# AP - 44

# ANNUAL GW MONITOR REPORT

# DATE: 2006

AP-44

# *Highlander Environmental Corp.*

Annual GW Mon. Report 2006

*Midland, Texas*

CERTIFIED MAIL
RETURN RECEIPT NO. 7004 2510 0001 1869 0958

March 7, 2007

Mr. Wayne Price
New Mexico Energy, Minerals, & Natural Resources Dept.
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87505

2007 MAR 13 PM 1

**Re: 2006 Annual Groundwater Summary Report & Project Status Report, Rice Operating Company, Eunice Monument Eumont (EME) SWD System H-13 Leak, Unit H, Section 13, T-20-S, R-36-E, Lea County, New Mexico, NMOCD CASE #1R0429 (AP-44)**

Dear Mr. Price:

Highlander Environmental Corp. (Highlander) takes this opportunity to submit the 2006 Annual Groundwater Summary Report for the Rice Operating Company (ROC), Eunice Monument Eumont (EME) SWD System H-13 Leak.

**Background**

ROC discovered an accidental discharge at the above referenced site on July 3, 2002. The soil had settled underneath a 4" asbestos/concrete system line causing it to break. According to the C-141 form (Initial) filed on July 11, 2002, the total volume spilled was 10 barrels with 5 barrels recovered and disposed of into the EME SWD system. The pipeline leak was permanently repaired to minimize the potential for further impairment. The site location is shown on Figure 1.

Two delineation trenches were excavated on July 22, 2002, one on the east side of the system line and one on the west side of the line. Chloride concentrations in the east trench decreased to 254 mg/kg at a depth of 8 feet below ground surface, while the west trench exhibited elevated chloride levels to 12 feet below ground surface (bgs). A soil boring was installed on September 25, 2002 to further delineate the depth of impact. Based upon the chloride concentrations and relatively shallow groundwater (~31 feet bgs), this soil boring was completed as a monitoring well. The well was completed to a total depth of 41 feet bgs.

On December 13, 2002, the NMOCD was notified of groundwater impact. The monitoring well has been sampled on a quarterly basis since October 2002. The only constituent of concern (COC) at this site is chloride.

## Stage 1 Abatement Plan Implementation

As part of the Stage 1 Abatement Plan two additional monitor wells were proposed for the site. These two monitor wells (MW-2 and MW-3) were installed on March 23, 2006. MW-2 was placed up-gradient of MW-1 and MW-3 was placed down-gradient. The wells were developed and sampled on March 27, 2006 and July 17, 2006. Both of the new monitor wells displayed similar qualities to the monitor well placed at the leak site (MW-1).

Also as part of the Stage I Abatement Plan, a water well database search was performed to encompass a ½ mile radius around the site. The database search revealed two wells in adjoining section of this site. Both wells were noted as "livestock watering wells" and both exhibited elevated chloride concentrations (1268 mg/L and 2680 mg/L). Based upon the results of the Stage I Abatement Plan implementation, it appears that the background water quality is impaired over the entire region, and not as a result of this spill incident.

## RULE 19 RELEASE REQUEST and SOIL WORK PLAN

In a report to the NMOCD dated August 18, 2006, ROC requested release from NMOCD Rule 19 requirements. Additionally, ROC proposed to complete assessment and remediation of chloride impacted soils for closure under NMOCD approval.

The New Mexico Oil Conservation Division Responded to the above-mentioned report on September 27, 2006, in an email memorandum. In that memorandum, the NMOCD stated that "After reviewing the submittal OCD is inclined to agree with your conclusions. In order for OCD to release this site it would be helpful if ROC demonstrates that the groundwater gradient is accurate". A response letter with the requested data was submitted on December 27, 2006. NMOCD approval for the release request is pending.

## Monitor Well Sampling

The site monitor wells were sampled on January 18, March 27 (MW-2 and MW-3), April 18, July 17 and October 9, 2006. Prior to sampling, the wells were gauged for static water levels. The monitor well caps were opened and water level measurements were taken from the top of the casing. The measurements were taken to the nearest 0.01 feet.

The wells were then purged using a portable submersible pump. Approximately three casing volumes of water were purged from each well prior to sampling. The pump and associated tubing were decontaminated with a laboratory grade detergent and rinsed with deionized water. Cumulative water level measurements and purge volumes for the monitor wells are included in the Tables Section of this report.

The wells were also inspected for the presence of phase-separated hydrocarbons (PSH). Groundwater samples were collected as soon as possible after the groundwater returned to its static level. Groundwater samples were collected using clean disposable polyethylene bailers and disposable line. The samples were transferred into labeled and preserved containers provided by the laboratory. The samples were delivered under proper

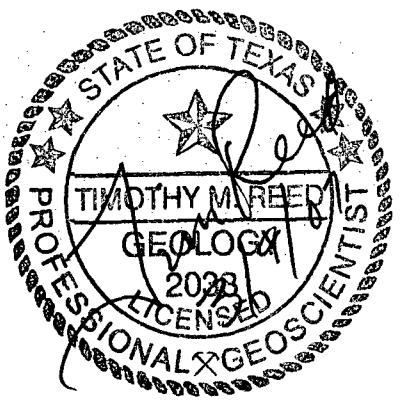
chain-of-custody control to Environmental Labs of Texas, Inc., Odessa, Texas. The groundwater samples were analyzed for major anions, by methods 310.1, 9253 and 375.4, cations by method 6010B, Total Dissolved Solids (TDS) by method 160.1 and Benzene, Toluene, Ethylbenzene, and Xylene (BTEX) by method EPA 8021B. Copies of the laboratory reports are enclosed in Appendix A.

**Monitor Well Sample Results**

In 2006, there were no BTEX constituents detected at or above reporting limits for any of the monitor wells. Chloride and total dissolved solid (TDS) concentrations from all three monitor wells exceeded the Water Quality Control Commission (WQCC) standards of 250 mg/L for chloride and 1000 mg/L for TDS in all sampling events. The chloride and TDS concentrations are relatively consistent with each other and with reported concentrations in the area. Cumulative analytical data is summarized in the Table Section of this report.

**Conclusions**

1. In 2006, there were no BTEX constituents detected at or above reporting limits for any of the three monitor wells. To date, no hydrocarbon impact has been detected in any of the monitor wells and as such is not considered a Constituent of Concern at this site.
2. Chloride and total dissolved solid (TDS) concentrations from all three monitor wells exceeded the Water Quality Control Commission (WQCC) standards of 250 mg/L for chloride and 1000 mg/L for TDS in all sampling events. The chloride and TDS concentrations are relatively consistent with each other and with reported concentrations in the area.
3. Based upon the results of the Stage I Abatement Plan implementation, it appears that the background water quality is impaired over the entire region, and not as a result of this spill incident. Quarterly monitoring at this site will continue, until notified by the NMOCD and, if warranted, an annual report will be prepared and submitted to the NMOCD in the first quarter of 2008.

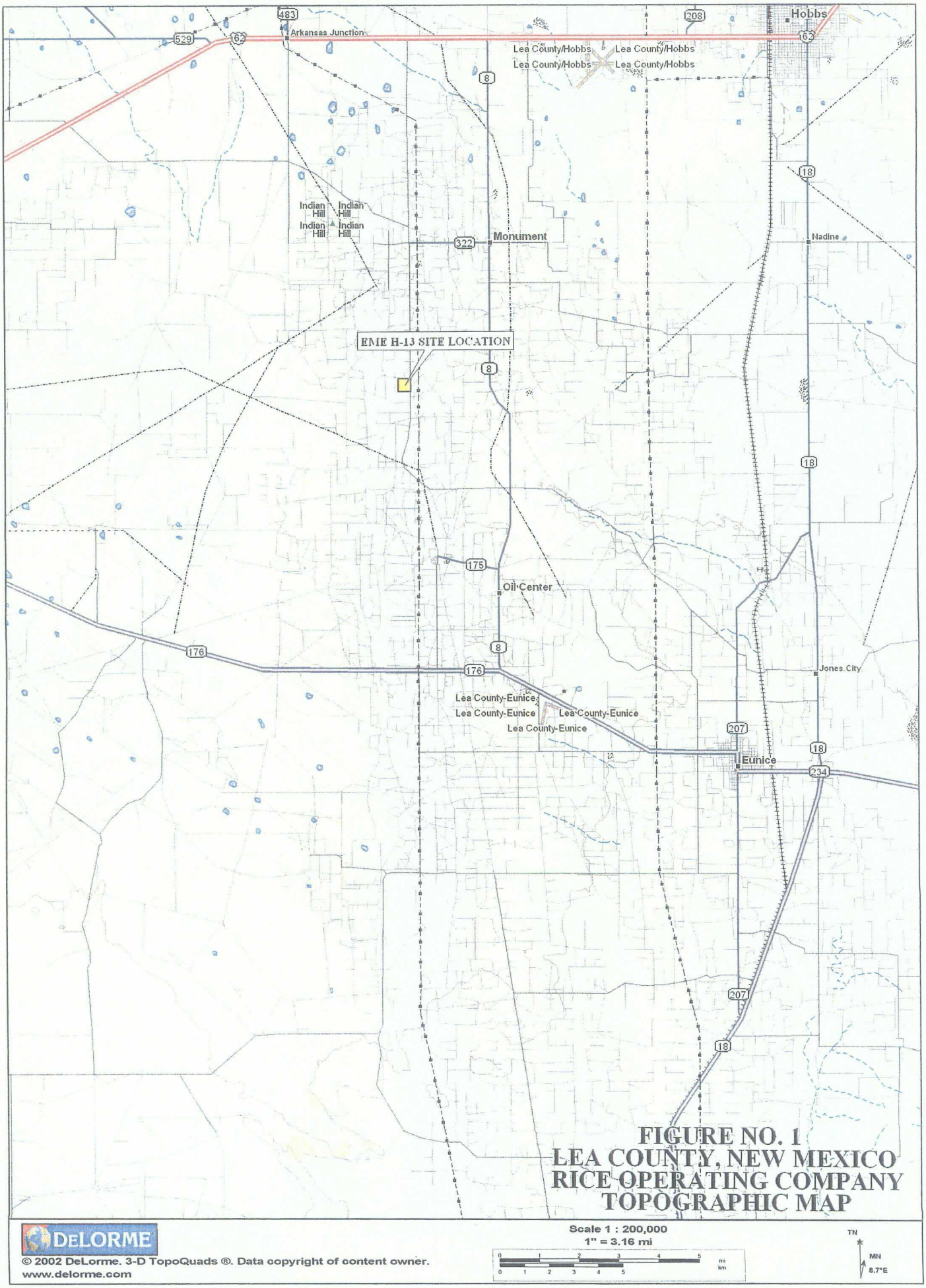



Respectfully Submitted,
HIGHLANDER ENVIRONMENTAL CORP.

Timothy M. Reed, P.G.
Vice President

cc: ROC, Edward Hansen – NMOCD
Enclosures: Figures, Tables, Laboratory Analysis

# FIGURES




# FIGURE NO. 1
# LEA COUNTY, NEW MEXICO
# RICE OPERATING COMPANY
# TOPOGRAPHIC MAP

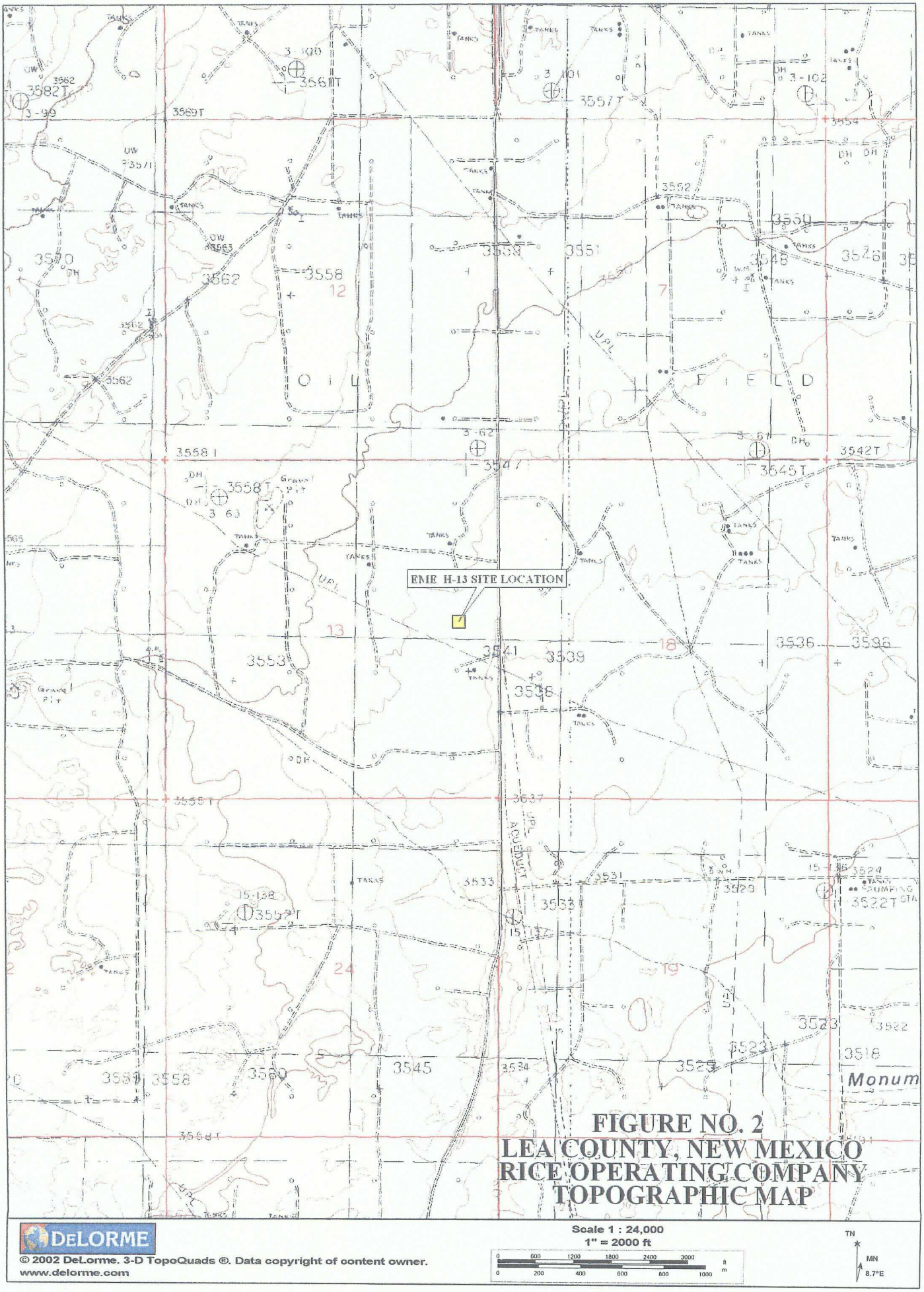



**FIGURE NO. 2**
**LEA COUNTY, NEW MEXICO**
**RICE OPERATING COMPANY**
**TOPOGRAPHIC MAP**



Scale 1 : 24,000
1" = 2000 ft

TN
MN
8.7°E


MONITOR WELL LOCATIONS

NOT TO SCALE

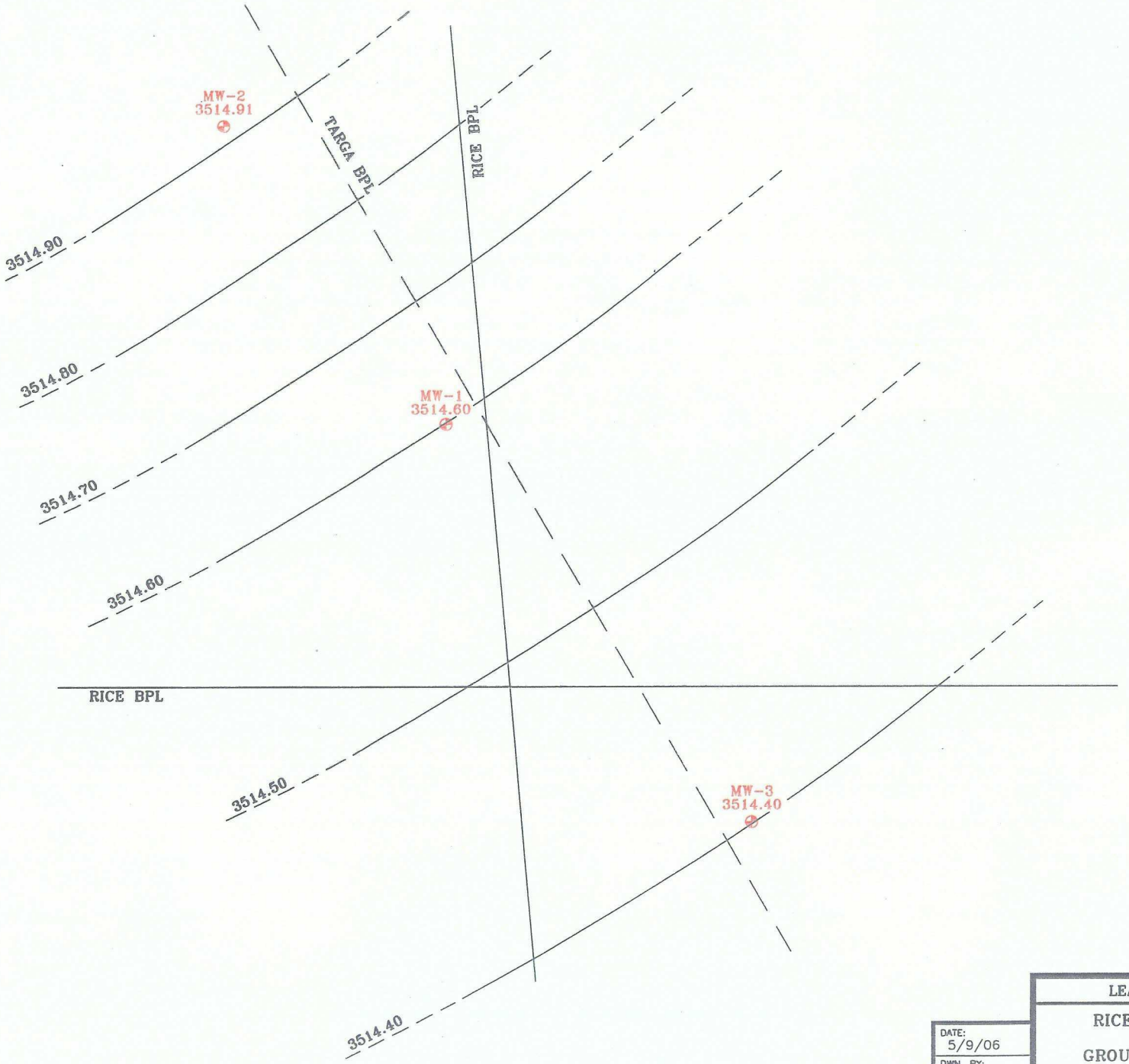
FIGURE NO. 3

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
EME H-13 LEAK
SITE MAP

DATE: 5/9/06
DWN. BY: JJ
FILE: C:\RICE\2307 SITE MAP

*HIGHLANDER ENVIRONMENTAL CORP.*
*MIDLAND, TEXAS*




MONITOR WELL LOCATIONS

NOT TO SCALE

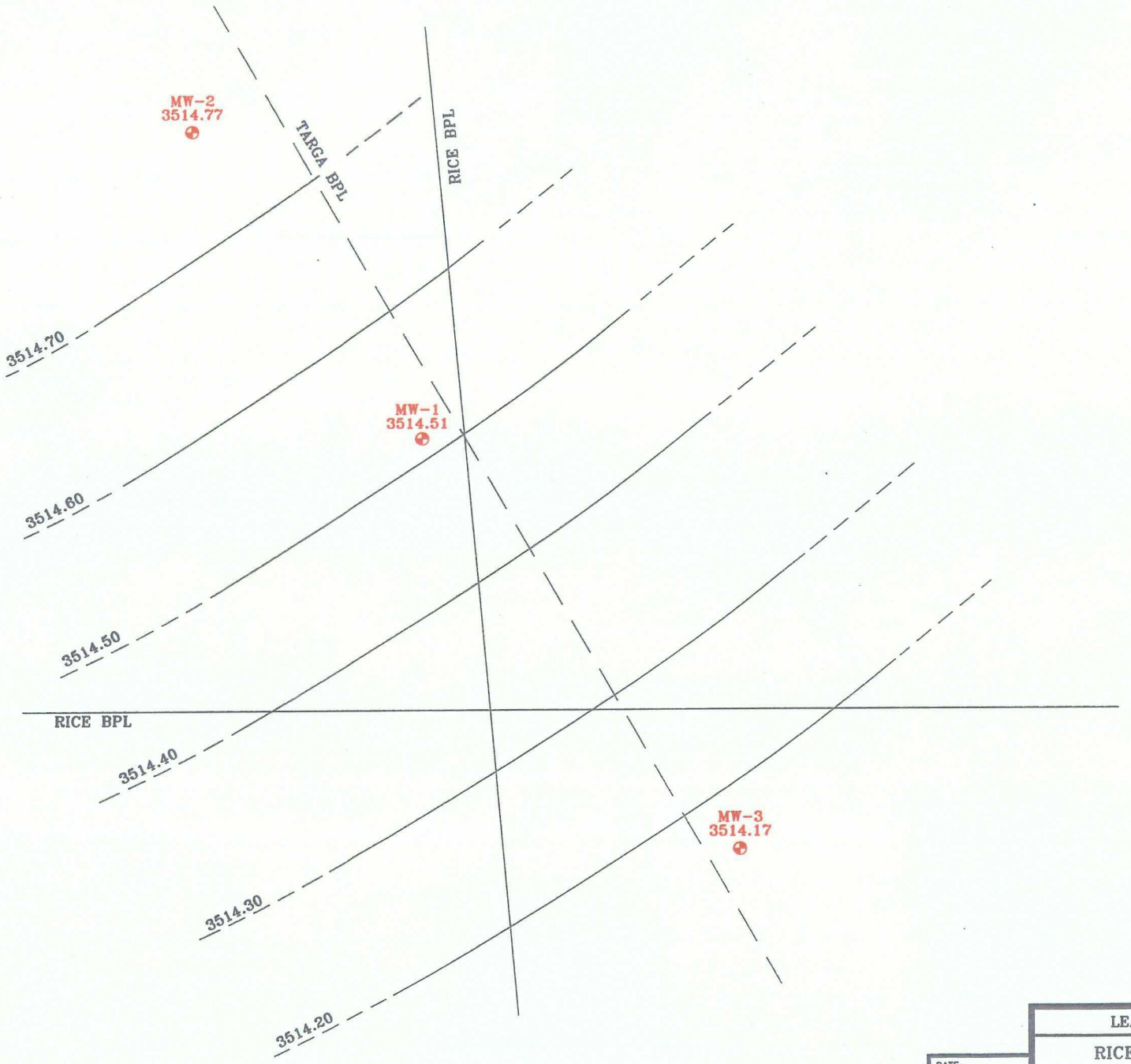
FIGURE NO. 4

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
EME H-13 LEAK
GROUNDWATER MAP 4/18/06

*HIGHLANDER ENVIRONMENTAL CORP.*
*MIDLAND, TEXAS*

DATE: 5/9/06
DWN. BY: JJ
FILE: C:\RICE\2307 SITE MAP




MONITOR WELL LOCATIONS

NOT TO SCALE

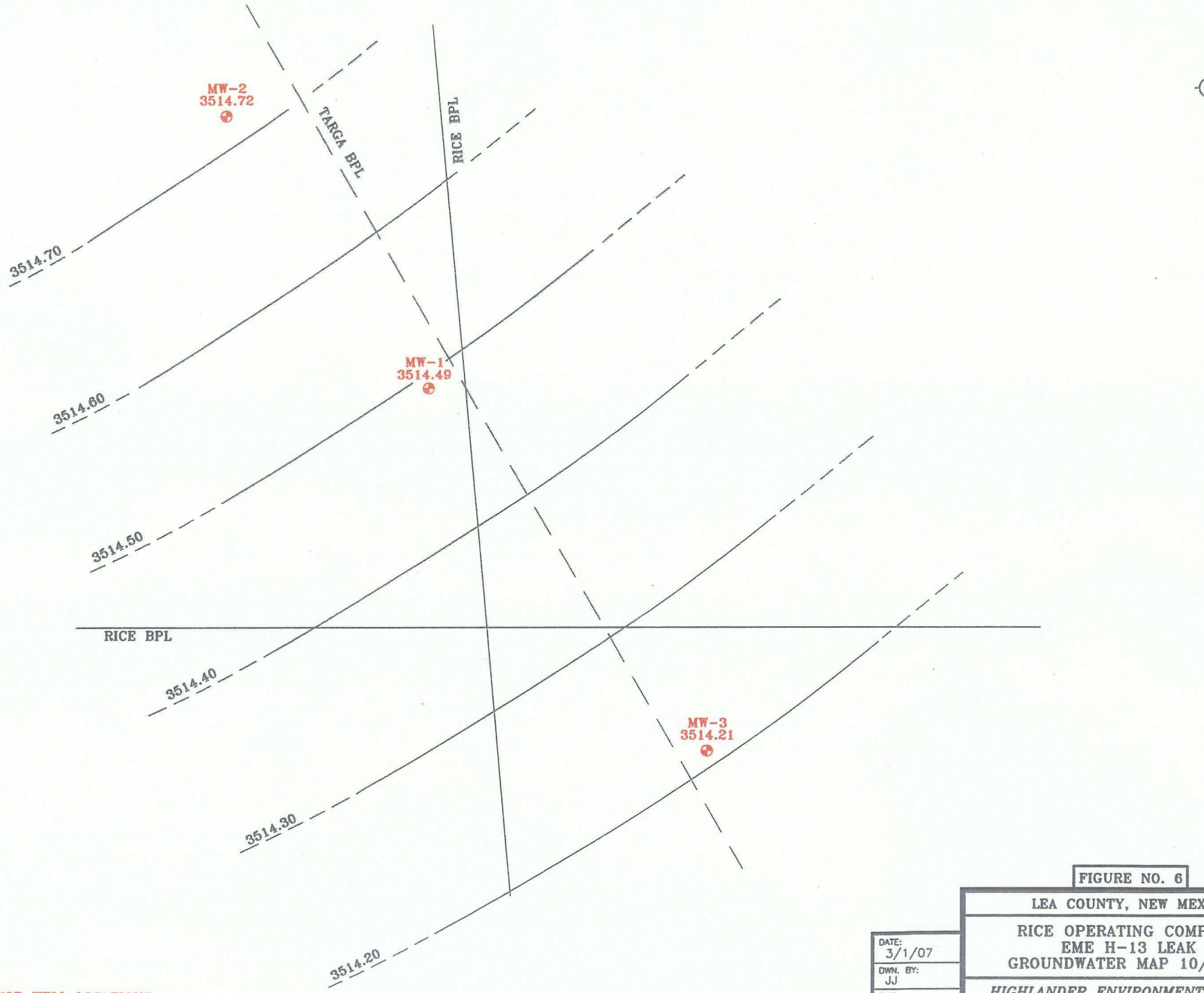
FIGURE NO. 5

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
EME H-13 LEAK
GROUNDWATER MAP 7/17/06

DATE: 8/17/06
DWN. BY: JJ
FILE: C:\RICE\2307 SITE MAP

*HIGHLANDER ENVIRONMENTAL CORP.*
*MIDLAND, TEXAS*




MONITOR WELL LOCATIONS

NOT TO SCALE

FIGURE NO. 6

LEA COUNTY, NEW MEXICO

RICE OPERATING COMPANY
EME H-13 LEAK
GROUNDWATER MAP 10/9/06

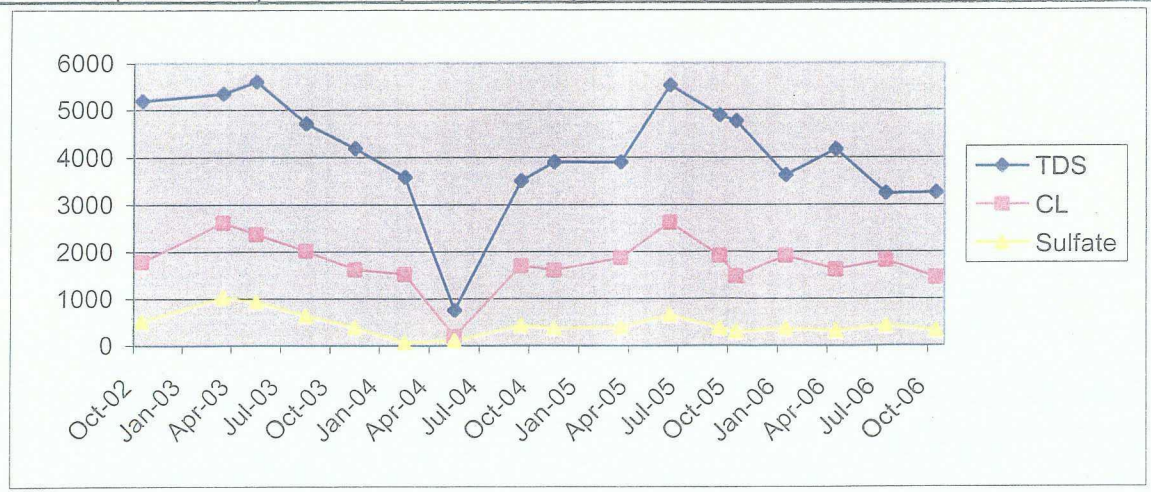
*HIGHLANDER ENVIRONMENTAL CORP.*
*MIDLAND, TEXAS*

DATE: 3/1/07
DWN. BY: JJ
FILE: c:\RICE\2307 SITE MAP

# TABLES

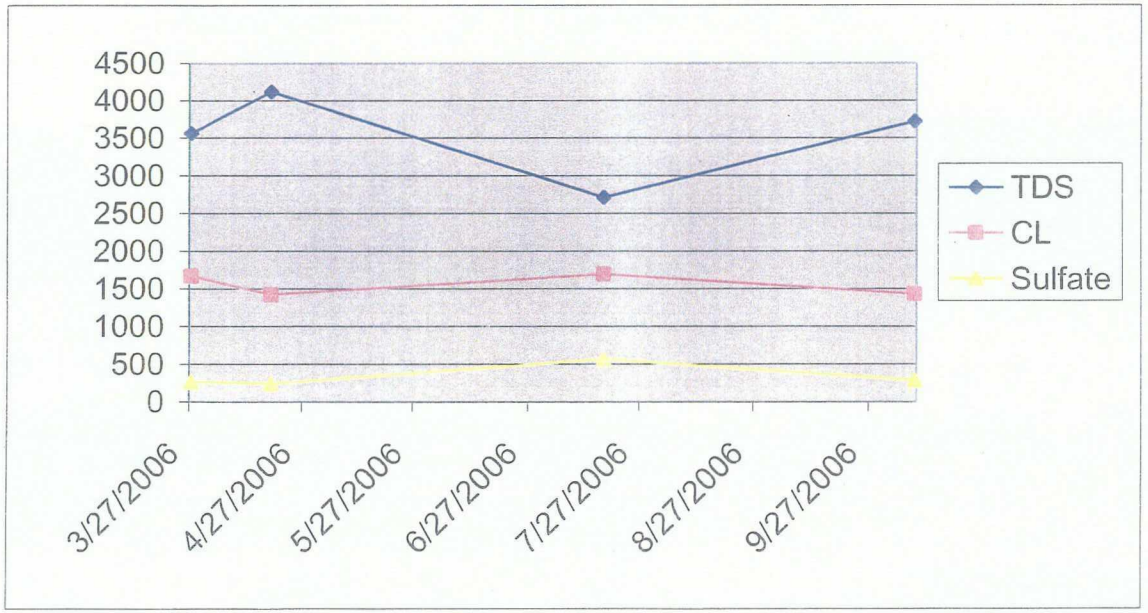
Rice Engineering Operating
H-13
Lea County, New Mexico

| MW | Depth to Water | Total Depth | Well Volume | Volume Purged | Sample Date | Cl | TDS | Benzene | Toluene | Ethyl Benzene | Total Xylenes | Sulfate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 33.19 | 43.94 | 1.72 | 5.25 | 10/29/02 | 1770 | 5180 | <0.001 | <0.001 | <0.001 | <0.001 | 497 | |
| 1 | 33.18 | 43.90 | 1.71 | 5.10 | 03/06/03 | 2600 | 5340 | <0.001 | <0.001 | <0.001 | <0.001 | 1020 | |
| 1 | 33.20 | 43.91 | 1.21 | 5.10 | 05/29/03 | 2360 | 5600 | <0.001 | <0.001 | <0.001 | <0.001 | 920 | |
| 1 | 33.40 | 43.90 | 1.68 | 5.04 | 08/22/03 | 2000 | 4700 | <0.001 | <0.001 | <0.001 | <0.001 | 622 | |
| 1 | 33.35 | 43.91 | 1.60 | 5.00 | 11/19/03 | 1600 | 4180 | <0.001 | <0.001 | <0.001 | 0.001 | 370 | |
| 1 | 33.41 | 43.90 | 1.67 | 5.00 | 02/18/04 | 1500 | 3580 | <0.002 | <0.002 | <0.002 | <0.002 | 44 | |
| 1 | 33.56 | 43.90 | 1.65 | 5.00 | 05/27/04 | 177 | 751 | <0.001 | <0.001 | <0.001 | <0.001 | 90.8 | |
| 1 | 33.40 | 44.10 | 1.71 | 5.14 | 09/07/04 | 1680 | 3510 | <0.001 | <0.001 | <0.001 | <0.001 | 418 | |
| 1 | 32.85 | 44.10 | 1.80 | 5.40 | 11/24/04 | 1590 | 3900 | <0.001 | <0.001 | <0.001 | <0.001 | 358 | |
| 1 | 32.19 | 44.10 | 1.91 | 25.0 | 03/30/05 | 1850 | 3890 | <0.001 | <0.001 | <0.001 | <0.001 | 376 | |
| 1 | 31.93 | 44.10 | 1.95 | 10.0 | 06/21/05 | 2610 | 5520 | <0.001 | <0.001 | <0.001 | <0.001 | 641 | |
| 1 | XXX | XXX | XXX | XXX | 09/16/05 | 1900 | 4880 | <0.001 | <0.001 | <0.001 | <0.001 | 358 | |
| 1 | 31.70 | 44.10 | 2.00 | 6.0 | 10/19/05 | 1450 | 4760 | <0.001 | <0.001 | <0.001 | <0.001 | 286 | |
| 1 | 31.59 | 44.10 | 2.00 | 8.0 | 01/18/06 | 1900 | 3620 | <0.001 | <0.001 | <0.001 | <0.001 | 351 | |
| 1 | 31.66 | 44.10 | 2.00 | 8.0 | 04/18/06 | 1600 | 4160 | <0.001 | <0.001 | <0.001 | <0.001 | 307 | |
| 1 | 31.75 | 44.10 | 2.00 | 10.0 | 07/17/06 | 1800 | 3240 | <0.001 | <0.001 | <0.001 | <0.001 | 412 | |
| 1 | 31.77 | 44.10 | 2.00 | 10.0 | 10/09/06 | 1430 | 3260 | <0.001 | <0.001 | <0.001 | <0.001 | 308 | Clear |



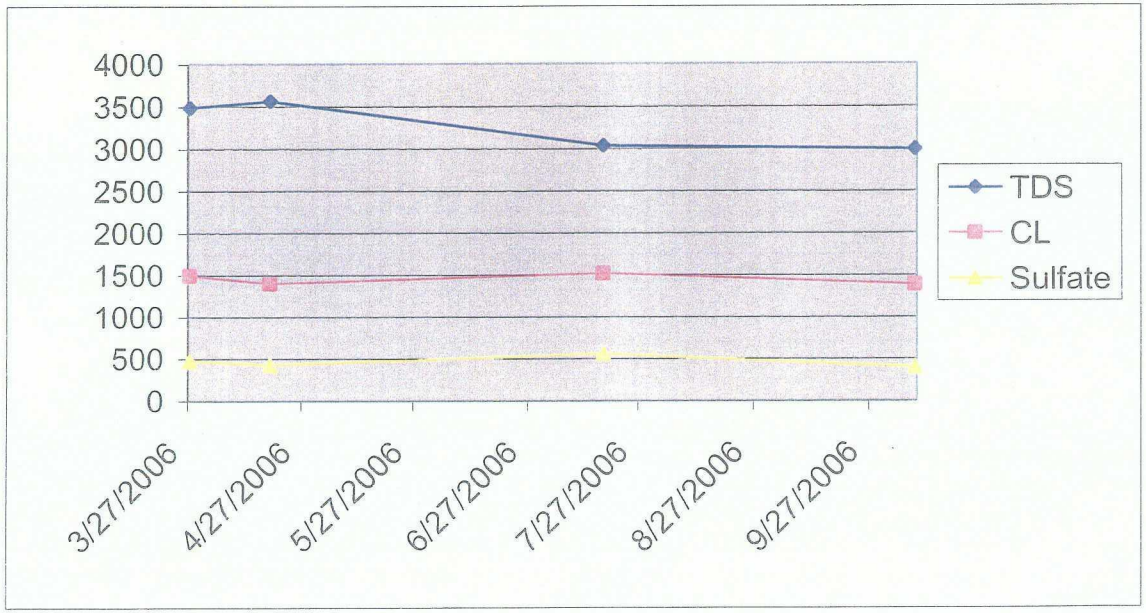
Rice Engineering Operating
H-13
Lea County, New Mexico

| MW | Depth to Water | Total Depth | Well Volume | Volume Purged | Sample Date | Cl | TDS | Benzene | Toluene | Ethyl Benzene | Total Xylenes | Sulfate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 30.69 | 43.10 | 2.00 | 8.00 | 03/27/06 | 1670 | 3560 | <0.001 | <0.001 | <0.001 | <0.001 | 264 | |
| 2 | 30.66 | 43.10 | 2.00 | 8.00 | 04/18/06 | 1420 | 4120 | <0.001 | <0.001 | <0.001 | <0.001 | 237 | |
| 2 | 30.80 | 43.10 | 2.00 | 10.00 | 07/17/06 | 1690 | 2710 | <0.001 | <0.001 | <0.001 | <0.001 | 562 | |
| 2 | 30.85 | 43.10 | 2.00 | 10.00 | 10/09/06 | 1430 | 3720 | <0.001 | <0.001 | <0.001 | <0.001 | 284 | Clear |



Rice Engineering Operating
H-13
Lea County, New Mexico

| MW | Depth to Water | Total Depth | Well Volume | Volume Purged | Sample Date | Cl | TDS | Benzene | Toluene | Ethyl Benzene | Total Xylenes | Sulfate | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 31.89 | 46.00 | 2.30 | 8.00 | 03/27/06 | 1490 | 3480 | <0.001 | <0.001 | <0.001 | <0.001 | 472 | |
| 3 | 31.85 | 46.00 | 2.30 | 10.00 | 04/18/06 | 1390 | 3560 | <0.001 | <0.001 | <0.001 | <0.001 | 426 | |
| 3 | 32.08 | 46.00 | 2.20 | 10.00 | 07/17/06 | 1510 | 3035 | <0.001 | <0.001 | <0.001 | <0.001 | 557 | |
| 3 | 32.04 | 46.00 | 2.20 | 10.00 | 10/09/06 | 1380 | 2990 | <0.001 | <0.001 | <0.001 | <0.001 | 393 | Clear |



# APPENDIX A

## Lab Analysis

1/18/06

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME Jct. H-13 Leak

Project Number: None Given

Location: Lea County

Lab Order Number: 6A19006

Report Date: 01/27/06

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| Monitor Well #1 | 6A19006-01 | Water | 01/18/06 10:50 | 01/19/06 11:10 |



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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## Organics by GC

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1 (6A19006-01) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EA62304 | 01/23/06 | 01/24/06 | 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* | | *86.5 %* | | *80-120* | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *84.2 %* | | *80-120* | " | " | " | " | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## 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 (6A19006-01) Water** | | | | | | | | | |
| **Total Alkalinity** | **208** | 2.00 | mg/L | 1 | EA62406 | 01/26/06 | 01/26/06 | EPA 310.1M | |
| **Chloride** | **1900** | 25.0 | " | 50 | EA62018 | 01/20/06 | 01/20/06 | EPA 300.0 | |
| **Total Dissolved Solids** | **3620** | 5.00 | " | 1 | EA62307 | 01/19/06 | 01/20/06 | EPA 160.1 | |
| **Sulfate** | **351** | 25.0 | " | 50 | EA62018 | 01/20/06 | 01/20/06 | EPA 300.0 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## Total Metals by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1 (6A19006-01) Water** | | | | | | | | | |
| **Calcium** | **356** | 0.500 | mg/L | 50 | EA62615 | 01/26/06 | 01/26/06 | EPA 6010B | |
| **Magnesium** | **156** | 0.0500 | " | " | " | " | " | " | |
| **Potassium** | **18.6** | 0.500 | " | 10 | " | " | " | " | |
| **Sodium** | **733** | 1.00 | " | 100 | " | " | " | " | |







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## 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 EA62304 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (EA62304-BLK1)** | | | | Prepared & Analyzed: 01/23/06 | | | | | | |
| 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* | *37.5* | | *ug/l* | *40.0* | | *93.8* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *32.6* | | *"* | *40.0* | | *81.5* | *80-120* | | | |
| **LCS (EA62304-BS1)** | | | | Prepared & Analyzed: 01/23/06 | | | | | | |
| Benzene | 0.0461 | 0.00100 | mg/L | 0.0500 | | 92.2 | 80-120 | | | |
| Toluene | 0.0462 | 0.00100 | " | 0.0500 | | 92.4 | 80-120 | | | |
| Ethylbenzene | 0.0427 | 0.00100 | " | 0.0500 | | 85.4 | 80-120 | | | |
| Xylene (p/m) | 0.0846 | 0.00100 | " | 0.100 | | 84.6 | 80-120 | | | |
| Xylene (o) | 0.0451 | 0.00100 | " | 0.0500 | | 90.2 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *38.5* | | *ug/l* | *40.0* | | *96.2* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *37.9* | | *"* | *40.0* | | *94.8* | *80-120* | | | |
| **Calibration Check (EA62304-CCV1)** | | | | Prepared & Analyzed: 01/23/06 | | | | | | |
| Benzene | 44.4 | | ug/l | 50.0 | | 88.8 | 80-120 | | | |
| Toluene | 45.2 | | " | 50.0 | | 90.4 | 80-120 | | | |
| Ethylbenzene | 42.5 | | " | 50.0 | | 85.0 | 80-120 | | | |
| Xylene (p/m) | 83.1 | | " | 100 | | 83.1 | 80-120 | | | |
| Xylene (o) | 44.5 | | " | 50.0 | | 89.0 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *35.8* | | *"* | *40.0* | | *89.5* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *35.5* | | *"* | *40.0* | | *88.8* | *80-120* | | | |
| **Matrix Spike (EA62304-MS1)** | **Source: 6A20019-01** | | | Prepared & Analyzed: 01/23/06 | | | | | | |
| Benzene | 0.0455 | 0.00100 | mg/L | 0.0500 | ND | 91.0 | 80-120 | | | |
| Toluene | 0.0452 | 0.00100 | " | 0.0500 | ND | 90.4 | 80-120 | | | |
| Ethylbenzene | 0.0417 | 0.00100 | " | 0.0500 | ND | 83.4 | 80-120 | | | |
| Xylene (p/m) | 0.0829 | 0.00100 | " | 0.100 | ND | 82.9 | 80-120 | | | |
| Xylene (o) | 0.0445 | 0.00100 | " | 0.0500 | ND | 89.0 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *38.2* | | *ug/l* | *40.0* | | *95.5* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *36.2* | | *"* | *40.0* | | *90.5* | *80-120* | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## 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 EA62304 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (EA62304-MSD1)** | **Source: 6A20019-01** | | | Prepared & Analyzed: 01/23/06 | | | | | | |
| Benzene | 0.0427 | 0.00100 | mg/L | 0.0500 | ND | 85.4 | 80-120 | 6.35 | 20 | |
| Toluene | 0.0428 | 0.00100 | " | 0.0500 | ND | 85.6 | 80-120 | 5.45 | 20 | |
| Ethylbenzene | 0.0404 | 0.00100 | " | 0.0500 | ND | 80.8 | 80-120 | 3.17 | 20 | |
| Xylene (p/m) | 0.0802 | 0.00100 | " | 0.100 | ND | 80.2 | 80-120 | 3.31 | 20 | |
| Xylene (o) | 0.0427 | 0.00100 | " | 0.0500 | ND | 85.4 | 80-120 | 4.13 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *37.2* | | *ug/l* | *40.0* | | *93.0* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *35.4* | | *"* | *40.0* | | *88.5* | *80-120* | | | |







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## 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 EA62018 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EA62018-BLK1)** | | | | Prepared & Analyzed: 01/20/06 | | | | | | |
| Sulfate | ND | 0.500 | mg/L | | | | | | | |
| Chloride | ND | 0.500 | " | | | | | | | |
| **LCS (EA62018-BS1)** | | | | Prepared & Analyzed: 01/20/06 | | | | | | |
| Chloride | 8.74 | | mg/L | 10.0 | | 87.4 | 80-120 | | | |
| Sulfate | 9.62 | | " | 10.0 | | 96.2 | 80-120 | | | |
| **Calibration Check (EA62018-CCV1)** | | | | Prepared & Analyzed: 01/20/06 | | | | | | |
| Sulfate | 9.77 | | mg/L | 10.0 | | 97.7 | 80-120 | | | |
| Chloride | 8.88 | | " | 10.0 | | 88.8 | 80-120 | | | |
| **Duplicate (EA62018-DUP1)** | Source: 6A19008-01 | | | Prepared & Analyzed: 01/20/06 | | | | | | |
| Sulfate | 110 | 5.00 | mg/L | | 111 | | | 0.905 | 20 | |
| Chloride | 61.5 | 5.00 | " | | 62.2 | | | 1.13 | 20 | |
| **Batch EA62307 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EA62307-BLK1)** | | | | Prepared: 01/19/06 Analyzed: 01/20/06 | | | | | | |
| Total Dissolved Solids | ND | 5.00 | mg/L | | | | | | | |
| **Duplicate (EA62307-DUP1)** | Source: 6A19005-01 | | | Prepared: 01/19/06 Analyzed: 01/20/06 | | | | | | |
| Total Dissolved Solids | 2400 | 5.00 | mg/L | | 2480 | | | 3.28 | 5 | |
| **Batch EA62406 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EA62406-BLK1)** | | | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Total Alkalinity | ND | 2.00 | mg/L | | | | | | | |








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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## 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 EA62406 - General Preparation (WetChem)** | | | | | | | | | | |
| **LCS (EA62406-BS1)** | | | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Bicarbonate Alkalinity | 220 | | mg/L | 200 | | 110 | 85-115 | | | |
| **Duplicate (EA62406-DUP1)** | | Source: 6A19005-01 | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Total Alkalinity | 258 | 2.00 | mg/L | | 256 | | | 0.778 | 20 | |
| **Reference (EA62406-SRM1)** | | | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Total Alkalinity | 97.0 | | mg/L | 100 | | 97.0 | 90-110 | | | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 01/27/06 13:27 |

## 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 EA62615 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (EA62615-BLK1)** | | | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Calcium | ND | 0.0100 | mg/L | | | | | | | |
| Magnesium | ND | 0.00100 | " | | | | | | | |
| Potassium | ND | 0.0500 | " | | | | | | | |
| Sodium | ND | 0.0100 | " | | | | | | | |
| **Calibration Check (EA62615-CCV1)** | | | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Calcium | 2.12 | | mg/L | 2.00 | | 106 | 85-115 | | | |
| Magnesium | 1.99 | | " | 2.00 | | 99.5 | 85-115 | | | |
| Potassium | 1.88 | | " | 2.00 | | 94.0 | 85-115 | | | |
| Sodium | 1.94 | | " | 2.00 | | 97.0 | 85-115 | | | |
| **Duplicate (EA62615-DUP1)** | **Source: 6A19005-01** | | | Prepared & Analyzed: 01/26/06 | | | | | | |
| Calcium | 224 | 0.500 | mg/L | | 222 | | | 0.897 | 20 | |
| Magnesium | 115 | 0.0500 | " | | 120 | | | 4.26 | 20 | |
| Potassium | 14.6 | 0.500 | " | | 15.2 | | | 4.03 | 20 | |
| Sodium | 306 | 0.500 | " | | 313 | | | 2.26 | 20 | |







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## Notes and Definitions

| | |
|---|---|
| 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: Raland K Tuttle Date: 1/27/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

# Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

*CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST*

Project Manager: Kristin Farris Pope kpriceswd@valornet.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
Email: rozanne@valornet.com

Project Name: EME Jct. H-13 Leak
Project #:
Project Loc: Lea County
PO #:

| LAB.# (lab use only) | FIELD CODE | Date Sampled | Time Sampled | No. of Containers | Preservative: Ice | Preservative: $HNO_3$ | Preservative: HCl (2) 40 ml glass vials | Preservative: NaOH | Preservative: $H_2SO_4$ | Preservative: None (1) 1 Liter HDPE | Preservative: Other (Specify) | Matrix: Water | Matrix: Sludge | Matrix: Soil | Matrix: Other (specify): | Analyze For: TCLP: | Analyze For: TOTAL: | TPH: 418.1 8015M 1005 1006 | Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, CO3, HCO3) | 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) | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6A19004 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| -01 | Monitor Well #1 | 1/18/2006 | 10:50 | 3 | X | | 2 | | | 1 | | X | | | | | | | X | X | | | | | X | | | X | | | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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Special Instructions:
PLEASE Email RESULTS TO: kpriceswd@valornet.com & mfranks@riceswd.com

Sample Containers Intact? Y N
Labels on container? Y N
Custody Seals: Container / Cooler
Temperature Upon Receipt: -2.0

Laboratory Comments:

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| Rozanne Johnson | 1/19/06 | 6:50 | James Johnson | 1/19/06 | 6:50 |
| Relinquished by: | Date | Time | Received by ELOT: | Date | Time |
| James Johnson | 1/19/06 | 11:10 | Carla Wells | 1/19/06 | 11:10 |

# Environmental Lab of Texas
## Variance / Corrective Action Report – Sample Log-In

Client: Five DP.

Date/Time: 1/19/06 11:10

Order #: 6A19006

Initials: MK

### Sample Receipt Checklist

| | | | |
|---|---|---|---|
| Temperature of container/cooler? | Yes | No | -2.0 C |
| Shipping container/cooler in good condition? | Yes | No | |
| Custody Seals intact on shipping container/cooler? | Yes | No | Not present |
| Custody Seals intact on sample bottles? | Yes | No | Not present |
| Chain of custody present? | Yes | No | |
| Sample Instructions complete on Chain of Custody? | Yes | No | |
| Chain of Custody signed when relinquished and received? | Yes | No | |
| Chain of custody agrees with sample label(s) | Yes | No | |
| Container labels legible and intact? | Yes | No | |
| Sample Matrix and properties same as on chain of custody? | Yes | No | |
| Samples in proper container/bottle? | Yes | No | |
| Samples properly preserved? | Yes | No | |
| Sample bottles intact? | Yes | No | |
| Preservations documented on Chain of Custody? | Yes | No | |
| Containers documented on Chain of Custody? | Yes | No | |
| Sufficient sample amount for indicated test? | Yes | No | |
| All samples received within sufficient hold time? | Yes | No | |
| VOC samples have zero headspace? | Yes | No | Not Applicable |

Other observations:

Samples not frozen

### Variance Documentation:

Contact Person: - Date/Time: Contacted by:

Regarding:

Corrective Action Taken:

3/27/06

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME Jct. H-13 Leak

Project Number: None Given

Location: Lea County

Lab Order Number: 6C29007

Report Date: 04/10/06

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| Monitor Well #2 | 6C29007-01 | Water | 03/27/06 11:55 | 03/29/06 13:40 |
| Monitor Well #3 | 6C29007-02 | Water | 03/27/06 13:10 | 03/29/06 13:40 |



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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## Organics by GC

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #2 (6C29007-01) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EC63016 | 03/30/06 | 03/31/06 | 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* | | *80.5 %* | | *80-120* | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *84.8 %* | | *80-120* | " | " | " | " | |
| **Monitor Well #3 (6C29007-02) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EC63016 | 03/30/06 | 03/31/06 | 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* | | *84.2 %* | | *80-120* | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *87.8 %* | | *80-120* | " | " | " | " | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## General Chemistry Parameters by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #2 (6C29007-01) Water** | | | | | | | | | |
| **Total Alkalinity** | **186** | 2.00 | mg/L | 1 | ED60315 | 04/03/06 | 04/03/06 | EPA 310.1M | |
| **Chloride** | **1670** | 25.0 | " | 50 | ED60306 | 03/31/06 | 04/03/06 | EPA 300.0 | |
| **Total Dissolved Solids** | **3560** | 5.00 | " | 1 | EC63019 | 03/29/06 | 03/30/06 | EPA 160.1 | |
| **Sulfate** | **264** | 25.0 | " | 50 | ED60306 | 03/31/06 | 04/03/06 | EPA 300.0 | |
| **Monitor Well #3 (6C29007-02) Water** | | | | | | | | | |
| **Total Alkalinity** | **187** | 2.00 | mg/L | 1 | ED60315 | 04/03/06 | 04/03/06 | EPA 310.1M | |
| **Chloride** | **1490** | 25.0 | " | 50 | ED60306 | 03/31/06 | 04/03/06 | EPA 300.0 | |
| **Total Dissolved Solids** | **3480** | 5.00 | " | 1 | EC63019 | 03/29/06 | 03/30/06 | EPA 160.1 | |
| **Sulfate** | **472** | 25.0 | " | 50 | ED60306 | 03/31/06 | 04/03/06 | EPA 300.0 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## Total Metals by EPA / Standard Methods

## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #2 (6C29007-01) Water** | | | | | | | | | |
| **Calcium** | **346** | 0.500 | mg/L | 50 | EC63112 | 03/31/06 | 03/31/06 | EPA 6010B | |
| **Magnesium** | **149** | 0.0500 | " | " | " | " | " | " | |
| **Potassium** | **13.2** | 0.500 | " | 10 | " | " | " | " | |
| **Sodium** | **513** | 2.00 | " | 200 | " | " | " | " | |
| **Monitor Well #3 (6C29007-02) Water** | | | | | | | | | |
| **Calcium** | **320** | 0.500 | mg/L | 50 | EC63112 | 03/31/06 | 03/31/06 | EPA 6010B | |
| **Magnesium** | **133** | 0.0500 | " | " | " | " | " | " | |
| **Potassium** | **11.4** | 0.500 | " | 10 | " | " | " | " | |
| **Sodium** | **594** | 2.00 | " | 200 | " | " | " | " | |







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## 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 EC63016 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (EC63016-BLK1)** | | | | Prepared & Analyzed: 03/30/06 | | | | | | |
| 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* | *33.8* | | *ug/l* | *40.0* | | *84.5* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *38.6* | | *"* | *40.0* | | *96.5* | *80-120* | | | |
| **LCS (EC63016-BS1)** | | | | Prepared & Analyzed: 03/30/06 | | | | | | |
| Benzene | 0.0405 | 0.00100 | mg/L | 0.0500 | | 81.0 | 80-120 | | | |
| Toluene | 0.0441 | 0.00100 | " | 0.0500 | | 88.2 | 80-120 | | | |
| Ethylbenzene | 0.0593 | 0.00100 | " | 0.0500 | | 119 | 80-120 | | | |
| Xylene (p/m) | 0.102 | 0.00100 | " | 0.100 | | 102 | 80-120 | | | |
| Xylene (o) | 0.0499 | 0.00100 | " | 0.0500 | | 99.8 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *34.4* | | *ug/l* | *40.0* | | *86.0* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *39.8* | | *"* | *40.0* | | *99.5* | *80-120* | | | |
| **Calibration Check (EC63016-CCV1)** | | | | Prepared: 03/30/06 Analyzed: 03/31/06 | | | | | | |
| Benzene | 45.1 | | ug/l | 50.0 | | 90.2 | 80-120 | | | |
| Toluene | 41.8 | | " | 50.0 | | 83.6 | 80-120 | | | |
| Ethylbenzene | 46.8 | | " | 50.0 | | 93.6 | 80-120 | | | |
| Xylene (p/m) | 95.9 | | " | 100 | | 95.9 | 80-120 | | | |
| Xylene (o) | 47.5 | | " | 50.0 | | 95.0 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *39.7* | | *"* | *40.0* | | *99.2* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *35.1* | | *"* | *40.0* | | *87.8* | *80-120* | | | |
| **Matrix Spike (EC63016-MS1)** | **Source: 6C24010-02** | | | Prepared: 03/30/06 Analyzed: 03/31/06 | | | | | | |
| Benzene | 0.0450 | 0.00100 | mg/L | 0.0500 | ND | 90.0 | 80-120 | | | |
| Toluene | 0.0429 | 0.00100 | " | 0.0500 | ND | 85.8 | 80-120 | | | |
| Ethylbenzene | 0.0491 | 0.00100 | " | 0.0500 | ND | 98.2 | 80-120 | | | |
| Xylene (p/m) | 0.0999 | 0.00100 | " | 0.100 | ND | 99.9 | 80-120 | | | |
| Xylene (o) | 0.0492 | 0.00100 | " | 0.0500 | ND | 98.4 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *35.1* | | *ug/l* | *40.0* | | *87.8* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *36.9* | | *"* | *40.0* | | *92.2* | *80-120* | | | |

## 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 EC63016 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (EC63016-MSD1)** | **Source: 6C24010-02** | | | Prepared: 03/30/06 Analyzed: 03/31/06 | | | | | | |
| Benzene | 0.0433 | 0.00100 | mg/L | 0.0500 | ND | 86.6 | 80-120 | 3.85 | 20 | |
| Toluene | 0.0415 | 0.00100 | " | 0.0500 | ND | 83.0 | 80-120 | 3.32 | 20 | |
| Ethylbenzene | 0.0475 | 0.00100 | " | 0.0500 | ND | 95.0 | 80-120 | 3.31 | 20 | |
| Xylene (p/m) | 0.0971 | 0.00100 | " | 0.100 | ND | 97.1 | 80-120 | 2.84 | 20 | |
| Xylene (o) | 0.0475 | 0.00100 | " | 0.0500 | ND | 95.0 | 80-120 | 3.52 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *43.1* | | *ug/l* | *40.0* | | *108* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *34.5* | | *"* | *40.0* | | *86.2* | *80-120* | | | |

## 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 EC63019 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EC63019-BLK1)** | | | | Prepared: 03/29/06 Analyzed: 03/30/06 | | | | | | |
| Total Dissolved Solids | ND | 5.00 | mg/L | | | | | | | |
| **Duplicate (EC63019-DUP1)** | Source: 6C29006-01 | | | Prepared: 03/29/06 Analyzed: 03/30/06 | | | | | | |
| Total Dissolved Solids | 1660 | 5.00 | mg/L | | 1700 | | | 2.38 | 5 | |
| **Batch ED60306 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (ED60306-BLK1)** | | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Sulfate | ND | 0.500 | mg/L | | | | | | | |
| Chloride | ND | 0.500 | " | | | | | | | |
| **LCS (ED60306-BS1)** | | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Chloride | 8.69 | | mg/L | 10.0 | | 86.9 | 80-120 | | | |
| Sulfate | 9.44 | | " | 10.0 | | 94.4 | 80-120 | | | |
| **Calibration Check (ED60306-CCV1)** | | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Sulfate | 9.95 | | mg/L | 10.0 | | 99.5 | 80-120 | | | |
| Chloride | 9.04 | | " | 10.0 | | 90.4 | 80-120 | | | |
| **Duplicate (ED60306-DUP1)** | Source: 6C29006-01 | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Sulfate | 211 | 10.0 | mg/L | | 233 | | | 9.91 | 20 | |
| Chloride | 570 | 10.0 | " | | 564 | | | 1.06 | 20 | |
| **Batch ED60315 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (ED60315-BLK1)** | | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Total Alkalinity | ND | 2.00 | mg/L | | | | | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## 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 ED60315 - General Preparation (WetChem)** | | | | | | | | | | |
| **Duplicate (ED60315-DUP1)** | **Source: 6C29006-01** | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Total Alkalinity | 176 | 2.00 | mg/L | | 177 | | | 0.567 | 20 | |
| **Reference (ED60315-SRM1)** | | | | Prepared & Analyzed: 04/03/06 | | | | | | |
| Total Alkalinity | 98.0 | | mg/L | 100 | | 98.0 | 90-110 | | | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## 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 EC63112 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (EC63112-BLK1)** | | | | Prepared & Analyzed: 03/31/06 | | | | | | |
| Calcium | ND | 0.0100 | mg/L | | | | | | | |
| Magnesium | ND | 0.00100 | " | | | | | | | |
| Potassium | ND | 0.0500 | " | | | | | | | |
| Sodium | ND | 0.0100 | " | | | | | | | |
| **Calibration Check (EC63112-CCV1)** | | | | Prepared & Analyzed: 03/31/06 | | | | | | |
| Calcium | 1.85 | | mg/L | 2.00 | | 92.5 | 85-115 | | | |
| Magnesium | 1.84 | | " | 2.00 | | 92.0 | 85-115 | | | |
| Potassium | 1.76 | | " | 2.00 | | 88.0 | 85-115 | | | |
| Sodium | 1.74 | | " | 2.00 | | 87.0 | 85-115 | | | |
| **Duplicate (EC63112-DUP1)** | **Source: 6C23007-01** | | | Prepared & Analyzed: 03/31/06 | | | | | | |
| Calcium | 145 | 0.500 | mg/L | | 147 | | | 1.37 | 20 | |
| Magnesium | 94.1 | 0.0500 | " | | 93.9 | | | 0.213 | 20 | |
| Potassium | 30.2 | 0.500 | " | | 29.7 | | | 1.67 | 20 | |
| Sodium | 483 | 2.00 | " | | 490 | | | 1.44 | 20 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | **Reported:** |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/10/06 15:14 |

## Notes and Definitions

| | |
|---|---|
| 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: Raland K Tuttle Date: 4/10/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

# Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

*CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST*

Project Manager: Kristin Farris Pope kpriceswd@valornet.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
Email: rozanne@valornet.com

Project Name: EME Jct. H-13 Leak
Project #:
Project Loc: Lea County
PO #:

| LAB # (lab use only) | FIELD CODE | Date Sampled | Time Sampled | No. of Containers | Preservative: Ice | Preservative: $HNO_3$ | Preservative: HCl (2) 40 ml glass vials | Preservative: NaOH | Preservative: $H_2SO_4$ | Preservative: None (1) 1 Liter HDPE | Preservative: Other (Specify) | Matrix: Water | Matrix: Sludge | Matrix: Soil | Matrix: Other (specify) | Analyze For: TCLP: TPH: 418.1 8015M 1005 1006 | TCLP: Cations (Ca, Mg, Na, K) | TCLP: Anions (Cl, SO4, CO3, HCO3) | TCLP: SAR / ESP / CEC | TCLP: Metals: As Ag Ba Cd Cr Pb Hg Se | TCLP: Volatiles | TCLP: Semivolatiles | TOTAL: BTEX 8021B/5030 | TOTAL: RCI | TOTAL: N.O.R.M. | TOTAL: Total Dissolved Solids | RUSH TAT (Pre-Schedule) | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | Monitor Well #2 | 3/27/2006 | 11:55 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | X |
| 02 | Monitor Well #3 | 3/27/2006 | 13:10 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Special Instructions:
PLEASE Email RESULTS TO: kpriceswd@valornet.com & mfranks@riceswd.com

Sample Containers Intact? Y N
Labels on container? Y N
Custody Seals: Containers / Cooler
Temperature Upon Receipt: 1.0°C

Laboratory Comments:

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| Rozanne Johnson | 3/29/06 | 1:39 | | | |
| Relinquished by: | Date | Time | Received by ELOT: | Date | Time |
| | | | Cecil Ross | 3/29/06 | 1:40 |

# Environmental Lab of Texas
## Variance / Corrective Action Report – Sample Log-In

ent: Rice Op.

te/Time: 3/29/06 1:40

der #: 060290 07

tials: CK

### Sample Receipt Checklist

| | Yes | No | |
|---|---|---|---|
| mperature of container/cooler? | | No | 1.0 C |
| ipping container/cooler in good condition? | Yes | No | |
| stody Seals intact on shipping container/cooler? | Yes | No | Not present |
| stody Seals intact on sample bottles? | Yes | No | Not present |
| ain of custody present? | Yes | No | |
| mple Instructions complete on Chain of Custody? | Yes | No | |
| ain of Custody signed when relinquished and received? | Yes | No | |
| ain of custody agrees with sample label(s) | Yes | No | |
| ntainer labels legible and intact? | Yes | No | |
| mple Matrix and properties same as on chain of custody? | Yes | No | |
| mples in proper container/bottle? | Yes | No | |
| mples properly preserved? | Yes | No | |
| mple bottles intact? | Yes | No | |
| reservations documented on Chain of Custody? | Yes | No | |
| ntainers documented on Chain of Custody? | Yes | No | |
| fficient sample amount for indicated test? | Yes | No | |
| l samples received within sufficient hold time? | Yes | No | |
| OC samples have zero headspace? | Yes | No | Not Applicable |

Other observations:

### Variance Documentation:

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

Regarding:

Corrective Action Taken:

4/18/06

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

**Prepared for:**

Kristin Farris-Pope
Rice Operating Co.
122 W. Taylor
Hobbs, NM 88240

Project: EME Jct. H-13 Leak
Project Number: None Given
Location: Lea County

Lab Order Number: 6D20007

Report Date: 04/26/06

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| Monitor Well #1 | 6D20007-01 | Water | 04/18/06 09:30 | 04/20/06 15:05 |
| Monitor Well #2 | 6D20007-02 | Water | 04/18/06 11:05 | 04/20/06 15:05 |
| Monitor Well #3 | 6D20007-03 | Water | 04/18/06 08:30 | 04/20/06 15:05 |



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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## Organics by GC
## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1 (6D20007-01) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | ED62105 | 04/21/06 | 04/21/06 | 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* | | *95.0 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *96.8 %* | *80-120* | | " | " | " | " | |
| **Monitor Well #2 (6D20007-02) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | ED62105 | 04/21/06 | 04/21/06 | 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* | | *98.0 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *102 %* | *80-120* | | " | " | " | " | |
| **Monitor Well #3 (6D20007-03) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | ED62105 | 04/21/06 | 04/21/06 | 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* | | *94.2 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *96.2 %* | *80-120* | | " | " | " | " | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 05/02/06 11:19 |

## 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 (6D20007-01) Water** | | | | | | | | | |
| Total Alkalinity | 213 | 2.00 | mg/L | 1 | ED62402 | 04/25/06 | 04/25/06 | EPA 310.1M | |
| Chloride | 1600 | 25.0 | " | 50 | ED62120 | 04/24/06 | 04/24/06 | EPA 300.0 | |
| Total Dissolved Solids | 4160 | 5.00 | " | 1 | ED62405 | 04/20/06 | 04/21/06 | EPA 160.1 | |
| Sulfate | 307 | 25.0 | " | 50 | ED62120 | 04/24/06 | 04/24/06 | EPA 300.0 | |
| **Monitor Well #2 (6D20007-02) Water** | | | | | | | | | |
| Total Alkalinity | 198 | 2.00 | mg/L | 1 | ED62402 | 04/25/06 | 04/25/06 | EPA 310.1M | |
| Chloride | 1420 | 25.0 | " | 50 | ED62120 | 04/24/06 | 04/24/06 | EPA 300.0 | |
| Total Dissolved Solids | 4120 | 5.00 | " | 1 | ED62405 | 04/20/06 | 04/21/06 | EPA 160.1 | |
| Sulfate | 237 | 25.0 | " | 50 | ED62120 | 04/24/06 | 04/24/06 | EPA 300.0 | |
| **Monitor Well #3 (6D20007-03) Water** | | | | | | | | | |
| Total Alkalinity | 197 | 2.00 | mg/L | 1 | ED62402 | 04/25/06 | 04/25/06 | EPA 310.1M | |
| Chloride | 1390 | 25.0 | " | 50 | ED62120 | 04/24/06 | 04/24/06 | EPA 300.0 | |
| Total Dissolved Solids | 3560 | 5.00 | " | 1 | ED62405 | 04/20/06 | 04/21/06 | EPA 160.1 | |
| Sulfate | 426 | 25.0 | " | 50 | ED62120 | 04/24/06 | 04/24/06 | EPA 300.0 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## Total Metals by EPA / Standard Methods
## Environmental Lab of Texas

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|---|---|---|---|---|---|---|---|---|
| **Monitor Well #1 (6D20007-01) Water** | | | | | | | | | |
| Calcium | 341 | 0.500 | mg/L | 50 | ED62106 | 04/21/06 | 04/21/06 | EPA 6010B | |
| Magnesium | 141 | 0.0500 | " | " | " | " | " | " | |
| Potassium | 15.1 | 0.500 | " | 10 | " | " | " | " | |
| Sodium | 686 | 2.00 | " | 200 | " | " | " | " | |
| **Monitor Well #2 (6D20007-02) Water** | | | | | | | | | |
| Calcium | 323 | 0.500 | mg/L | 50 | ED62106 | 04/21/06 | 04/21/06 | EPA 6010B | |
| Magnesium | 136 | 0.0500 | " | " | " | " | " | " | |
| Potassium | 11.9 | 0.500 | " | 10 | " | " | " | " | |
| Sodium | 552 | 2.00 | " | 200 | " | " | " | " | |
| **Monitor Well #3 (6D20007-03) Water** | | | | | | | | | |
| Calcium | 302 | 0.500 | mg/L | 50 | ED62106 | 04/21/06 | 04/21/06 | EPA 6010B | |
| Magnesium | 128 | 0.0500 | " | " | " | " | " | " | |
| Potassium | 13.7 | 0.500 | " | 10 | " | " | " | " | |
| Sodium | 675 | 2.00 | " | 200 | " | " | " | " | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## 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 ED62105 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (ED62105-BLK1)** | | | | Prepared & Analyzed: 04/21/06 | | | | | | |
| 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* | *42.2* | | *ug/l* | *40.0* | | *106* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *44.5* | | *"* | *40.0* | | *111* | *80-120* | | | |
| **LCS (ED62105-BS1)** | | | | Prepared & Analyzed: 04/21/06 | | | | | | |
| Benzene | 0.0477 | 0.00100 | mg/L | 0.0500 | | 95.4 | 80-120 | | | |
| Toluene | 0.0506 | 0.00100 | " | 0.0500 | | 101 | 80-120 | | | |
| Ethylbenzene | 0.0523 | 0.00100 | " | 0.0500 | | 105 | 80-120 | | | |
| Xylene (p/m) | 0.117 | 0.00100 | " | 0.100 | | 117 | 80-120 | | | |
| Xylene (o) | 0.0580 | 0.00100 | " | 0.0500 | | 116 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *37.5* | | *ug/l* | *40.0* | | *93.8* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.1* | | *"* | *40.0* | | *103* | *80-120* | | | |
| **Calibration Check (ED62105-CCV1)** | | | | Prepared: 04/21/06 Analyzed: 04/23/06 | | | | | | |
| Benzene | 54.3 | | ug/l | 50.0 | | 109 | 80-120 | | | |
| Toluene | 53.4 | | " | 50.0 | | 107 | 80-120 | | | |
| Ethylbenzene | 57.0 | | " | 50.0 | | 114 | 80-120 | | | |
| Xylene (p/m) | 115 | | " | 100 | | 115 | 80-120 | | | |
| Xylene (o) | 56.7 | | " | 50.0 | | 113 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *34.8* | | *"* | *40.0* | | *87.0* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *37.6* | | *"* | *40.0* | | *94.0* | *80-120* | | | |
| **Matrix Spike (ED62105-MS1)** | | **Source: 6D17002-02** | | Prepared & Analyzed: 04/21/06 | | | | | | |
| Benzene | 0.0508 | 0.00100 | mg/L | 0.0500 | ND | 102 | 80-120 | | | |
| Toluene | 0.0537 | 0.00100 | " | 0.0500 | ND | 107 | 80-120 | | | |
| Ethylbenzene | 0.0579 | 0.00100 | " | 0.0500 | ND | 116 | 80-120 | | | |
| Xylene (p/m) | 0.120 | 0.00100 | " | 0.100 | ND | 120 | 80-120 | | | |
| Xylene (o) | 0.0581 | 0.00100 | " | 0.0500 | ND | 116 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *41.9* | | *ug/l* | *40.0* | | *105* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *47.3* | | *"* | *40.0* | | *118* | *80-120* | | | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## 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 ED62105 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (ED62105-MSD1)** | **Source: 6D17002-02** | | Prepared & Analyzed: 04/21/06 | | | | | | | |
| Benzene | 0.0514 | 0.00100 | mg/L | 0.0500 | ND | 103 | 80-120 | 0.976 | 20 | |
| Toluene | 0.0540 | 0.00100 | " | 0.0500 | ND | 108 | 80-120 | 0.930 | 20 | |
| Ethylbenzene | 0.0567 | 0.00100 | " | 0.0500 | ND | 113 | 80-120 | 2.62 | 20 | |
| Xylene (p/m) | 0.119 | 0.00100 | " | 0.100 | ND | 119 | 80-120 | 0.837 | 20 | |
| Xylene (o) | 0.0596 | 0.00100 | " | 0.0500 | ND | 119 | 80-120 | 2.55 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *39.2* | | *ug/l* | *40.0* | | *98.0* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *45.9* | | *"* | *40.0* | | *115* | *80-120* | | | |







12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## 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 ED62120 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (ED62120-BLK1)** | | | | Prepared & Analyzed: 04/24/06 | | | | | | |
| Sulfate | ND | 0.500 | mg/L | | | | | | | |
| Chloride | ND | 0.500 | " | | | | | | | |
| **LCS (ED62120-BS1)** | | | | Prepared & Analyzed: 04/24/06 | | | | | | |
| Sulfate | 8.76 | | mg/L | 10.0 | | 87.6 | 80-120 | | | |
| Chloride | 9.01 | | " | 10.0 | | 90.1 | 80-120 | | | |
| **Calibration Check (ED62120-CCV1)** | | | | Prepared & Analyzed: 04/24/06 | | | | | | |
| Sulfate | 9.38 | | mg/L | 10.0 | | 93.8 | 80-120 | | | |
| Chloride | 9.40 | | " | 10.0 | | 94.0 | 80-120 | | | |
| **Duplicate (ED62120-DUP1)** | Source: 6D20005-01 | | | Prepared & Analyzed: 04/24/06 | | | | | | |
| Sulfate | 86.7 | 5.00 | mg/L | | 86.4 | | | 0.347 | 20 | |
| Chloride | 56.7 | 5.00 | " | | 55.9 | | | 1.42 | 20 | |
| **Batch ED62402 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (ED62402-BLK1)** | | | | Prepared & Analyzed: 04/25/06 | | | | | | |
| Total Alkalinity | ND | 2.00 | mg/L | | | | | | | |
| **LCS (ED62402-BS1)** | | | | Prepared & Analyzed: 04/25/06 | | | | | | |
| Bicarbonate Alkalinity | 214 | 2.00 | mg/L | 200 | | 107 | 85-115 | | | |
| **Duplicate (ED62402-DUP1)** | Source: 6D20005-01 | | | Prepared & Analyzed: 04/25/06 | | | | | | |
| Total Alkalinity | 197 | 2.00 | mg/L | | 198 | | | 0.506 | 20 | |
| **Reference (ED62402-SRM1)** | | | | Prepared & Analyzed: 04/25/06 | | | | | | |
| Total Alkalinity | 97.0 | | mg/L | 100 | | 97.0 | 90-110 | | | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## 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 ED62405 - Filtration Preparation** | | | | | | | | | | |
| **Blank (ED62405-BLK1)** | | | | Prepared & Analyzed: 04/20/06 | | | | | | |
| Total Dissolved Solids | ND | 5.00 | mg/L | | | | | | | |
| **Duplicate (ED62405-DUP1)** | | | | Source: 6D20006-01 | Prepared & Analyzed: 04/20/06 | | | | | |
| Total Dissolved Solids | 2390 | 5.00 | mg/L | | 2290 | | | 4.27 | 5 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## 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 ED62106 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (ED62106-BLK1)** | | | | Prepared & Analyzed: 04/21/06 | | | | | | |
| Calcium | ND | 0.0100 | mg/L | | | | | | | |
| Magnesium | ND | 0.00100 | " | | | | | | | |
| Potassium | ND | 0.0500 | " | | | | | | | |
| Sodium | ND | 0.0100 | " | | | | | | | |
| **Calibration Check (ED62106-CCV1)** | | | | Prepared & Analyzed: 04/21/06 | | | | | | |
| Calcium | 1.98 | | mg/L | 2.00 | | 99.0 | 85-115 | | | |
| Magnesium | 2.10 | | " | 2.00 | | 105 | 85-115 | | | |
| Potassium | 2.06 | | " | 2.00 | | 103 | 85-115 | | | |
| Sodium | 2.06 | | " | 2.00 | | 103 | 85-115 | | | |
| **Duplicate (ED62106-DUP1)** | Source: 6D20005-01 | | | Prepared & Analyzed: 04/21/06 | | | | | | |
| Calcium | 25.1 | 0.100 | mg/L | | 28.8 | | | 13.7 | 20 | |
| Magnesium | 15.9 | 0.0100 | " | | 13.4 | | | 17.1 | 20 | |
| Potassium | 8.87 | 0.500 | " | | 10.0 | | | 12.0 | 20 | |
| Sodium | 122 | 0.500 | " | | 122 | | | 0.00 | 20 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME Jct. H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | Reported: |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | 04/26/06 16:30 |

## Notes and Definitions

| | |
|---|---|
| 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: Raland K. Tuttle Date: 5-02-06

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.

# Environmental Lab of Texas

12600 West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

*CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST*

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
Email: rozanne@valornet.com

Project Name: EME Jct. H-13 Leak
Project #:
Project Loc: Lea County
PO #:

| LAB # (lab use only) | FIELD CODE | Date Sampled | Time Sampled | No. of Containers | Preservative: Ice | $HNO_3$ | HCl (2) 40 ml glass vials | NaOH | $H_2SO_4$ | None (1) 1 Liter HDPE | Other ( Specify) | Matrix: Water | Sludge | Soil | Other (specify): | Analyze For: TCLP: TPH: 418.1 8015M 1005 1006 | Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, CO3, HCO3) | 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) | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 01 | Monitor Well #1 | 4/18/2006 | 9:30 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | | | X |
| 02 | Monitor Well #2 | 4/18/2006 | 11:05 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | | | X |
| 03 | Monitor Well #3 | 4/18/2006 | 8:30 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Special Instructions:
**PLEASE Email RESULTS TO: kpope@riceswd.com & mfranks@riceswd.com**

Sample Containers Intact? Y N
Labels on container? Y N
Custody Seals: Containers / Cooler
Temperature Upon Receipt: 2.5
Laboratory Comments:

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| Rozanne Johnson | 4/20/06 | 15:05 | | | |
| Relinquished by: | Date | Time | Received by ELOT: | Date | Time |
| | | | Cheree Keel | 4/20/06 | 15:05 |

02/13/2007 18:20 FAX

013

# Environmental Lab of Texas
## Variance / Corrective Action Report – Sample Log-In

ient: Rice Op.

ate/Time: 4/20/07 15:05

der #: 1D2000107

itials: CK

### Sample Receipt Checklist

| | Yes | No | |
|---|---|---|---|
| mperature of container/cooler? | | | 2.5 C |
| ipping container/cooler in good condition? | Yes | No | |
| stody Seals intact on shipping container/cooler? | Yes | No | Not present |
| ustody Seals intact on sample bottles? | Yes | No | Not present |
| ain of custody present? | Yes | No | |
| mple Instructions complete on Chain of Custody? | Yes | No | |
| hain of Custody signed when relinquished and received? | Yes | No | |
| hain of custody agrees with sample label(s) | Yes | No | |
| ntainer labels legible and intact? | Yes | No | |
| mple Matrix and properties same as on chain of custody? | Yes | No | |
| amples in proper container/bottle? | Yes | No | |
| amples properly preserved? | Yes | No | |
| mple bottles intact? | Yes | No | |
| reservations documented on Chain of Custody? | Yes | No | |
| ontainers documented on Chain of Custody? | Yes | No | |
| ufficient sample amount for indicated test? | Yes | No | |
| l samples received within sufficient hold time? | Yes | No | |
| OC samples have zero headspace? | Yes | No | Not Applicable |

ther observations:

### Variance Documentation:

ontact Person: - Date/Time: Contacted by:

egarding:

orrective Action Taken:

7/17/06

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

# Analytical and Quality Control Report

Kristen Farris-Pope
Rice Operating Company
122 W Taylor Street
Hobbs, NM, 88240

Report Date: August 10, 2006

Work Order: 6072139

Project Location: Lea County,NM
Project Name: EME-H-13 Leak
Project Number: EME-H-13 Leak

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

| Sample | Description | Matrix | Date Taken | Time Taken | Date Received |
|---|---|---|---|---|---|
| 96124 | Monitor Well #1 | water | 2006-07-17 | 08:00 | 2006-07-21 |
| 96125 | Monitor Well #2 | water | 2006-07-17 | 09:05 | 2006-07-21 |
| 96126 | Monitor Well #3 | water | 2006-07-17 | 10:35 | 2006-07-21 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.



Dr. Blair Leftwich, Director

# Analytical Report

**Sample: 96124 - Monitor Well #1**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Alkalinity | Analytical Method: | SM 2320B | Prep Method: | N/A |
| QC Batch: | 28340 | Date Analyzed: | 2006-07-26 | Analyzed By: | LJ |
| Prep Batch: | 24777 | Sample Preparation: | 2006-07-25 | Prepared By: | LJ |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| Hydroxide Alkalinity | | <1.00 | | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | <1.00 | | mg/L as CaCo3 | 1 | 1.00 |
| Bicarbonate Alkalinity | | **226** | | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | **226** | | mg/L as CaCo3 | 1 | 4.00 |

**Sample: 96124 - Monitor Well #1**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5030B |
| QC Batch: | 28280 | Date Analyzed: | 2006-07-24 | Analyzed By: | MT |
| Prep Batch: | 24761 | Sample Preparation: | 2006-07-24 | Prepared By: | MT |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| Benzene | | <0.00100 | | mg/L | 1 | 0.00100 |
| Toluene | | <0.00100 | | mg/L | 1 | 0.00100 |
| Ethylbenzene | | <0.00100 | | mg/L | 1 | 0.00100 |
| Xylene | | <0.00100 | | mg/L | 1 | 0.00100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 0.0844 | mg/L | 1 | 0.100 | 84 | 78.1 - 125.4 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0746 | mg/L | 1 | 0.100 | 75 | 46.4 - 136.5 |

**Sample: 96124 - Monitor Well #1**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Cations | Analytical Method: | S 6010B | Prep Method: | S 3005A |
| QC Batch: | 28356 | Date Analyzed: | 2006-07-26 | Analyzed By: | TP |
| Prep Batch: | 24749 | Sample Preparation: | 2006-07-24 | Prepared By: | TS |

| Parameter | Flag | Result | RL | Units | Dilution | RL |
|---|---|---|---|---|---|---|
| Dissolved Calcium | | **361** | | mg/L | 10 | 0.500 |
| Dissolved Potassium | | **22.0** | | mg/L | 1 | 1.00 |
| Dissolved Magnesium | | **147** | | mg/L | 10 | 1.00 |
| Dissolved Sodium | | **578** | | mg/L | 10 | 1.00 |

**Sample: 96124 - Monitor Well #1**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Ion Chromatography | Analytical Method: | E 300.0 | Prep Method: | N/A |
| QC Batch: | 28549 | Date Analyzed: | 2006-07-30 | Analyzed By: | WB |
| Prep Batch: | 24970 | Sample Preparation: | 2006-07-30 | Prepared By: | WB |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **1800** | mg/L | 100 | 0.500 |
| Sulfate | | **412** | mg/L | 100 | 0.500 |

**Sample: 96124 - Monitor Well #1**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | TDS | Analytical Method: | SM 2540C | Prep Method: | N/A |
| QC Batch: | 28404 | Date Analyzed: | 2006-07-25 | Analyzed By: | SM |
| Prep Batch: | 24848 | Sample Preparation: | 2009-07-24 | Prepared By: | SM |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Total Dissolved Solids | | **3240** | mg/L | 5 | 10.00 |

**Sample: 96125 - Monitor Well #2**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Alkalinity | Analytical Method: | SM 2320B | Prep Method: | N/A |
| QC Batch: | 28340 | Date Analyzed: | 2006-07-26 | Analyzed By: | LJ |
| Prep Batch: | 24777 | Sample Preparation: | 2006-07-25 | Prepared By: | LJ |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Bicarbonate Alkalinity | | **216** | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | **216** | mg/L as CaCo3 | 1 | 4.00 |

**Sample: 96125 - Monitor Well #2**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5030B |
| QC Batch: | 28277 | Date Analyzed: | 2006-07-24 | Analyzed By: | MT |
| Prep Batch: | 24759 | Sample Preparation: | 2006-07-24 | Prepared By: | MT |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | <0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | | <0.00100 | mg/L | 1 | 0.00100 |
| Xylene | | <0.00100 | mg/L | 1 | 0.00100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 0.0927 | mg/L | 1 | 0.100 | 93 | 66.2 - 127.7 |
| 4-Bromofluorobenzene (4-BFB) | [1] | 0.0605 | mg/L | 1 | 0.100 | 60 | 70.6 - 129.2 |

[1]BFB surrogate recovery outside normal limits. ICV/CCV and TFT surrogate recovery show the method to be in control.

**Sample: 96125 - Monitor Well #2**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Cations | Analytical Method: | S 6010B | Prep Method: | S 3005A |
| QC Batch: | 28356 | Date Analyzed: | 2006-07-26 | Analyzed By: | TP |
| Prep Batch: | 24749 | Sample Preparation: | 2006-07-24 | Prepared By: | TS |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Dissolved Calcium | | **325** | mg/L | 10 | 0.500 |
| Dissolved Potassium | | **17.1** | mg/L | 1 | 1.00 |
| Dissolved Magnesium | | **129** | mg/L | 10 | 1.00 |
| Dissolved Sodium | | **507** | mg/L | 10 | 1.00 |

**Sample: 96125 - Monitor Well #2**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Ion Chromatography | Analytical Method: | E 300.0 | Prep Method: | N/A |
| QC Batch: | 28549 | Date Analyzed: | 2006-07-30 | Analyzed By: | WB |
| Prep Batch: | 24970 | Sample Preparation: | 2006-07-30 | Prepared By: | WB |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **1690** | mg/L | 100 | 0.500 |
| Sulfate | | **562** | mg/L | 100 | 0.500 |

**Sample: 96125 - Monitor Well #2**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | TDS | Analytical Method: | SM 2540C | Prep Method: | N/A |
| QC Batch: | 28404 | Date Analyzed: | 2006-07-25 | Analyzed By: | SM |
| Prep Batch: | 24848 | Sample Preparation: | 2009-07-24 | Prepared By: | SM |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Total Dissolved Solids | | **2710** | mg/L | 5 | 10.00 |

**Sample: 96126 - Monitor Well #3**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Alkalinity | Analytical Method: | SM 2320B | Prep Method: | N/A |
| QC Batch: | 28340 | Date Analyzed: | 2006-07-26 | Analyzed By: | LJ |
| Prep Batch: | 24777 | Sample Preparation: | 2006-07-25 | Prepared By: | LJ |

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Carbonate Alkalinity | | <1.00 | mg/L as CaCo3 | 1 | 1.00 |
| Bicarbonate Alkalinity | | **262** | mg/L as CaCo3 | 1 | 4.00 |
| Total Alkalinity | | **262** | mg/L as CaCo3 | 1 | 4.00 |

**Sample: 96126 - Monitor Well #3**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | BTEX | Analytical Method: | S 8021B | Prep Method: | S 5030B |
| QC Batch: | 28277 | Date Analyzed: | 2006-07-24 | Analyzed By: | MT |
| Prep Batch: | 24759 | Sample Preparation: | 2006-07-24 | Prepared By: | MT |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Benzene | | <0.00100 | mg/L | 1 | 0.00100 |
| Toluene | | <0.00100 | mg/L | 1 | 0.00100 |
| Ethylbenzene | | <0.00100 | mg/L | 1 | 0.00100 |
| Xylene | | <0.00100 | mg/L | 1 | 0.00100 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 0.0954 | mg/L | 1 | 0.100 | 95 | 66.2 - 127.7 |
| 4-Bromofluorobenzene (4-BFB) | [2] | 0.0557 | mg/L | 1 | 0.100 | 56 | 70.6 - 129.2 |

**Sample: 96126 - Monitor Well #3**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Cations | Analytical Method: | S 6010B | Prep Method: | S 3005A |
| QC Batch: | 28356 | Date Analyzed: | 2006-07-26 | Analyzed By: | TP |
| Prep Batch: | 24749 | Sample Preparation: | 2006-07-24 | Prepared By: | TS |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Dissolved Calcium | | **308** | mg/L | 10 | 0.500 |
| Dissolved Potassium | | **19.9** | mg/L | 1 | 1.00 |
| Dissolved Magnesium | | **112** | mg/L | 10 | 1.00 |
| Dissolved Sodium | | **580** | mg/L | 10 | 1.00 |

**Sample: 96126 - Monitor Well #3**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | Ion Chromatography | Analytical Method: | E 300.0 | Prep Method: | N/A |
| QC Batch: | 28549 | Date Analyzed: | 2006-07-30 | Analyzed By: | WB |
| Prep Batch: | 24970 | Sample Preparation: | 2006-07-30 | Prepared By: | WB |

| Parameter | Flag | Result | RL Units | Dilution | RL |
|---|---|---|---|---|---|
| Chloride | | **1510** | mg/L | 100 | 0.500 |
| Sulfate | | **557** | mg/L | 100 | 0.500 |

**Sample: 96126 - Monitor Well #3**

| | | | | | |
|---|---|---|---|---|---|
| Analysis: | TDS | Analytical Method: | SM 2540C | Prep Method: | N/A |
| QC Batch: | 28404 | Date Analyzed: | 2006-07-25 | Analyzed By: | SM |
| Prep Batch: | 24848 | Sample Preparation: | 2009-07-24 | Prepared By: | SM |

*continued ...*

[2]BFB surrogate recovery outside normal limits. ICV/CCV and TFT surrogate recovery show the method to be in control.

*sample 96126 continued . . .*

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|

| Parameter | Flag | RL Result | Units | Dilution | RL |
|---|---|---|---|---|---|
| Total Dissolved Solids | | **3035** | mg/L | 5 | 10.00 |

**Method Blank (1)** QC Batch: 28277

QC Batch: 28277 Date Analyzed: 2006-07-24 Analyzed By: MT
Prep Batch: 24759 QC Preparation: 2006-07-24 Prepared By: MT

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.000255 | mg/L | 0.001 |
| Toluene | | <0.000210 | mg/L | 0.001 |
| Ethylbenzene | | <0.000317 | mg/L | 0.001 |
| Xylene | | <0.000603 | mg/L | 0.001 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 0.0949 | mg/L | 1 | 0.100 | 95 | 76.1 - 117 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0633 | mg/L | 1 | 0.100 | 63 | 58.5 - 118 |

**Method Blank (1)** QC Batch: 28280

QC Batch: 28280 Date Analyzed: 2006-07-24 Analyzed By: MT
Prep Batch: 24761 QC Preparation: 2006-07-24 Prepared By: MT

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Benzene | | <0.000153 | mg/L | 0.001 |
| Toluene | | <0.000283 | mg/L | 0.001 |
| Ethylbenzene | | <0.000621 | mg/L | 0.001 |
| Xylene | | <0.000456 | mg/L | 0.001 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | | 0.0857 | mg/L | 1 | 0.100 | 86 | 77.4 - 109 |
| 4-Bromofluorobenzene (4-BFB) | | 0.0735 | mg/L | 1 | 0.100 | 74 | 63.8 - 118 |

**Method Blank (1)** QC Batch: 28340

QC Batch: 28340 Date Analyzed: 2006-07-26 Analyzed By: LJ
Prep Batch: 24777 QC Preparation: 2006-07-25 Prepared By: LJ

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Hydroxide Alkalinity | | <1.00 | mg/L as CaCo3 | 1 |
| Carbonate Alkalinity | | <1.00 | mg/L as CaCo3 | 1 |
| Bicarbonate Alkalinity | | <4.00 | mg/L as CaCo3 | 4 |
| Total Alkalinity | | <4.00 | mg/L as CaCo3 | 4 |

**Method Blank (1)** QC Batch: 28356

QC Batch: 28356 Date Analyzed: 2006-07-26 Analyzed By: TP
Prep Batch: 24749 QC Preparation: 2006-07-24 Prepared By: TS

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Dissolved Calcium | | 0.132 | mg/L | 0.5 |
| Dissolved Potassium | | 1.08 | mg/L | 1 |
| Dissolved Magnesium | | <0.704 | mg/L | 1 |
| Dissolved Sodium | | 0.836 | mg/L | 1 |

**Method Blank (1)** QC Batch: 28404

QC Batch: 28404 Date Analyzed: 2006-07-25 Analyzed By: SM
Prep Batch: 24848 QC Preparation: 2006-07-24 Prepared By: SM

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Total Dissolved Solids | | <5.000 | mg/L | 10 |

**Method Blank (1)** QC Batch: 28549

QC Batch: 28549 Date Analyzed: 2006-07-30 Analyzed By: WB
Prep Batch: 24970 QC Preparation: 2006-07-29 Prepared By: WB

| Parameter | Flag | MDL Result | Units | RL |
|---|---|---|---|---|
| Chloride | | <0.0181 | mg/L | 0.5 |
| Sulfate | | <0.0485 | mg/L | 0.5 |

**Duplicates (1)**

QC Batch: 28340 Date Analyzed: 2006-07-26 Analyzed By: LJ
Prep Batch: 24777 QC Preparation: 2006-07-25 Prepared By: LJ

| Param | Duplicate Result | Sample Result | Units | Dilution | RPD | RPD Limit |
|---|---|---|---|---|---|---|
| Hydroxide Alkalinity | <1.00 | <1.00 | mg/L as CaCo3 | 1 | 0 | 20 |
| Carbonate Alkalinity | <1.00 | <1.00 | mg/L as CaCo3 | 1 | 0 | 20 |

*continued ...*

*duplicate continued ...*

| Param | Duplicate Result | Sample Result | Units | Dilution | RPD | RPD Limit |
|---|---|---|---|---|---|---|
| Bicarbonate Alkalinity | 110 | 108 | mg/L as CaCo3 | 1 | 2 | 12.6 |
| Total Alkalinity | 110 | 108 | mg/L as CaCo3 | 1 | 2 | 11.5 |

**Duplicates (1)**

QC Batch: 28404 Date Analyzed: 2006-07-25 Analyzed By: SM
Prep Batch: 24848 QC Preparation: 2006-07-24 Prepared By: SM

| Param | Duplicate Result | Sample Result | Units | Dilution | RPD | RPD Limit |
|---|---|---|---|---|---|---|
| Total Dissolved Solids | 3295 | 3035 | mg/L | 5 | 8 | 17.2 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 28277 Date Analyzed: 2006-07-24 Analyzed By: MT
Prep Batch: 24759 QC Preparation: 2006-07-24 Prepared By: MT

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 0.109 | mg/L | 1 | 0.100 | <0.000255 | 109 | 82.2 - 119 |
| Toluene | 0.108 | mg/L | 1 | 0.100 | <0.000210 | 108 | 81.2 - 119 |
| Ethylbenzene | 0.109 | mg/L | 1 | 0.100 | <0.000317 | 109 | 80 - 122 |
| Xylene | 0.322 | mg/L | 1 | 0.300 | <0.000603 | 107 | 81.3 - 122 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.104 | mg/L | 1 | 0.100 | <0.000255 | 109 | 82.2 - 119 | 5 | 20 |
| Toluene | 0.103 | mg/L | 1 | 0.100 | <0.000210 | 108 | 81.2 - 119 | 5 | 20 |
| Ethylbenzene | 0.101 | mg/L | 1 | 0.100 | <0.000317 | 109 | 80 - 122 | 8 | 20 |
| Xylene | 0.306 | mg/L | 1 | 0.300 | <0.000603 | 107 | 81.3 - 122 | 5 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dil. | Spike Amount | LCS Rec. | LCSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 0.101 | 0.101 | mg/L | 1 | 0.100 | 101 | 101 | 81.8 - 114 |
| 4-Bromofluorobenzene (4-BFB) | 0.112 | 0.111 | mg/L | 1 | 0.100 | 112 | 111 | 72.7 - 116 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 28280 Date Analyzed: 2006-07-24 Analyzed By: MT
Prep Batch: 24761 QC Preparation: 2006-07-24 Prepared By: MT

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0952 | mg/L | 1 | 0.100 | <0.000153 | 95 | 80 - 120 |

*continued ...*

*control spikes continued . . .*

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Toluene | 0.0961 | mg/L | 1 | 0.100 | <0.000283 | 96 | 80 - 120 |
| Ethylbenzene | 0.0965 | mg/L | 1 | 0.100 | <0.000621 | 96 | 80 - 120 |
| Xylene | 0.290 | mg/L | 1 | 0.300 | <0.000456 | 97 | 80 - 120 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.0945 | mg/L | 1 | 0.100 | <0.000153 | 95 | 80 - 120 | 1 | 20 |
| Toluene | 0.0953 | mg/L | 1 | 0.100 | <0.000283 | 96 | 80 - 120 | 1 | 20 |
| Ethylbenzene | 0.0958 | mg/L | 1 | 0.100 | <0.000621 | 96 | 80 - 120 | 1 | 20 |
| Xylene | 0.288 | mg/L | 1 | 0.300 | <0.000456 | 97 | 80 - 120 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dil. | Spike Amount | LCS Rec. | LCSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | 0.0934 | 0.0971 | mg/L | 1 | 0.100 | 93 | 97 | 80 - 120 |
| 4-Bromofluorobenzene (4-BFB) | 0.0895 | 0.0932 | mg/L | 1 | 0.100 | 90 | 93 | 80 - 120 |

**Laboratory Control Spike (LCS-1)**

QC Batch: 28356 | Date Analyzed: 2006-07-26 | Analyzed By: TP
Prep Batch: 24749 | QC Preparation: 2006-07-24 | Prepared By: TS

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Dissolved Calcium | 51.7 | mg/L | 1 | 50.0 | <0.0950 | 103 | 85 - 115 |
| Dissolved Potassium | 50.8 | mg/L | 1 | 50.0 | <0.377 | 102 | 85 - 113 |
| Dissolved Magnesium | 51.5 | mg/L | 1 | 50.0 | <0.704 | 103 | 85 - 113 |
| Dissolved Sodium | 50.5 | mg/L | 1 | 50.0 | <0.261 | 101 | 85 - 111 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Calcium | 51.7 | mg/L | 1 | 50.0 | <0.0950 | 103 | 85 - 115 | 0 | 20 |
| Dissolved Potassium | 49.3 | mg/L | 1 | 50.0 | <0.377 | 102 | 85 - 113 | 3 | 20 |
| Dissolved Magnesium | 49.8 | mg/L | 1 | 50.0 | <0.704 | 103 | 85 - 113 | 3 | 20 |
| Dissolved Sodium | 48.6 | mg/L | 1 | 50.0 | <0.261 | 101 | 85 - 111 | 4 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Laboratory Control Spike (LCS-1)**

QC Batch: 28549 | Date Analyzed: 2006-07-30 | Analyzed By: WB
Prep Batch: 24970 | QC Preparation: 2006-07-29 | Prepared By: WB

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 12.8 | mg/L | 1 | 12.5 | <0.0181 | 102 | 90 - 110 |

*continued . . .*

*control spikes continued ...*

| Param | LCS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Sulfate | 12.8 | mg/L | 1 | 12.5 | <0.0485 | 102 | 90 - 110 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | LCSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 12.6 | mg/L | 1 | 12.5 | <0.0181 | 102 | 90 - 110 | 2 | 20 |
| Sulfate | 12.9 | mg/L | 1 | 12.5 | <0.0485 | 102 | 90 - 110 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 96149

QC Batch: 28277 | Date Analyzed: 2006-07-24 | Analyzed By: MT
Prep Batch: 24759 | QC Preparation: 2006-07-24 | Prepared By: MT

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 0.107 | mg/L | 1 | 0.100 | <0.000255 | 107 | 70.9 - 126 |
| Toluene | 0.105 | mg/L | 1 | 0.100 | <0.000210 | 105 | 70.8 - 125 |
| Ethylbenzene | 0.106 | mg/L | 1 | 0.100 | <0.000317 | 106 | 74.8 - 125 |
| Xylene | 0.311 | mg/L | 1 | 0.300 | <0.000603 | 104 | 75.7 - 126 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | [3] | NA | mg/L | 1 | 0.100 | <0.000255 | 0 | 70.9 - 126 | 200 | 20 |
| Toluene | [4] | NA | mg/L | 1 | 0.100 | <0.000210 | 0 | 70.8 - 125 | 200 | 20 |
| Ethylbenzene | [5] | NA | mg/L | 1 | 0.100 | <0.000317 | 0 | 74.8 - 125 | 200 | 20 |
| Xylene | [6] | NA | mg/L | 1 | 0.300 | <0.000603 | 0 | 75.7 - 126 | 200 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | | MS Result | MSD Result | Units | Dil. | Spike Amount | MS Rec. | MSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | [7] | 0.101 | NA | mg/L | 1 | 0.1 | 101 | 0 | 73.6 - 121 |
| 4-Bromofluorobenzene (4-BFB) | [8] | 0.110 | NA | mg/L | 1 | 0.1 | 110 | 0 | 81.8 - 114 |

**Matrix Spike (MS-1)** Spiked Sample: 96148

QC Batch: 28280 | Date Analyzed: 2006-07-24 | Analyzed By: MT
Prep Batch: 24761 | QC Preparation: 2006-07-24 | Prepared By: MT

[3]RPD is out of range because a matrix spike duplicate was not prepared.
[4]RPD is out of range because a matrix spike duplicate was not prepared.
[5]RPD is out of range because a matrix spike duplicate was not prepared.
[6]RPD is out of range because a matrix spike duplicate was not prepared.
[7]RPD is out of range because a matrix spike duplicate was not prepared.
[8]RPD is out of range because a matrix spike duplicate was not prepared.

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Benzene | 0.0940 | mg/L | 1 | 0.100 | <0.000153 | 94 | 88.4 - 114 |
| Toluene | 0.0939 | mg/L | 1 | 0.100 | <0.000283 | 94 | 81.4 - 116 |
| Ethylbenzene | 0.0944 | mg/L | 1 | 0.100 | <0.000621 | 94 | 82.5 - 118 |
| Xylene | 0.283 | mg/L | 1 | 0.300 | <0.000456 | 94 | 77.9 - 117 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | [9] | NA | mg/L | 1 | 0.100 | <0.000153 | 0 | 88.4 - 114 | 200 | 20 |
| Toluene | [10] | NA | mg/L | 1 | 0.100 | <0.000283 | 0 | 81.4 - 116 | 200 | 20 |
| Ethylbenzene | [11] | NA | mg/L | 1 | 0.100 | <0.000621 | 0 | 82.5 - 118 | 200 | 20 |
| Xylene | [12] | NA | mg/L | 1 | 0.300 | <0.000456 | 0 | 77.9 - 117 | 200 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | | MS Result | MSD Result | Units | Dil. | Spike Amount | MS Rec. | MSD Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|---|---|
| Trifluorotoluene (TFT) | [13] | 0.0931 | NA | mg/L | 1 | 0.1 | 93 | 0 | 84 - 109 |
| 4-Bromofluorobenzene (4-BFB) | [14] | 0.0894 | NA | mg/L | 1 | 0.1 | 89 | 0 | 74 - 120 |

**Matrix Spike (MS-1)** Spiked Sample: 96124

QC Batch: 28356
Prep Batch: 24749

Date Analyzed: 2006-07-26
QC Preparation: 2006-07-24

Analyzed By: TP
Prepared By: TS

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Dissolved Calcium | 416 | mg/L | 1 | 50.0 | 361 | 110 | 68.4 - 138 |
| Dissolved Potassium | 73.8 | mg/L | 1 | 50.0 | 22 | 104 | 82 - 129 |
| Dissolved Magnesium | 208 | mg/L | 1 | 50.0 | 147 | 122 | 61.2 - 135 |
| Dissolved Sodium | 633 | mg/L | 1 | 50.0 | 578 | 110 | 81.8 - 125 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dissolved Calcium | 406 | mg/L | 1 | 50.0 | 361 | 90 | 68.4 - 138 | 2 | 20 |
| Dissolved Potassium | 81.3 | mg/L | 1 | 50.0 | 22 | 119 | 82 - 129 | 10 | 20 |
| Dissolved Magnesium | 194 | mg/L | 1 | 50.0 | 147 | 94 | 61.2 - 135 | 7 | 20 |
| Dissolved Sodium | 637 | mg/L | 1 | 50.0 | 578 | 118 | 81.8 - 125 | 1 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Matrix Spike (MS-1)** Spiked Sample: 96125

QC Batch: 28549
Prep Batch: 24970

Date Analyzed: 2006-07-30
QC Preparation: 2006-07-29

Analyzed By: WB
Prepared By: WB

[9]RPD is out of range because a matrix spike duplicate was not prepared.
[10]RPD is out of range because a matrix spike duplicate was not prepared.
[11]RPD is out of range because a matrix spike duplicate was not prepared.
[12]RPD is out of range because a matrix spike duplicate was not prepared.
[13]RPD is out of range because a matrix spike duplicate was not prepared.
[14]RPD is out of range because a matrix spike duplicate was not prepared.

| Param | MS Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit |
|---|---|---|---|---|---|---|---|
| Chloride | 3320 | mg/L | 100 | 12.5 | 1690 | 130 | 25.4 - 171 |
| Sulfate | 767 | mg/L | 100 | 12.5 | 562 | 16 | 0 - 677 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Param | MSD Result | Units | Dil. | Spike Amount | Matrix Result | Rec. | Rec. Limit | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Chloride | 3350 | mg/L | 100 | 12.5 | 1690 | 133 | 25.4 - 171 | 1 | 20 |
| Sulfate | 780 | mg/L | 100 | 12.5 | 562 | 17 | 0 - 677 | 2 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

**Standard (ICV-1)**

QC Batch: 28277 Date Analyzed: 2006-07-24 Analyzed By: MT

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/L | 0.100 | 0.104 | 104 | 85 - 115 | 2006-07-24 |
| Toluene | | mg/L | 0.100 | 0.104 | 104 | 85 - 115 | 2006-07-24 |
| Ethylbenzene | | mg/L | 0.100 | 0.104 | 104 | 85 - 115 | 2006-07-24 |
| Xylene | | mg/L | 0.300 | 0.314 | 105 | 85 - 115 | 2006-07-24 |

**Standard (CCV-1)**

QC Batch: 28277 Date Analyzed: 2006-07-24 Analyzed By: MT

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/L | 0.100 | 0.107 | 107 | 85 - 115 | 2006-07-24 |
| Toluene | | mg/L | 0.100 | 0.105 | 105 | 85 - 115 | 2006-07-24 |
| Ethylbenzene | | mg/L | 0.100 | 0.106 | 106 | 85 - 115 | 2006-07-24 |
| Xylene | | mg/L | 0.300 | 0.311 | 104 | 85 - 115 | 2006-07-24 |

**Standard (ICV-1)**

QC Batch: 28280 Date Analyzed: 2006-07-24 Analyzed By: MT

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/L | 0.100 | 0.0940 | 94 | 85 - 115 | 2006-07-24 |
| Toluene | | mg/L | 0.100 | 0.0946 | 95 | 85 - 115 | 2006-07-24 |
| Ethylbenzene | | mg/L | 0.100 | 0.0957 | 96 | 85 - 115 | 2006-07-24 |
| Xylene | | mg/L | 0.300 | 0.287 | 96 | 85 - 115 | 2006-07-24 |

**Standard (CCV-1)**

QC Batch: 28280 Date Analyzed: 2006-07-24 Analyzed By: MT

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Benzene | | mg/L | 0.100 | 0.0919 | 92 | 85 - 115 | 2006-07-24 |
| Toluene | | mg/L | 0.100 | 0.0928 | 93 | 85 - 115 | 2006-07-24 |
| Ethylbenzene | | mg/L | 0.100 | 0.0933 | 93 | 85 - 115 | 2006-07-24 |
| Xylene | | mg/L | 0.300 | 0.281 | 94 | 85 - 115 | 2006-07-24 |

**Standard (ICV-1)**

QC Batch: 28340 Date Analyzed: 2006-07-26 Analyzed By: LJ

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Total Alkalinity | | mg/L as CaCo3 | 250 | 240 | 96 | 90 - 110 | 2006-07-26 |

**Standard (CCV-1)**

QC Batch: 28340 Date Analyzed: 2006-07-26 Analyzed By: LJ

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Total Alkalinity | | mg/L as CaCo3 | 250 | 240 | 96 | 90 - 110 | 2006-07-26 |

**Standard (ICV-1)**

QC Batch: 28356 Date Analyzed: 2006-07-26 Analyzed By: TP

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Dissolved Calcium | | mg/L | 50.0 | 50.7 | 101 | 90 - 110 | 2006-07-26 |
| Dissolved Potassium | | mg/L | 50.0 | 52.0 | 104 | 90 - 110 | 2006-07-26 |
| Dissolved Magnesium | | mg/L | 50.0 | 49.6 | 99 | 90 - 110 | 2006-07-26 |
| Dissolved Sodium | | mg/L | 50.0 | 50.9 | 102 | 90 - 110 | 2006-07-26 |

**Standard (CCV-1)**

QC Batch: 28356 Date Analyzed: 2006-07-26 Analyzed By: TP

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Dissolved Calcium | | mg/L | 50.0 | 51.2 | 102 | 90 - 110 | 2006-07-26 |
| Dissolved Potassium | | mg/L | 50.0 | 54.6 | 109 | 90 - 110 | 2006-07-26 |
| Dissolved Magnesium | | mg/L | 50.0 | 50.0 | 100 | 90 - 110 | 2006-07-26 |
| Dissolved Sodium | | mg/L | 50.0 | 53.2 | 106 | 90 - 110 | 2006-07-26 |

**Standard (ICV-1)**

QC Batch: 28404 Date Analyzed: 2006-07-25 Analyzed By: SM

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | mg/L | 1000 | 982.0 | 98 | 90 - 110 | 2006-07-25 |

**Standard (CCV-1)**

QC Batch: 28404 Date Analyzed: 2006-07-25 Analyzed By: SM

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Total Dissolved Solids | | mg/L | 1000 | 1001 | 100 | 90 - 110 | 2006-07-25 |

**Standard (ICV-1)**

QC Batch: 28549 Date Analyzed: 2006-07-30 Analyzed By: WB

| Param | Flag | Units | ICVs True Conc. | ICVs Found Conc. | ICVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/L | 12.5 | 12.0 | 96 | 90 - 110 | 2006-07-30 |
| Sulfate | | mg/L | 12.5 | 12.3 | 98 | 90 - 110 | 2006-07-30 |

**Standard (CCV-1)**

QC Batch: 28549 Date Analyzed: 2006-07-30 Analyzed By: WB

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Chloride | | mg/L | 12.5 | 13.0 | 104 | 90 - 110 | 2006-07-30 |
| Sulfate | | mg/L | 12.5 | 12.8 | 102 | 90 - 110 | 2006-07-30 |

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Tel (915) 585-3443
Fax (915) 585-4944

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 6072139

| | |
|---|---|
| Company Name: | Phone #: |
| RICE Operating Company | (505)393-9174 |
| Address: (Street, City, Zip) | Fax #: |
| 122 W Taylor Street - Hobbs, New Mexico 88240 | (505) 397-1471 |
| Contact Person: | |
| Kristin Farris - Pope, Project Scientist | kpope@riceswd.com |
| Invoice to: | |
| (If different from above) | |
| Project #: | Project Name: |
| None Given | EME H-13 Leak |
| Project Location: | Sampler Signature: Rozanne Johnson (505)631-9310 |
| Lea County - New Mexico | rozanne@valornet.com |

| LAB # (LAB USE ONLY) | FIELD CODE | # CONTAINERS | Volume/Amount | MATRIX: WATER | SOIL | AIR | SLUDGE | PRESERVATIVE METHOD: HCL | $HNO_3$ | $NaHSO_4$ | $H_2SO_4$ | ICE | NONE | SAMPLING: DATE 2006 | TIME |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96124 | Monitor Well #1 | 2 | 40 ml | X | | | | X | | | | X | | 7-17 | 8:00 |
| | Monitor Well #1 | 1 | 1L | X | | | | | | | | X | | 7-17 | 8:00 |
| 25 | Monitor Well #2 | 2 | 40 ml | X | | | | X | | | | X | | 7-17 | 9:05 |
| | Monitor Well #2 | 1 | 1L | X | | | | | | | | X | | 7-17 | 9:05 |
| 26 | Monitor Well #3 | 2 | 40 ml | X | | | | X | | | | X | | 7-17 | 10:35 |
| | Monitor Well #3 | 1 | 1L | X | | | | | | | | X | | 7-17 | 10:35 |

### 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, SSSSO4, CO3, HCO3) | Total Dissolved Solids | | Turn Around Time if different from standard | Hold |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | X | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | X | X | X | | | |
| | X | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | X | X | X | | | |
| | X | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | X | X | X | | | |

| Relinquished by: | Date: | Time: | Received by: | Date: | Time: |
|---|---|---|---|---|---|
| Rozanne Johnson | 7-20-06 | 800 | | | |
| Relinquished by: | Date: | Time: | Received by: | Date: | Time: |
| Relinquished by: | Date: | Time: | Received at Laboratory by: Meagan McCord | 7-21-06 | 1105 |

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of COC

**LAB USE ONLY**

Intact Y N
Headspace Y N
Temp 4° C
Log-in Review MM

**REMARKS:**

☐ check if special reporting limits needed

Carrier # BUS 169017 7159

## Cation-Anion Balance Sheet

DATE: 8/16/2006

| Sample # | Calcium ppm | Magnesium ppm | Sodium ppm | Potassium ppm | Alkalinity ppm | Sulfate ppm | Chloride ppm | Nitrate ppm | Fluoride ppm | TDS ppm | EC µMHOs/cm |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 96124 | 361 | 147 | 578 | 22 | 226 | 412 | 1800 | | | 3240 | |
| 96125 | 325 | 129 | 507 | 17.1 | 216 | 562 | 1690 | | | 2710 | |
| 96126 | 308 | 112 | 580 | 19.9 | 262 | 557 | 1510 | | | 3035 | |

| Sample # | Calcium in meq/L | Magnesium in meq/L | Sodium in meq/L | Potassium in meq/L | Alkalinity in meq/L | Sulfate in meq/L | Chloride in meq/L | Nitrate in meq/L | Fluoride in meq/L | **Total Cations in meq/L** | **Total Anions in meq/L** | **Percentage Error** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96124 | 18.01 | 12.10 | 25.14 | 0.56 | 4.52 | 8.58 | 50.78 | | | 55.82 | 63.88 | 13.5 |
| 96125 | 16.22 | 10.62 | 22.05 | 0.44 | 4.32 | 11.70 | 47.67 | | | 49.32 | 63.70 | 25.4 |
| 96126 | 15.37 | 9.22 | 25.23 | 0.51 | 5.24 | 11.60 | 42.60 | | | 50.32 | 59.43 | 16.6 |

| | EC/Cation | EC/Anion | | | | |
|---|---|---|---|---|---|---|
| 96124 | | | range | 0 | to | 0 |
| 96125 | | | range | 0 | to | 0 |
| 96126 | | | range | 0 | to | 0 |

| TDS/EC | TDS/Cat | TDS/Anion | |
|---|---|---|---|
| | 0.58 | 0.51 | needs to be 0.55-0.77 |
| | 0.55 | 0.43 | needs to be 0.55-0.77 |
| | 0.60 | 0.51 | needs to be 0.55-0.77 |

10/9/06

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

# Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: EME H-13 Leak

Project Number: None Given

Location: T20S-R36E-Sec.13H, Lea County, NM

Lab Order Number: 6J12011

Report Date: 10/24/06

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 | 6J12011-01 | Water | 10/09/06 09:05 | 10-12-2006 16:00 |
| Monitor Well #2 | 6J12011-02 | Water | 10/09/06 10:10 | 10-12-2006 16:00 |
| Monitor Well #3 | 6J12011-03 | Water | 10/09/06 11:20 | 10-12-2006 16:00 |



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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 (6J12011-01) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EJ61407 | 10/14/06 | 10/15/06 | 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* | | *83.5 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *84.8 %* | *80-120* | | " | " | " | " | |
| **Monitor Well #2 (6J12011-02) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EJ61407 | 10/14/06 | 10/16/06 | 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* | | *82.0 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *95.8 %* | *80-120* | | " | " | " | " | |
| **Monitor Well #3 (6J12011-03) Water** | | | | | | | | | |
| Benzene | ND | 0.00100 | mg/L | 1 | EJ61407 | 10/14/06 | 10/16/06 | 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* | | *81.8 %* | *80-120* | | " | " | " | " | |
| *Surrogate: 4-Bromofluorobenzene* | | *94.2 %* | *80-120* | | " | " | " | " | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 (6J12011-01) Water** | | | | | | | | | |
| **Total Alkalinity** | **242** | 2.00 | mg/L | 1 | EJ61311 | 10/13/06 | 10/13/06 | EPA 310.1M | |
| **Chloride** | **1430** | 25.0 | " | 50 | EJ61403 | 10/19/06 | 10/19/06 | EPA 300.0 | |
| **Total Dissolved Solids** | **3260** | 10.0 | " | 1 | EJ61404 | 10/14/06 | 10/15/06 | EPA 160.1 | |
| **Sulfate** | **308** | 25.0 | " | 50 | EJ61403 | 10/19/06 | 10/19/06 | EPA 300.0 | |
| **Monitor Well #2 (6J12011-02) Water** | | | | | | | | | |
| **Total Alkalinity** | **222** | 2.00 | mg/L | 1 | EJ61311 | 10/13/06 | 10/13/06 | EPA 310.1M | |
| **Chloride** | **1430** | 25.0 | " | 50 | EJ61403 | 10/19/06 | 10/19/06 | EPA 300.0 | |
| **Total Dissolved Solids** | **3720** | 10.0 | " | 1 | EJ61404 | 10/14/06 | 10/15/06 | EPA 160.1 | |
| **Sulfate** | **284** | 25.0 | " | 50 | EJ61403 | 10/19/06 | 10/19/06 | EPA 300.0 | |
| **Monitor Well #3 (6J12011-03) Water** | | | | | | | | | |
| **Total Alkalinity** | **238** | 2.00 | mg/L | 1 | EJ61311 | 10/13/06 | 10/13/06 | EPA 310.1M | |
| **Chloride** | **1380** | 25.0 | " | 50 | EJ61403 | 10/19/06 | 10/19/06 | EPA 300.0 | |
| **Total Dissolved Solids** | **2990** | 10.0 | " | 1 | EJ61404 | 10/14/06 | 10/15/06 | EPA 160.1 | |
| **Sulfate** | **393** | 25.0 | " | 50 | EJ61403 | 10/19/06 | 10/19/06 | EPA 300.0 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 (6J12011-01) Water** | | | | | | | | | |
| **Calcium** | **331** | 4.05 | mg/L | 50 | EJ61604 | 10/13/06 | 10/16/06 | EPA 6010B | |
| **Magnesium** | **148** | 1.80 | " | " | " | " | " | " | |
| **Potassium** | **17.0** | 0.600 | " | 10 | " | " | " | " | |
| **Sodium** | **488** | 10.8 | " | 250 | " | " | " | " | |
| **Monitor Well #2 (6J12011-02) Water** | | | | | | | | | |
| **Calcium** | **288** | 4.05 | mg/L | 50 | EJ61604 | 10/13/06 | 10/16/06 | EPA 6010B | |
| **Magnesium** | **130** | 1.80 | " | " | " | " | " | " | |
| **Potassium** | **11.8** | 0.600 | " | 10 | " | " | " | " | |
| **Sodium** | **457** | 10.8 | " | 250 | " | " | " | " | |
| **Monitor Well #3 (6J12011-03) Water** | | | | | | | | | |
| **Calcium** | **270** | 4.05 | mg/L | 50 | EJ61604 | 10/13/06 | 10/16/06 | EPA 6010B | |
| **Magnesium** | **127** | 1.80 | " | " | " | " | " | " | |
| **Potassium** | **14.2** | 0.600 | " | 10 | " | " | " | " | |
| **Sodium** | **500** | 10.8 | " | 250 | " | " | " | " | |







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## 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 EJ61407 - EPA 5030C (GC)** | | | | | | | | | | |
| **Blank (EJ61407-BLK1)** | | | | Prepared: 10/14/06 Analyzed: 10/15/06 | | | | | | |
| 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* | *33.5* | | *ug/l* | *40.0* | | *83.8* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *35.0* | | " | *40.0* | | *87.5* | *80-120* | | | |
| **LCS (EJ61407-BS1)** | | | | Prepared: 10/14/06 Analyzed: 10/15/06 | | | | | | |
| Benzene | 0.0451 | 0.00100 | mg/L | 0.0500 | | 90.2 | 80-120 | | | |
| Toluene | 0.0430 | 0.00100 | " | 0.0500 | | 86.0 | 80-120 | | | |
| Ethylbenzene | 0.0513 | 0.00100 | " | 0.0500 | | 103 | 80-120 | | | |
| Xylene (p/m) | 0.0929 | 0.00100 | " | 0.100 | | 92.9 | 80-120 | | | |
| Xylene (o) | 0.0423 | 0.00100 | " | 0.0500 | | 84.6 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *34.4* | | *ug/l* | *40.0* | | *86.0* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *43.8* | | " | *40.0* | | *110* | *80-120* | | | |
| **Calibration Check (EJ61407-CCV1)** | | | | Prepared: 10/14/06 Analyzed: 10/17/06 | | | | | | |
| Benzene | 49.9 | | ug/l | 50.0 | | 99.8 | 80-120 | | | |
| Toluene | 43.1 | | " | 50.0 | | 86.2 | 80-120 | | | |
| Ethylbenzene | 42.0 | | " | 50.0 | | 84.0 | 80-120 | | | |
| Xylene (p/m) | 83.7 | | " | 100 | | 83.7 | 80-120 | | | |
| Xylene (o) | 41.2 | | " | 50.0 | | 82.4 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *36.1* | | " | *40.0* | | *90.2* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *34.3* | | " | *40.0* | | *85.8* | *80-120* | | | |
| **Matrix Spike (EJ61407-MS1)** | **Source: 6J12015-01** | | | Prepared: 10/14/06 Analyzed: 10/17/06 | | | | | | |
| Benzene | 0.0501 | 0.00100 | mg/L | 0.0500 | ND | 100 | 80-120 | | | |
| Toluene | 0.0440 | 0.00100 | " | 0.0500 | ND | 88.0 | 80-120 | | | |
| Ethylbenzene | 0.0416 | 0.00100 | " | 0.0500 | ND | 83.2 | 80-120 | | | |
| Xylene (p/m) | 0.0914 | 0.00100 | " | 0.100 | ND | 91.4 | 80-120 | | | |
| Xylene (o) | 0.0427 | 0.00100 | " | 0.0500 | ND | 85.4 | 80-120 | | | |
| *Surrogate: a,a,a-Trifluorotoluene* | *35.5* | | *ug/l* | *40.0* | | *88.8* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *40.2* | | " | *40.0* | | *100* | *80-120* | | | |

Rice Operating Co.
122 W. Taylor
Hobbs NM, 88240

Project: EME H-13 Leak
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

## 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 EJ61407 - EPA 5030C (GC)** | | | | | | | | | | |
| **Matrix Spike Dup (EJ61407-MSD1)** | **Source: 6J12015-01** | | | Prepared: 10/14/06 Analyzed: 10/17/06 | | | | | | |
| Benzene | 0.0502 | 0.00100 | mg/L | 0.0500 | ND | 100 | 80-120 | 0.00 | 20 | |
| Toluene | 0.0442 | 0.00100 | " | 0.0500 | ND | 88.4 | 80-120 | 0.454 | 20 | |
| Ethylbenzene | 0.0412 | 0.00100 | " | 0.0500 | ND | 82.4 | 80-120 | 0.966 | 20 | |
| Xylene (p/m) | 0.0913 | 0.00100 | " | 0.100 | ND | 91.3 | 80-120 | 0.109 | 20 | |
| Xylene (o) | 0.0437 | 0.00100 | " | 0.0500 | ND | 87.4 | 80-120 | 2.31 | 20 | |
| *Surrogate: a,a,a-Trifluorotoluene* | *35.4* | | *ug/l* | *40.0* | | *88.5* | *80-120* | | | |
| *Surrogate: 4-Bromofluorobenzene* | *41.0* | | " | *40.0* | | *102* | *80-120* | | | |

| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 EJ61311 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EJ61311-BLK1)** | | | | Prepared & Analyzed: 10/13/06 | | | | | | |
| Total Alkalinity | ND | 2.00 | mg/L | | | | | | | |
| Carbonate Alkalinity | ND | 0.100 | " | | | | | | | |
| Bicarbonate Alkalinity | ND | 2.00 | " | | | | | | | |
| Hydroxide Alkalinity | ND | 0.100 | " | | | | | | | |
| **LCS (EJ61311-BS1)** | | | | Prepared: 10/13/06 Analyzed: 10/20/06 | | | | | | |
| Bicarbonate Alkalinity | 196 | 2.00 | mg/L | 200 | | 98.0 | 85-115 | | | |
| **Duplicate (EJ61311-DUP1)** | | **Source: 6J12011-01** | | Prepared & Analyzed: 10/13/06 | | | | | | |
| Total Alkalinity | 238 | 2.00 | mg/L | | 242 | | | 1.67 | 20 | |
| **Reference (EJ61311-SRM1)** | | | | Prepared & Analyzed: 10/13/06 | | | | | | |
| Total Alkalinity | 250 | | mg/L | 250 | | 100 | 90-110 | | | |
| **Batch EJ61403 - General Preparation (WetChem)** | | | | | | | | | | |
| **Blank (EJ61403-BLK1)** | | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Sulfate | ND | 0.500 | mg/L | | | | | | | |
| Chloride | ND | 0.500 | " | | | | | | | |
| **LCS (EJ61403-BS1)** | | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Sulfate | 9.55 | 0.500 | mg/L | 10.0 | | 95.5 | 80-120 | | | |
| Chloride | 9.62 | 0.500 | " | 10.0 | | 96.2 | 80-120 | | | |
| **Calibration Check (EJ61403-CCV1)** | | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Chloride | 10.5 | | mg/L | 10.0 | | 105 | 80-120 | | | |
| Sulfate | 10.1 | | " | 10.0 | | 101 | 80-120 | | | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 EJ61403 - General Preparation (WetChem)** | | | | | | | | | | |
| **Duplicate (EJ61403-DUP1)** | **Source: 6J12011-01** | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Chloride | 1430 | 25.0 | mg/L | | 1430 | | | 0.00 | 20 | |
| Sulfate | 291 | 25.0 | " | | 308 | | | 5.68 | 20 | |
| **Duplicate (EJ61403-DUP2)** | **Source: 6J12016-02** | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Chloride | 690 | 12.5 | mg/L | | 692 | | | 0.289 | 20 | |
| Sulfate | 236 | 12.5 | " | | 237 | | | 0.423 | 20 | |
| **Matrix Spike (EJ61403-MS1)** | **Source: 6J12011-01** | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Sulfate | 781 | 25.0 | mg/L | 500 | 308 | 94.6 | 80-120 | | | |
| Chloride | 2040 | 25.0 | " | 500 | 1430 | 122 | 80-120 | | | S-07 |
| **Matrix Spike (EJ61403-MS2)** | **Source: 6J12016-02** | | | Prepared & Analyzed: 10/19/06 | | | | | | |
| Chloride | 979 | 12.5 | mg/L | 250 | 692 | 115 | 80-120 | | | |
| Sulfate | 476 | 12.5 | " | 250 | 237 | 95.6 | 80-120 | | | |
| **Batch EJ61404 - Filtration Preparation** | | | | | | | | | | |
| **Blank (EJ61404-BLK1)** | | | | Prepared: 10/14/06 Analyzed: 10/15/06 | | | | | | |
| Total Dissolved Solids | ND | 10.0 | mg/L | | | | | | | |
| **Duplicate (EJ61404-DUP1)** | **Source: 6J12011-01** | | | Prepared: 10/14/06 Analyzed: 10/15/06 | | | | | | |
| Total Dissolved Solids | 3380 | 10.0 | mg/L | | 3260 | | | 3.61 | 5 | |
| **Duplicate (EJ61404-DUP2)** | **Source: 6J12016-02** | | | Prepared: 10/14/06 Analyzed: 10/15/06 | | | | | | |
| Total Dissolved Solids | 1850 | 10.0 | mg/L | | 1900 | | | 2.67 | 5 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | 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 EJ61604 - 6010B/No Digestion** | | | | | | | | | | |
| **Blank (EJ61604-BLK1)** | | | | Prepared: 10/13/06 Analyzed: 10/16/06 | | | | | | |
| Calcium | ND | 0.0810 | mg/L | | | | | | | |
| Magnesium | ND | 0.0360 | " | | | | | | | |
| Potassium | ND | 0.0600 | " | | | | | | | |
| Sodium | ND | 0.0430 | " | | | | | | | |
| **Calibration Check (EJ61604-CCV1)** | | | | Prepared: 10/13/06 Analyzed: 10/16/06 | | | | | | |
| Calcium | 1.99 | | mg/L | 2.00 | | 99.5 | 85-115 | | | |
| Magnesium | 2.20 | | " | 2.00 | | 110 | 85-115 | | | |
| Potassium | 1.94 | | " | 2.00 | | 97.0 | 85-115 | | | |
| Sodium | 1.79 | | " | 2.00 | | 89.5 | 85-115 | | | |
| **Duplicate (EJ61604-DUP1)** | | **Source: 6J12001-04** | | Prepared: 10/13/06 Analyzed: 10/16/06 | | | | | | |
| Calcium | 0.426 | 0.0810 | mg/L | | 0.427 | | | 0.234 | 20 | |
| Magnesium | 0.432 | 0.0360 | " | | 0.422 | | | 2.34 | 20 | |
| Potassium | 0.596 | 0.0600 | " | | 0.582 | | | 2.38 | 20 | |
| Sodium | 0.890 | 0.0430 | " | | 0.866 | | | 2.73 | 20 | |







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| | | |
|---|---|---|
| Rice Operating Co. | Project: EME H-13 Leak | Fax: (505) 397-1471 |
| 122 W. Taylor | Project Number: None Given | |
| Hobbs NM, 88240 | Project Manager: Kristin Farris-Pope | |

## Notes and Definitions

| | |
|---|---|
| S-07 | Recovery outside Laboratory historical or method prescribed limits. |
| 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: Raland K Tuttle Date: 10/24/2006

Raland K. Tuttle, Lab Manager
Celey D. Keene, Lab Director, Org. Tech Director
Peggy Allen, QA Officer
Jeanne Mc Murrey, Inorg. Tech Director
LaTasha Cornish, Chemist
Sandra Sanchez, Lab Tech.









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West I-20 East
Odessa, Texas 79765
Phone: 432-563-1800
Fax: 432-563-1713

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

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
Email: rozanne@valornet.com

Project Name: EME H-13 Leak
Project Number:
Project Loc: T20S-R36E-Sec13H, Lea County NM
PO Number:

10/12/2006

| LAB # (lab use only) | FIELD CODE | Date Sampled | Time Sampled | No. of Containers | Preservative: Ice | Preservative: $HNO_3$ | Preservative: HCl (2) 40 ml glass vials | Preservative: NaOH | Preservative: $H_2SO_4$ | Preservative: None (1) 1 Liter HDPE | Preservative: Other (Specify) | Matrix: Water | Matrix: Sludge | Matrix: Soil | Matrix: Other (specify) | Analyze For: TCLP: TPH 418.1 8015M 1005 1005 | TOTAL: Cations (Ca, Mg, Na, K) | Anions (Cl, SO4, CO3, HCO3) | 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) | Standard TAT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| -01 | Monitor Well #1 | 10/9/2006 | 9:05 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | | | | X |
| -02 | Monitor Well #2 | 10/9/2006 | 10:10 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | | | | X |
| -03 | Monitor Well #3 | 10/9/2006 | 11:20 | 3 | X | | 2 | | | 1 | | X | | | | | X | X | | | | | X | | | X | | | | | X |

Special Instructions:

PLEASE Email RESULTS TO: kpope@riceswd.com; mfranks@riceswd.com
rozanne@valornet.com

| Relinquished by: | Date | Time | Received by: | Date | Time |
|---|---|---|---|---|---|
| Rozanne Johnson | 10/12/06 | 4:00 | | | |
| Relinquished by: | Date | Time | Received by ELOT: | Date | Time |
| | | | Laura Wood | 10/12/06 | 4:00 |

Sample Containers Intact? Y N
Labels on container? Y N
Custody Seals Containers / Cooler
Temperature Upon Receipt: 2.0

Laboratory Comments:

# Environmental Lab of Texas

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

t: Rice Dp.

e/ Time: 10/12/06 4:00

ID # : 6512011

ials: CH

### Sample Receipt Checklist

| | | Yes | No | | Client Initials |
|---|---|---|---|---|---|
| | Temperature of container/ cooler? | Yes | No | 2.0 °C | |
| | Shipping container in good condition? | Yes | No | | |
| | Custody Seals intact on shipping container/ cooler? | Yes | No | Not Present | |
| | Custody Seals intact on sample bottles/ container? | Yes | No | Not Present | |
| | Chain of Custody present? | Yes | No | | |
| | Sample instructions complete of Chain of Custody? | Yes | No | | |
| | Chain of Custody signed when relinquished/ received? | Yes | No | | |
| | Chain of Custody agrees with sample label(s)? | Yes | No | ID written on Cont./ Lid | |
| | 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 | 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