---|
| Company Name: RICE Operating Company | BILL TO Company: RICE Operating Company PO# |
| Project Manager: Kristin Farris-Pope, Project Scientist | Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240 |
| Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240 | Phone#: (505) 393-9174 Fax#: (505)397-1471 |
| Phone #: (505) 393-9174 | Fax #: (505) 397-1471 |
| Project #: | Project Name: Hobbs Junction F-29-1A |
| Project Location: T18S-R38E-Sec29 F ~ Lea County - New Mexico | Sampler Signature: Rozanne Johnson (505)631-9310 rozanne@valornet.com |

| LAB # (LAB USE ONLY) | FIELD CODE | (G)rab or (C)omp | # CONTAINERS | MATRIX: WATER | SOIL | AIR | SLUDGE | PRESERVATIVE METHOD: HCL (2 40ml VOA) | $HNO_3$ | $NaHSO_4$ | $H_2SO_4$ | ICE (1-1Liter HDPE) | NONE | SAMPLING: DATE (2007) | TIME |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H13553-1 | Monitor Well #1 ~ Deep | G | 3 | X | | | | 2 | | | | 1 | | 10-19 | 10:55 |
| -2 | Monitor Well #2 ~ Shallow | G | 3 | X | | | | 2 | | | | 1 | | 10-19 | 9:50 |

### ANALYSIS REQUEST
(Circle or Specify Method No.)

| MTBE 8021B/602 | BTEX 8021B/602 | TPH 418.1/TX1005 / TX1005 Extended (C35) | PAH 8270C | Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 | TCLP Metals Ag As Ba Cd Cr Pb Se Hg | TCLP Volatiles | TCLP Semi Volatiles | TCLP Pesticides | RCI | GC/MS Vol. 8260B/624 | GC/MS Semi. Vol. 8270C/625 | PCB's 8082/608 | Pesticides 8081A/608 | BOD, TSS, pH | Moisture Content | Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, CO3, HCO3) | Total Dissolved Solids | Chlorides | Turn Around Time ~ 24 Hours |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | | | | | | | | | | | | | | | X | X | X | | |
| | X | | | | | | | | | | | | | | | X | X | X | | |

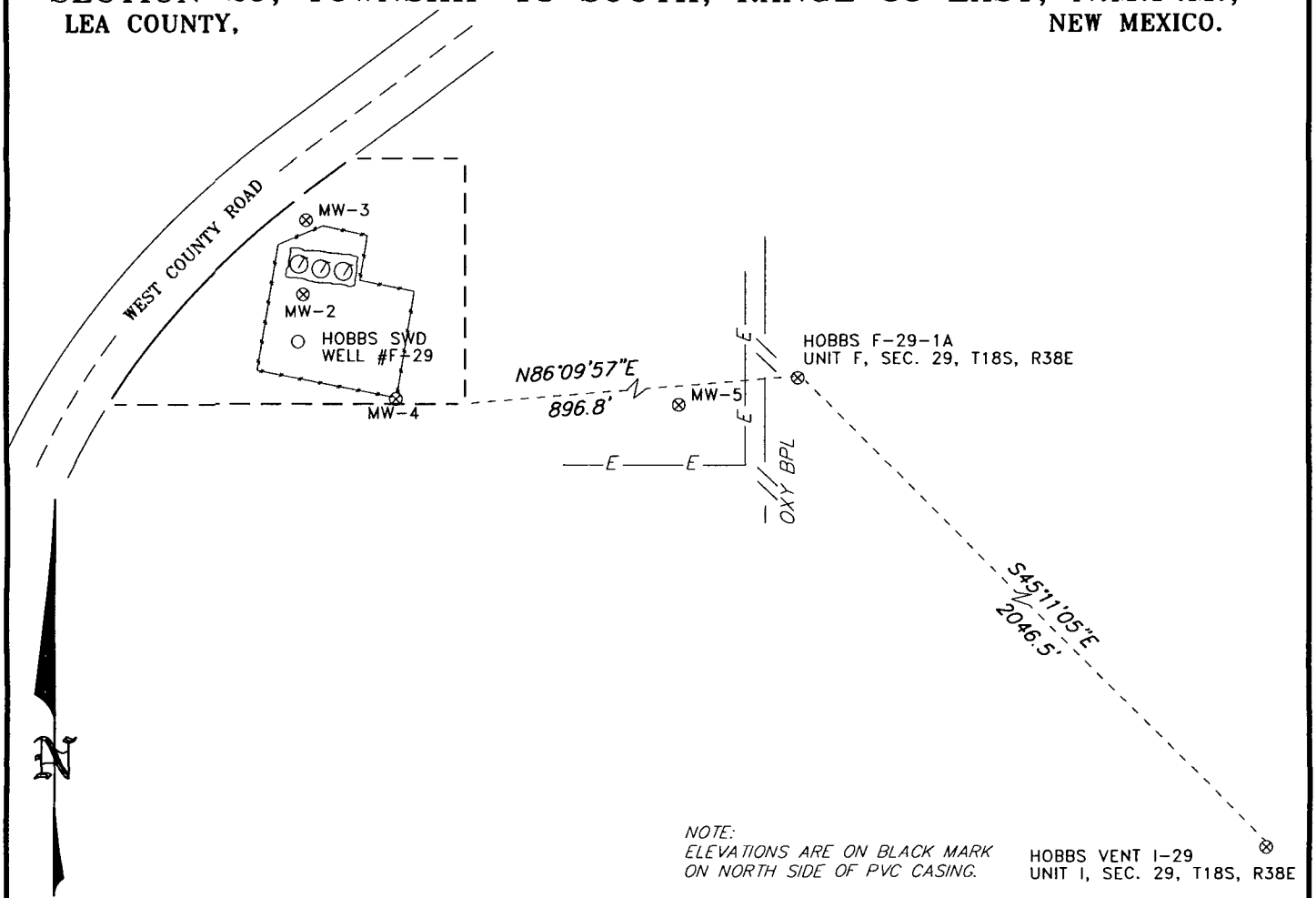
| | | | | |
|---|---|---|---|---|
| Relinquished by: Rozanne Johnson | Date: 10/22/07 | Time: 12:57 | Received by: | Date: Time: |
| Relinquished by: | Date: | Time: | Received By: (Laboratory Staff) Sue Barnes | Date: 10/22/07 Time: 12:57 |
| Delivered By: (Circle One) Sampler - UPS - Bus - Other: | | | Sample Condition: Cool: Yes ✓ No; Intact: Yes ✓ No | CHECKED BY: (Initials) SB |

| | | | | |
|---|---|---|---|---|
| Phone Results | | Yes | | No |
| Fax Results | | Yes | | No Additional Fax Number: |

**REMARKS:**

**Email Results to:** kpope@riceswd.com
lweinheimer@riceswd.com
rozanne@valornet.com

# SECTION 29, TOWNSHIP 18 SOUTH, RANGE 38 EAST, N.M.P.M.,
**LEA COUNTY,** **NEW MEXICO.**




NEW MEXICO STATE PLANE COORDINATES (NAD83)

| WELL | NORTHING | EASTING | LATITUDE | LONGITUDE | ELEVATION |
|---|---|---|---|---|---|
| MW-2 | 627819.025 | 898021.191 | N 32°43'14.0" | W 103°10'24.9" | 3645.71' |
| MW-3 | 627908.779 | 898025.082 | N 32°43'14.9" | W 103°10'24.8" | 3645.76' |
| MW-4 | 627693.822 | 898134.408 | N 32°43'12.7" | W 103°10'23.6" | 3645.76' |
| MW-5 | 627687.313 | 898477.159 | N 32°43'12.7" | W 103°10'19.5" | 3646.74' PVC<br>3644.37'-GRND |
| HOBBS F-29-1A<br>MARK ON NORTH SIDE OF NORTH 2" PVC | 627753.789 | 899029.184 | N 32°43'13.2" | W 103°10'13.1" | 3648.89'<br>3645.5'-GRND |
| HOBBS F-29-1A<br>MARK ON NORTH SIDE OF SOUTH 2" PVC | 627753.579 | 899029.160 | N 32°43'13.2" | W 103°10'13.1" | 3648.76'<br>3645.5'-GRND |
| HOBBS VENT I-29<br>MARK ON NORTH SIDE OF 2" PVC | 626311.386 | 900480.915 | N 32°42'58.8" | W 103°09'56.3" | 3650.65'<br>3647.6'-GRND |

200 0 200 400 FEET

I HEREBY CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEY AND MEETS OR EXCEEDS ALL REQUIREMENTS FOR LAND SURVEYS AS SPECIFIED BY THIS STATE.

GARY L. JONES No. 7977
TEXAS R.P.L.S. No. 5074

**BASIN SURVEYS** P.O. BOX 1786 -HOBBS, NEW MEXICO

| | | | |
|---|---|---|---|
| W.O. Number: RICE | Drawn By: K. GOAD | | |
| Date: 02-11-2005 | Disk: KJG CD#4 - RICEB.DWG | Survey Date: VARIES | Sheet 1 of 1 Sheets |

## RICE OPERATING COMPANY

REF: MONITOR WELLS

*MONITOR WELLS LOCATED IN*

*SECTION 29, TOWNSHIP 18 SOUTH, RANGE 38 EAST,*

*N.M.P.M., LEA COUNTY, NEW MEXICO.*