AP - 43

AMENDED

STAGE 1 & 2 WORKPLANS

DATE:

8-25-08

Hansen, Edward J., EMNRD

From: Hack Conder [hconder@riceswd.com]
Sent: Tuesday, May 12, 2009 2:20 PM
To: Hansen, Edward J., EMNRD
Cc: 'Hall, Sharon'; 'Katie Jones'
Subject: AP43 corrected AP

Ed,

I am requesting an addendum to AP43 in two sections 5 and 7.3 I would like to ad the following sentence to the last paragraph in section 5.

Based on the fact that remaining chloride concentrations are low (averaging 310 milligrams per kilogram) and a clay liner will be installed at the site it is unlikely that vadose zone conditions will impact groundwater.

I would like to ad the following sentence to the last paragraph in section 7.3.

Total volume and chloride content of the recovered groundwater will be measured prior to being utilized in pipeline maintenance operations.

Thanks

Hack Conder
Enviromental Manager
Rice Operating Company
575-393-9174
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ARCADIS

Infrastructure, environment, facilities

Imagine the result

Eunice Monument Eumont (EME) Jct. A-20

NMOCD AP-43

Stage 1 Abatement Plan Report and Stage 2 Abatement Plan Proposal

Rice Operating Company

Hobbs, New Mexico

ARCADIS

Infrastructure, buildings, environment, communications

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Ed Hansen
New Mexico Oil Conservation Division
1220 So. Saint Francis Drive
Santa Fe, New Mexico 87505

Certified Mail Receipt No. 7002 2410 0001 5812 9978

Subject:
Stage 1 Abatement Plan Report and Stage 2 Abatement Plans
Eunice Monument Eumont (EME) M-16-1 and A-20
NMOCD Case # AP-42 and AP-43

Date:
August 25, 2008

Contact:
Sharon Hall

Phone:
432 687-5400

Email:
shall@arcadis-us.com

Dear Mr. Hansen,

Respectfully submitted on behalf of Rice Operating Company are the above-referenced Stage 1 Abatement Plan Reports and Stage 2 Abatement Plan Proposals. Please let Hack or I know if you have any questions or need additional information.

Very Truly Yours,

ARCADIS U.S, Inc.

Sharon E. Hall

Sharon E. Hall
Associate Vice President

Copies:
Hack Conder- Rice Operating Company

Attachment:
EME M-16-1 Stage 1 Abatement Plan Report and Stage 2 Abatement Plan Proposal with CD
EME A-20 Stage 1 Abatement Plan Report and Stage 2 Abatement Plan Proposal with CD

ARCADIS

Sharon E. Hall
Associate Vice President

EME Jct. A-20 Stage 1 Abatement Plan Report and Stage 2 Abatement Plan Proposal
Rice Operating Company
Hobbs, New Mexico

Prepared for:
Rice Operating Company

Prepared by:
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Our Ref.:
MT000857.0001.00001

Date:
August 25, 2008

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1. Executive Summary

The subject site is a junction box on the Eunice Monument Eumont (EME) Salt Water Disposal System, operated by Rice Operating Company (ROC). The site is located in Section 20, Township 20 south, Range 37 east, Lea County, New Mexico, near the town of Monument Oil Center (Figure 1). The disposal system transports produced water from oil and gas leases to a permitted well for disposal by subsurface injection.

Identification of soil impacts occurred during line replacement being performed as part of the approved Junction Box Upgrade Program. Soil investigation at the A-20 junction box was initiated in October 2001 with a back hoe by trenching to 12 feet below ground surface (bgs) in three locations. To further delineate depth of impact, a soil boring was completed at the site in October 2001 and additional trenches installed and sampled in December 2001.

On February 28, 2002, a monitor well (MW-1) was installed southwest of Jct. A-20 (Figure 2). Water level was recorded at 24.53 feet below measuring point. The monitor well has been sampled quarterly since installation. Four additional monitor wells have been installed at the site; MW-2 and MW-3 were installed February 28 and March 1, 2006 and MW-4 and MW-5 were installed May 31, 2006.

Soil impacts at the site include chlorides and hydrocarbons. Groundwater samples exhibit elevated chloride concentrations and hydrocarbons in monitor well MW-1. This Stage 1 Report and Stage 2 Abatement Plan propose excavation of hydrocarbon impacted soils and remediation of soils by treatment with appropriate amendments. Following treatment of hydrocarbon impacted soils, excavated areas will be backfilled and the site restored with native soils and seeding.

2. Chronology of Events

The following summarizes the chronology of events at the subject site:

- Initial delineation began on October 1, 2001 and was performed as part of the Junction Box Upgrade Program;
- A soil boring was installed on October 4, 2001 to a depth of 23 feet bgs;
- Soil samples were collected from excavations on December 27, 2001 and January 8, 2002;

- A Notice of Groundwater Impact, dated January 29, 2002, was submitted to New Mexico Oil Conservation Division (NMOCD);
- On February 28, 2002, a monitor well was installed southeast of Jct. A-20. The monitor well has been sampled quarterly since installation, and a Monitor Well Report has been submitted annually;
- An Investigation & Characterization Plan was submitted to the NMOCD on March 21, 2005;
- On May 05, 2005, Mr. Daniel Sanchez of the NMOCD wrote a letter to ROC indicating that several sites require abatement plans pursuant to NMOCD Rule 19;
- A Stage 1 Abatement Plan was submitted to NMOCD on June 23, 2005 and approved as administratively complete on November 18, 2005;
- Public Notice was submitted to the NMOCD on November 28, 2005 and published in the *Albuquerque Journal* and *Hobbs News Sun* on December 10, 2005;
- NMOCD approved the Abatement Plan Proposal on February 21, 2006;
- Stage 1 Abatement Plan activities were performed on February 28, 2006. Monitor wells MW-2 and MW-3 were installed southeast and southwest of the Jct. A-20 and soil and groundwater samples were collected;
- On May 31, 2006, monitor wells MW-4 and MW-5 were installed southeast and northwest of the Jct. A-20 and soil and groundwater samples were collected;
- On January 30, 2007, a Stage 1 Abatement Plan Report and Stage 2 Abatement Plan was submitted to NMOCD; and
- On July 1, 2008, the Stage 1 Abatement Plan Report and Stage 2 Abatement Plan was conditionally deemed administratively complete with recommendations for amendments to plan including:
    - Installation of a clay liner;

- Placement of 4 feet of clean soil (less than 500 milligrams per kilogram) over the clay liner; and

- An estimation of chloride mass related to the release at the site and a plan for removal of that mass.

3. Background

Initial delineation began on October 1, 2001, and was performed as part of the Junction Box Upgrade Program. Soil samples were collected and analyzed in the field for chlorides and total petroleum hydrocarbons (TPH). A soil boring was installed on October 4, 2001 to a depth of 23 feet bgs, and the soil sample collected from the depth of 23 feet bgs was submitted for laboratory analysis for gasoline range organics (GRO), diesel range organics (DRO), benzene, toluene, ethylbenzene and xylenes (BTEX) and chlorides. A soil sample was collected from a sample location on December 27, 2001 that was excavated to a depth of 22 feet bgs. The soil sample collected from a depth of 18 feet bgs was submitted for laboratory analysis for GRO, DRO, BTEX and chlorides. A Notice of Groundwater Impact, dated January 29, 2002, was submitted to NMOCD. On February 28, 2002, a monitor well was installed southeast of Jct. A-20. A groundwater sample was submitted for laboratory analysis for chlorides. A soil sample was collected from the monitor well boring from a depth of 25 feet bgs and submitted for laboratory analysis for chlorides, GRO, DRO and BTEX. The monitor well has been sampled quarterly since installation, and a Monitor Well Report has been submitted annually. An Investigation & Characterization Plan was submitted to the NMOCD on March 21, 2005. On May 05, 2005, Mr. Daniel Sanchez of the NMOCD wrote a letter to ROC indicating that several sites (including the subject site EME Jct. A-20) required abatement plans pursuant to NMOCD Rule 19.

The Stage 1 Abatement Plan Proposal proposed site soil and groundwater investigation activities including: performing a one-mile water well inventory; further delineation of the vertical and lateral extent of soil impact; and investigation of groundwater impacts. The planned activities were performed in February, March and May 2006 following the public comment period and receipt of NMOCD's final approval of the Stage 1 Abatement Plan Proposal.

On January 30, 2007, a Stage 1 Abatement Plan Report and Stage 2 Abatement Plan was submitted to NMOCD. On July 1, 2008 the Stage 1 Abatement Plan Report and

Stage 2 Abatement Plan was conditionally deemed administratively complete with recommendations for amendments to plan including:

- Installation of a clay liner;
- Placement of 4 feet of clean soil (less than 500 milligrams per kilogram) over the clay liner; and
- An estimation of chloride mass related to the release at the site and a plan for removal of that mass.

4. Geology and Hydrogeology

4.1 Regional and Local Geology

The subject site lies in southern Lea County in the Pecos valley section of the Great Plains physiographic province. The site lies within the Eunice Plain, which is bounded by the South Plain to the south, the Rattlesnake Ridge to the east, the High Plains to the northeast, the Laguna Valley and Gramma Ridge Area to the northwest, the San Simon Ridge and San Simon Sale to the west and the Antelope Ridge Area to the southwest. An estimated 80% of Southern Lea County is covered by sand. Shin oak, bear grass and burr grass dominate the areas of sand cover. Elsewhere, the vegetation is grama grass, burr grass and mesquite.

Monument Draw is the only major surface drainage feature in southern Lea County. The draw runs north and south slightly over two miles east of the EME Jct. A-20 junction box. Generally, the topography in the area of the site slopes gently to Monument Draw at an approximate dip of 35 feet per mile.

4.2 Regional and Local Hydrogeology

The Ogallala Formation is the principal source of groundwater in the subject area. Depth to groundwater in Lea County ranges from approximately 12 feet to approximately 300 feet bgs. The Ogallala consists of predominantly coarse fluvial conglomerate and sandstone and fine-grained eolian siltstone and clay. Where present in the subject area, the Ogallala unconformably overlies Triassic redbeds. The regional groundwater gradient is to the east/southeast. The local groundwater gradient is very flat and to the southwest. Depth to groundwater at the subject site is approximately 24

feet bgs. Subsurface geology in the subject area consists of interbedded loose sand and calcareous sand and clay. Boring lithology logs are included in Appendix A.

5. Subsurface Soils

Soil delineation field activities were conducted beginning October 2001. Initial delineation was begun by ROC as part of the Junction Box Upgrade Program. Four sample locations were excavated to depths of 15-25 feet. Soil samples were analyzed in the field for chlorides using field-adapted Method 9253. Field chloride concentrations are shown in Table 1 and Figure 3. The presence of hydrocarbons was noted in field observations.

To further delineate depth of impact, a soil boring was installed to a depth of 23 feet bgs, and the soil sample collected from the depth of 23 feet bgs was submitted for laboratory analysis for GRO, DRO, (BTEX) and chlorides. The DRO concentration was 24 mg/kg, and no other hydrocarbon compounds analyzed were detected. The chloride concentration was 213 mg/kg (Table 1). The presence of hydrocarbons was noted in field observations.

Additional soil samples were collected from excavation to a depth of 22 feet bgs locations on December 27, 2001. The presence of hydrocarbons was noted in field observations. A soil sample collected from a depth of 18 feet bgs was submitted for laboratory analysis for chlorides GRO, DRO, BTEX and chlorides. Analytical results are as follows: GRO 881 mg/kg; DRO 7,090 mg/kg; chlorides 206 mg/kg; benzene 0.006 mg/kg; toluene 0.660 mg/kg, ethylbenzene 4.81 mg/kg and xylenes 16.5 mg/kg.

A monitor well (MW-1) was completed on February 28, 2002 and a soil sample from the monitor well boring at a depth of 25 feet bgs was submitted on March 5, 2002 for laboratory analysis for GRO, DRO, BTEX and chlorides. Elevated concentrations of hydrocarbons including GRO (111 mg/kg), and BTEX (ethylbenzene 0.0284 mg/kg and p/m xylenes 0.122 mg/kg) were identified. The chloride concentration was 248 mg/kg.

The extent of delineation by backhoe and soil boring locations is shown in Figure 2.

6. Groundwater Quality

On February 28, 2002, MW-1 was installed southeast of Jct. A-20 (Figure 2). The water level was recorded at 24.53 feet bgs. The monitor well has been sampled quarterly since installation.

In accordance with the Stage 1 Abatement Plan, monitor wells MW-2 and MW-3 were installed on February 28 and March 1, 2006 and MW-4 and MW-5 were installed on May 31, 2006. Static water levels were recorded for the existing monitor well, MW-1, and the new monitor wells MW-2, MW-3, MW-4 and MW-5. The measurements are presented in Table 2.

MW-1, installed in February 2002 has been monitored quarterly since its installation. Chloride concentrations are above the New Mexico Water Quality Control Commission (WQCC) standard of 250 milligrams per liter (mg/L). Free product (a skim of oil) is observed and BTEX has been detected in samples collected from MW-1. Monitor Well logs are included in Appendix B. Analytical results for MW-1 is presented in Table 2. Concentrations of inorganic compounds including chlorides, TDS, sulfate and sodium are elevated in the groundwater samples collected from monitor well MW-1. Wells intended as background monitor wells (MW-2 and MW-4) and downgradient monitor wells (MW-3 and MW-5) also contain elevated concentrations of these compounds.

The analytical results for MW-2, MW-3, MW-4 and MW-5 are presented in Table 2. Chloride concentrations ranged from 1,970 to 3,840 mg/L in groundwater samples collected from these monitor wells. No free product has been observed and BTEX has not been detected above the laboratory reporting limits.

6.1 Hydrocarbons in Groundwater

Free-phase hydrocarbons are present at the site. Free-phase hydrocarbons (a skim of oil on the groundwater) are monitored and removed weekly using absorbent socks.

A groundwater sample from MW-1 was collected and analyzed for BTEX on March 5, 2002, following installation of the monitor well. Toluene, ethylbenzene and xylenes were detected at low concentrations well below the New Mexico drinking water standards (Table 2). The presence of hydrocarbons (a skim of oil) was noted in monitor well MW-1 during each of the 2006 quarterly sampling events. BTEX concentrations are shown in Table 2. Only benzene concentrations exceeded the New

Mexico drinking water standards. BTEX was not detected in monitor wells MW-2, MW-3, MW-4 and MW-5.

7. Stage 2 Abatement Plan

7.1 Remediation of Soil

Soils with a chloride concentration in excess of 1,000 mg/kg and a TPH concentration in excess of 1,000 mg/kg will be excavated and evaluated for remediation or disposal. If TPH impacted soils remain in the base of the excavation they will be treated with appropriate amendments and the (fenced) excavation will remain open to allow aeration.

As requested by the NMOCD in their conditional approval as administratively complete of the Stage 1 Abatement Plan Report and Stage 2 Abatement Plan submitted on January 30, 2007, the following revisions are made to the Stage 2 Abatement Plan:

1) The excavated portion of the site will be covered with at least one foot of clay (with a saturated hydraulic conductivity at or less than 1.0e-07 cm / sec and compacted to 90% to 95% standard Proctor density) or a geosynthetic clay liner (GCL) (with a saturated hydraulic conductivity of less than 3.0e-09 cm / sec). The subgrade will be appropriately prepared to accept the clay (compacted) or GCL (compacted and free of stones greater than ½ inch in any dimension, protrusions, etc.).
2) The clay or GCL will be covered with at least four feet of compacted (75% to 85% standard Proctor density) non-contaminated soil (less than 500 mg/kg), including the background thickness of topsoil or at least one foot of suitable material to establish vegetation for the site.
3) The soil cover will be constructed to the existing grade of the site and to prevent ponding of water and the erosion of the cover material.
4) Upon completion of closure, the excavated area will be substantially re-vegetated with native vegetation and the vegetation maintained through two successive growing seasons.

Areas supporting vegetation will not be disturbed.

7.2 Groundwater Monitoring

Monitor well MW-1 will be monitored for BTEX until BTEX concentrations in groundwater are below New Mexico Water Quality Control Commission standards for

four quarters. No other constituents will be monitored. BTEX has not been detected in monitor wells MW-2, MW-3, MW-4, and MW-5

Groundwater in the area has been reported as regionally impacted with chlorides and unusable as early as 1952 (Groundwater Report 6). No water wells were identified in Township 20, Section 37 in the USGS and state databases.

No further action regarding chloride impacted groundwater was proposed for this site in the Stage 1 Abatement Plan Report and Stage 2 Abatement Plan submitted on January 30, 2007.

As requested by the NMOCD in their conditional approval as administratively complete of the Stage 1 Abatement Plan Report and Stage 2 Abatement Plan submitted on January 30, 2007, the following revisions are made to the Stage 2 Abatement Plan:

This Stage 2 Abatement Plan is revised to include an estimation of the chloride mass that may have impacted groundwater as a results of the release from the junction box and a plan for the removal of that mass.

7.3 Chloride Mass Calculation and Chloride Mass Removal Work Plan

Calculations used to estimate the chloride mass in groundwater that may have resulted from releases from the former junction box is detailed in the table below. The size of the impacted area is conservatively assumed to be the combined width and length of the excavation multiplied by a factor of 10 (the estimated horizontal dispersivity factor). This total area is then multiplied by the thickness of the aquifer (15 feet) and the estimated porosity (25%) resulting in a total saturated pore space volume.

The increase in chloride concentrations in groundwater is calculated by subtracting the lowest chloride concentration at the site (MW-1, 1,830 mg/L) from the highest measured chloride concentration identified at the site (MW-4, 3,020 mg/L). This net difference in chloride concentrations conservatively reflects the net impact to groundwater at the site resulting from releases from the junction boxes. It does not take into account other sources or regional groundwater conditions. Impacted groundwater conditions are documented in this area since the 1950's. (Ground-Water Report 6; Geology and Ground-Water Conditions in Southern Lea County, New Mexico; Alexander Nicholson, Jr. and Alfred Clebsch, Jr., U.S. Geological Survey in cooperation with the State Bureau of Mines and Mineral Resources Division of the New Mexico Institute of Mining and Technology and with the State engineer.)

The net difference in the concentration of chlorides is multiplied by the total saturated pore space volume resulting in the estimated chloride mass as shown in the following table.

Estimate of Chloride Mass

Parameter	**Value**	**Description of equations used**
Release Area	1600 ft^2	Physical measurement of junction box excavation
Longitudinal Dispersivity	10	Professional estimate for factoring the plume length
Aquifer Thickness	15 ft	Based on regional groundwater data*
Porosity	25%	Professional estimate of pore volume
Volume of impacted groundwater below former junction boxes	60,000 ft^3	Multiplication of parameters listed above
Volume of impacted groundwater below former junction boxes	1,699010.8 L	Unit conversion of above value to liters
Averaged increase in on-site chloride concentrations	1,190 mg/L	Difference between concentrations in MW-2 and MW-5
Total Chloride Mass	**2,2021.82 kg**	Multiplication of two parameters above

* Ground-Water Report 6; Geology and Ground-Water Conditions in Southern Lea County, New Mexico; Nicholson and Clebsch

At a pumping rate of 1 gallon per minute, the groundwater recovery system could extract 1.098 kg per day. At that rate it will take approximately 1,841 days to remove the 2, 021 82 kg of chloride mass. The groundwater will be extracted from a newly-installed 4-inch recovery well. The recovery well design is shown in Appendix D.

Installation of the groundwater recovery system is contingent on approval of the New Mexico Office of the State Engineer and landowner approval in accordance with NMSA 1978 Article 72-12-3(B) (Article 1 1-17). The volume of recovery and duration to completion of recovery is based on the wells yield that can be sustained during pumping. If the recovery volumes are not sufficient to complete the chloride mass recovery in 684 days, NMOCD will be notified and informed of the anticipated duration of recovery operations. Additionally, second 4-inch recovery well may be installed and equipped with a pump.

7.4 Reporting

A Stage 2 Abatement Plan Report detailing investigation and remediation activities and results will be submitted to the NMOCD. The report will include recommendations for further action if necessary or for closure of the site.

8. Quality Assurance/Quality Control

Samples will be collected and analyzed in accordance with accepted practices and USEPA methods.

For collection of groundwater samples, conductivity, pH and temperature will be measured until three successive readings show stabilization. Successive readings within 5% for conductivity, 0.1 pH units for pH and 0.5°C for temperature will be confirmed before each sample is collected.

Purge water and decontamination water will be collected, contained and transported to an ROC disposal well for disposal.

All samples, both soil and groundwater, will be immediately placed on ice and maintained at 4° C until received by the laboratory.

8.1 Decontamination Procedures

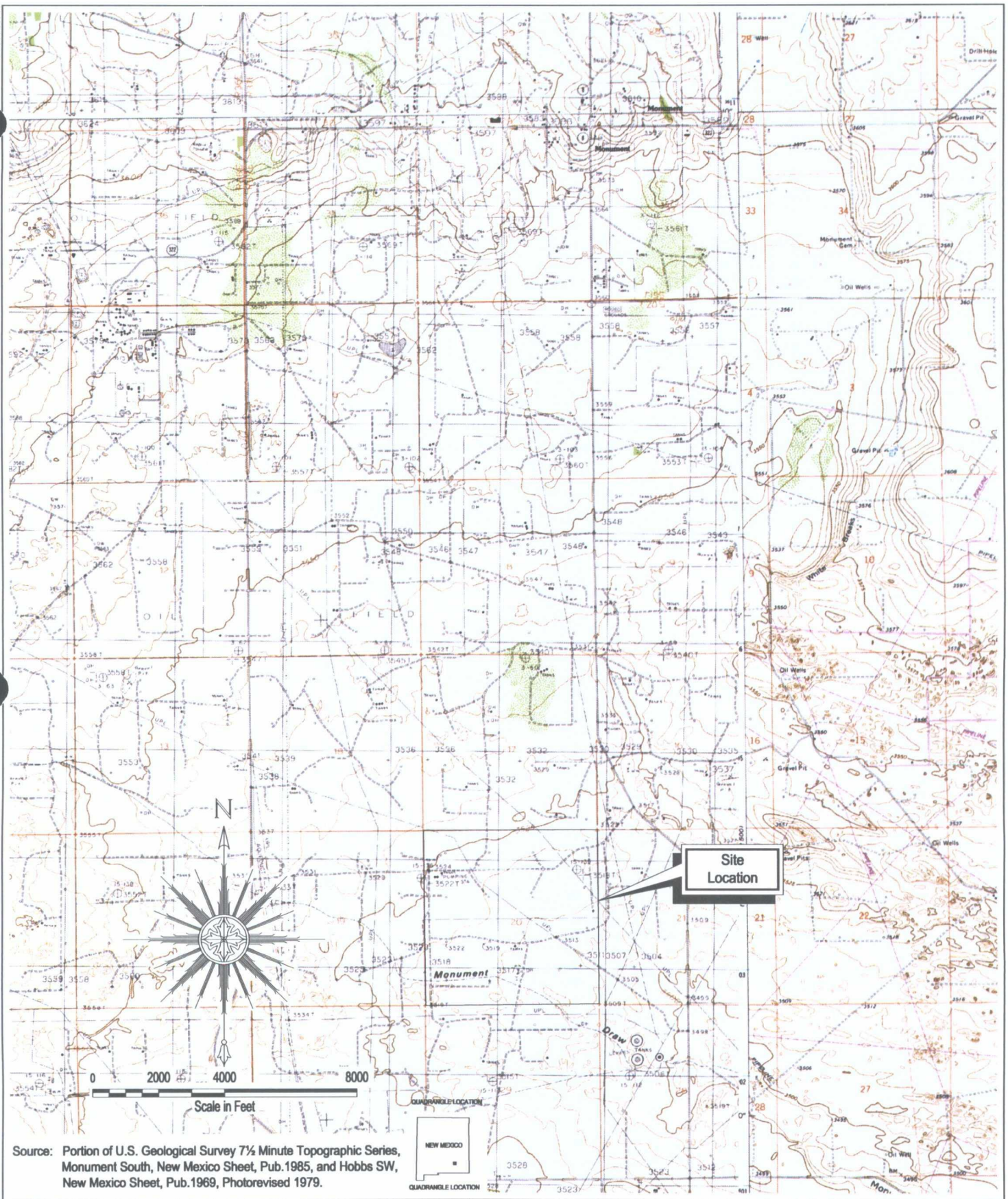
Non-disposable equipment will be decontaminated using the following procedures:

- Wash with Alconox® detergent and potable water solution;
- Rinse with potable water;
- Rinse with distilled water; and
- Allow to air dry.

The groundwater samples will be collected with disposable equipment (disposable bailers) and, therefore will not require decontamination.

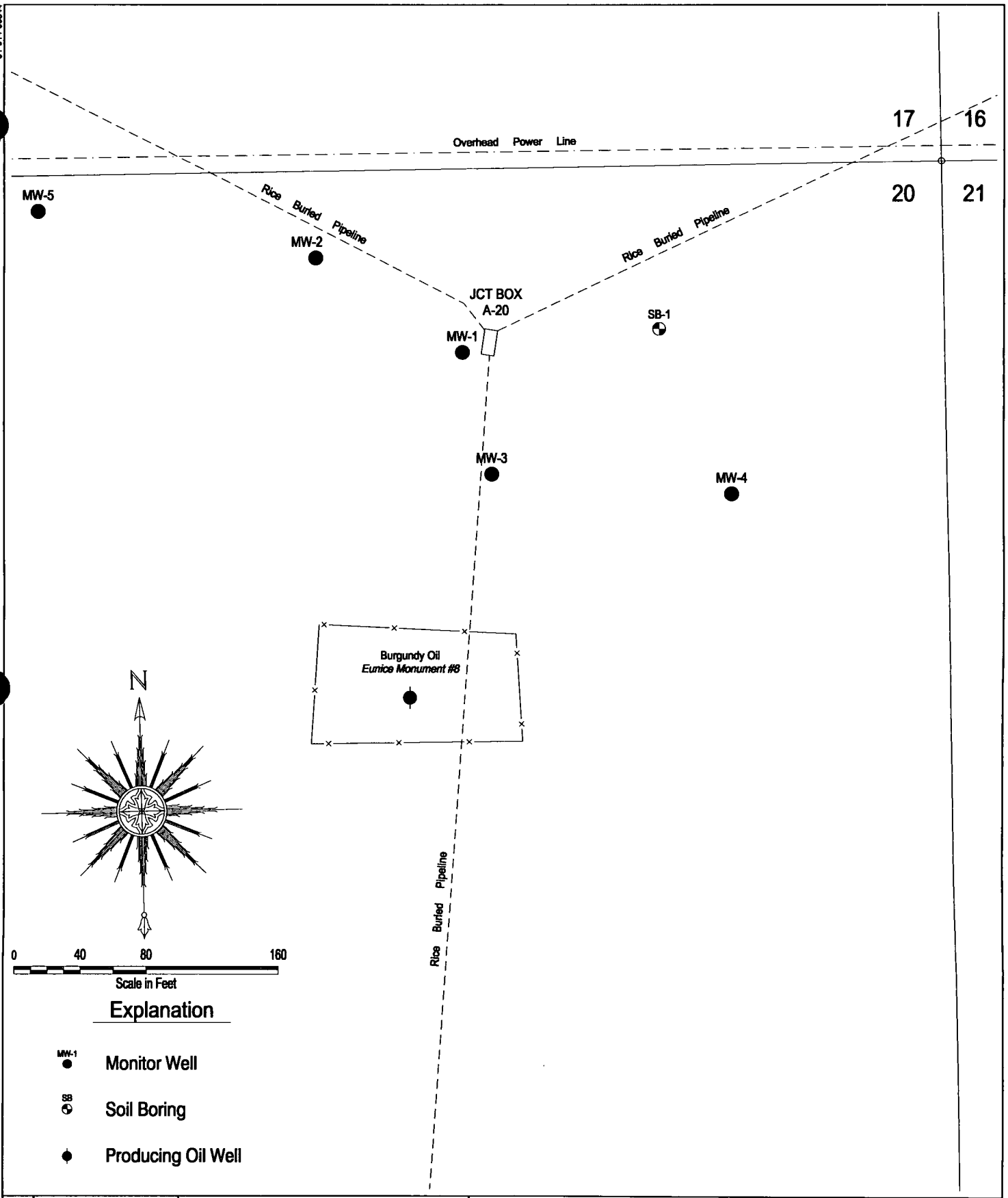
9. Proposed Schedule of Activities

Following approval of this Stage 2 Abatement Plan by the NMOCD, field activities will commence within 30 days of approval, based on the availability of drilling and excavation contractors. We anticipate completing field activities within 60 days of NMOCD approval. However, we request the flexibility to request an extension if a driller or excavation contractor is not available. A Stage 2 Abatement Report will be submitted within 45 days of completion of field activities.



Source: Portion of U.S. Geological Survey 7½ Minute Topographic Series, Monument South, New Mexico Sheet, Pub.1985, and Hobbs SW, New Mexico Sheet, Pub.1969, Photorevised 1979.

Area Manager: A. Schmidt Project Manager: S. Hall Task Manager: D. Gann Technical Review: S. Tischer	ARCADIS 1004 North Big Spring Street Suite 300 Midland, TX 79701-3383 Tel: 432-687-5400 Fax: 432-687-5401 www.arcadis-us.com	Rice Operating Company Eunice Monument Eumont (EME) SWD System – Jct. A-20 Site Location Map Junction A-20 Lea County, New Mexico	Project Number: MT000857.0001 Drawing Date: 11 September 2006 Figure: 1



Area Manager	A. Schmidt
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Task Manager	R. Lang
Technical Review	S. Tischer

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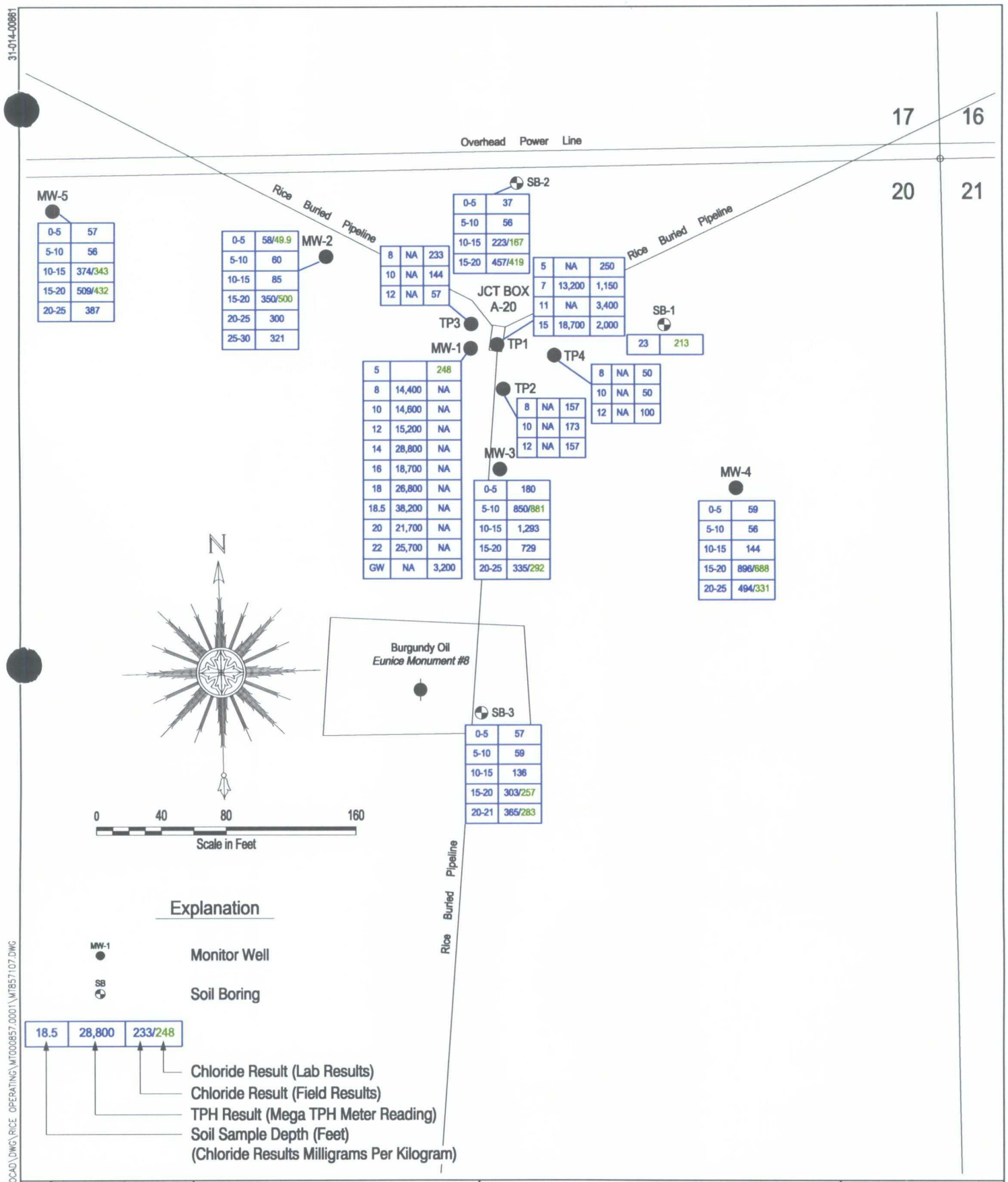
Rice Operating Company
Eunice Monument Eumont (EME) SWD System – Jct. A-20

Trench, Boring and Monitor Well Locations

Lea County, New Mexico

Project Number	MT000857.0001
Drawing Date	27 November 2006
Figure	2



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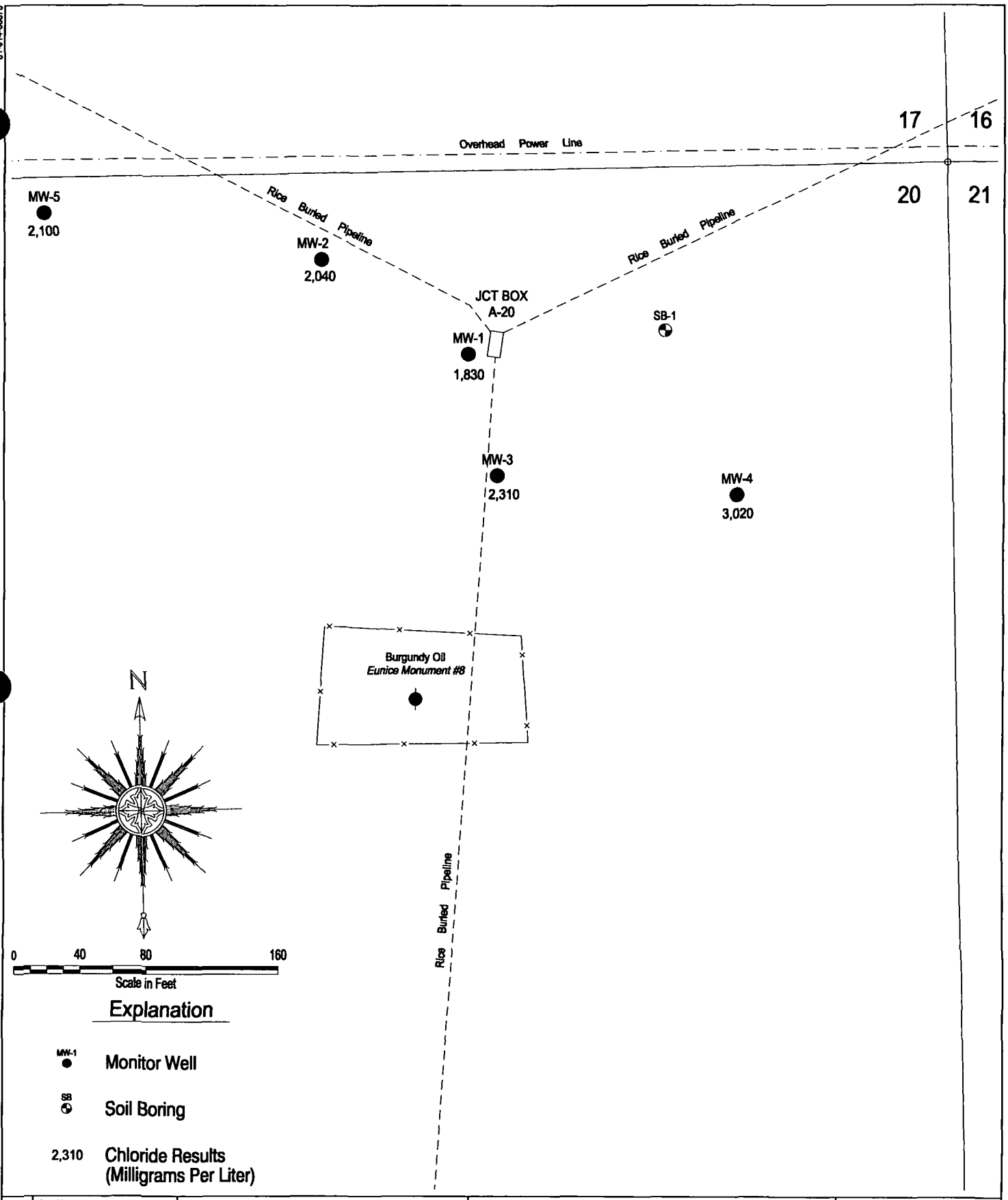
Rice Operating Company
Eunice Monument Eumont (EME) SWD System – Jct. A-20

Soil Sampling Results
Field Results TPH (Mega TPH Meter Reading)
Chlorides (mg/Kg)

Lea County, New Mexico

Project Number	MT000857.0001
Drawing Date	27 November 2006
Figure	3



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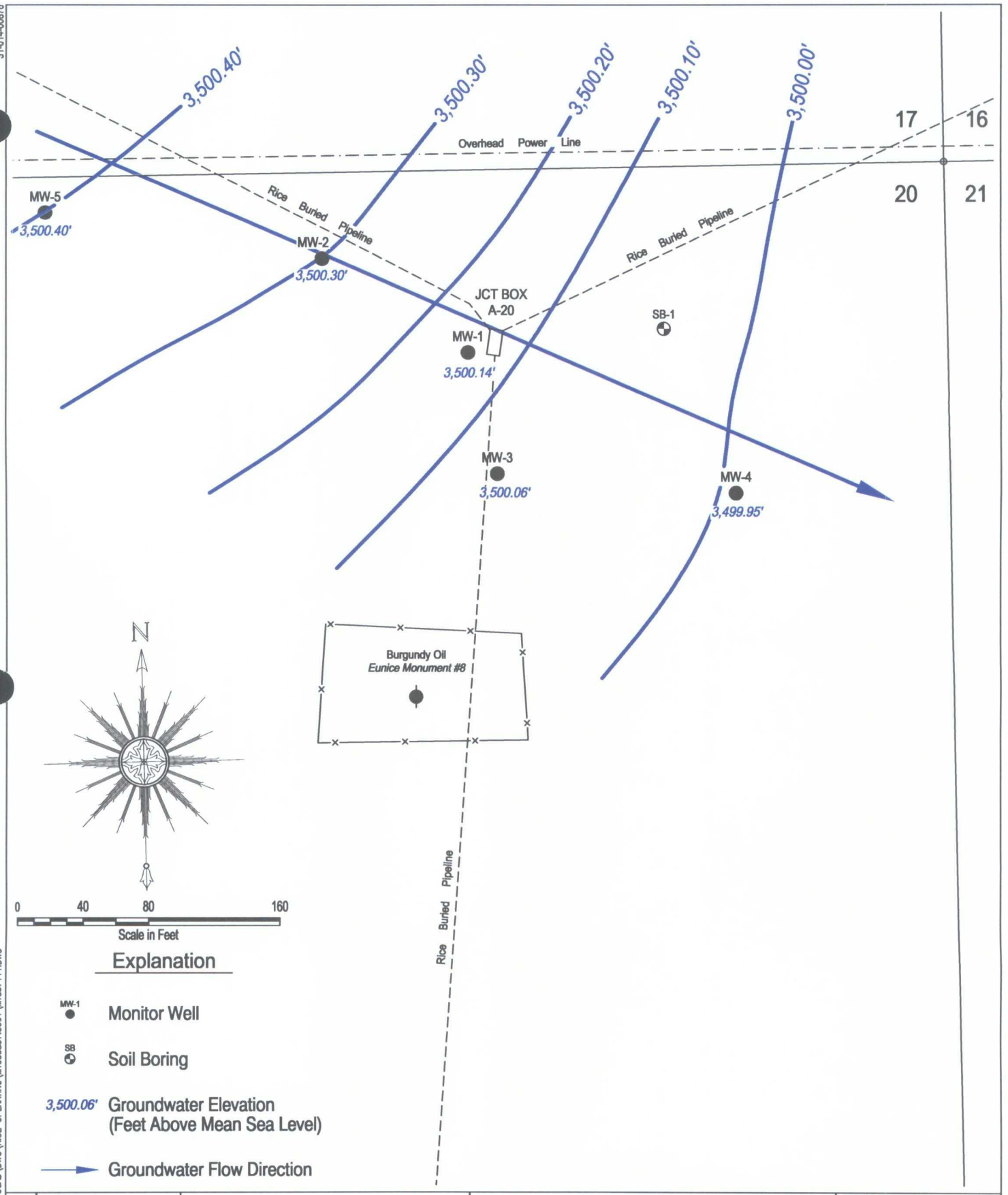
Rice Operating Company
Eunice Monument Eumont (EME) SWD System – Jct. A-20

October 2006 Groundwater Sampling Results Chlorides (mg/L)

Lea County, New Mexico

Project Number	MT000857.0001
Drawing Date	21 December 2006
Figure	4



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Rice Operating Company
Eunice Monument Eumont (EME) SWD System – Jct. A-20

October 2006 Groundwater Elevation Map

Lea County, New Mexico

Project Number	MT000857.0001
Drawing Date	21 December 2006
Figure	5

Table 1
Field Analytical Results for Soils
October 1, 2001 and December 27, 2001

Sample ID and Depth	TPH (Mega TPH Reading)	Chlorides (ppm)
TP1 5'	NA	250
TP1 7'	13,200	1,150
TP1 11'	NA	3,400
TP1 15'	18,700	2,000
TP2 8'	NA	157
TP2 10'	NA	173
TP2 12'	NA	157
TP3 8'	NA	233
TP3 10'	NA	144
TP3 12'	NA	57
TP4 8'	NA	50
TP4 10'	NA	50
TP4 12'	NA	100
MW-1 BORING 8' (12/27/01)	14,400	NA
MW-1 BORING 10' (12/27/01)	14,600	NA
MW-1 BORING 12' (12/27/01)	15,200	NA
MW-1 BORING 14' (12/27/01)	28,800	NA
MW-1 BORING 16' (12/27/01)	18,700	NA
MW-1 BORING 18' (12/27/01)	26,800	NA
MW-1 BORING 18.5' (12/27/01)	38,200	NA
MW-1 BORING 20' (12/27/01)	21,700	NA
MW-1 BORING 22' (12/27/01)	25,700	NA
MW-1 BORING Groundwater (12/27/01)	NA	3,200

NA= Not analyzed

Table 1 (con't)
Laboratory Analytical Results for Soils

Sample ID and Depth	GRO (mg/kg)	DRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Chlorides (mg/kg)
SB-1 BORING 23' (10/4/01)	<10	24	<0.025	<0.025	<0.025	<0.025	213
MW-1 Boring 5' (3/5/02)	<10	111	<0.025	<0.025	0.0284	0.122	248

TABLE 2

EME jct. A-20
unit 'A', Sec. 20, T20S, R37E

NMOCD Case #1R0427-89

RICE [redacted] Company
Monitor Well Data Sheet

(ft) (gal) All concentrations are in mg/L

MW #	DEPTH TO WATER *	TOTAL DEPTH	WELL VOLUME	VOLUME PURGED	SAMPLE DATE	Cl⁻	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	SULFATE	COMMENTS
1	24.70	38.40	2.200	6.70	3/5/02	2279	5044	<0.002	0.003	0.006	0.014	1087	
1	25.62	38.22	2.000	6.00	05/13/02	2100	4840	XXX	XXX	XXX	XXX	793	*12"oil*
1	26.00	38.25	1.960	6.00	08/22/02	2130	4890	XXX	XXX	XXX	XXX	822	*15.5" oil*
1	24.97	38.25	2.125	6.50	11/12/02	2130	5070	XXX	XXX	XXX	XXX	780	*oil film*
1	26.20	38.00	0.280	0.80	03/14/03	1120	5020	XXX	XXX	XXX	XXX	673	
1	23.20	26.00	0.448	1.30	06/05/03	2130	4500	XXX	XXX	XXX	XXX	875	
1	23.42	26.00	0.400	1.20	09/03/03	2130	5240	XXX	XXX	XXX	XXX	679	
1	23.20	26.00	0.448	1.30	12/10/03	2390	4870	XXX	XXX	XXX	XXX	731	
1	25.64	26.50	0.860	2.50	02/26/04	2300	4900	XXX	XXX	XXX	XXX	588	
1	23.02	26.00	0.448	1.30	05/27/04	1910	4480	XXX	XXX	XXX	XXX	588	
1	XXX	XXX	XXX	XXX	9/16/04	2360	5340	XXX	XXX	XXX	XXX	273	
1	24.53	38.36	2.210	6.60	11/24/04	1930	5110	XXX	XXX	XXX	XXX	422	oil; strong odor; gray
1	22.39	XXX	XXX	XXX	3/22/05	2330	4290	XXX	XXX	XXX	XXX	125	oil; strong odor; gray
1	23.40	32.00	XXX	4.32	6/28/05	2430	5060	XXX	XXX	XXX	XXX	481	
1	23.45	32.00	XXX	4.18	9/6/05	2460	5100	XXX	XXX	XXX	XXX	486	
1	23.43	38.36	2.400	8.00	11/2/05	2330	5310	0.00643	0.0125	0.0635	0.1558	484	Heavy skim of oil; gray;odor
1	23.22	38.36	2.400	8.00	2/1/06	2750	5100	0.0139	0.0435	0.145	0.3009	434	Heavy skim of oil: Petroleum Odor
1	23.20	38.36	2.400	8.00	4/26/06	2700	5430	j[0.00433]	0.00849	0.0694	0.1248	482	
1	23.84	38.36	2.300	8.00	7/24/06	1090	4010	0.0341	<0.0200	0.0823	0.0866	96.8	
1	23.60	38.36	2.400	8.00	10/17/06	1830	4050	0.0409	0.0187	0.124	0.1489	44.7	Heavy skim of Oil

** Depth to water measured from top of casing*
Casing is 2.875 ft

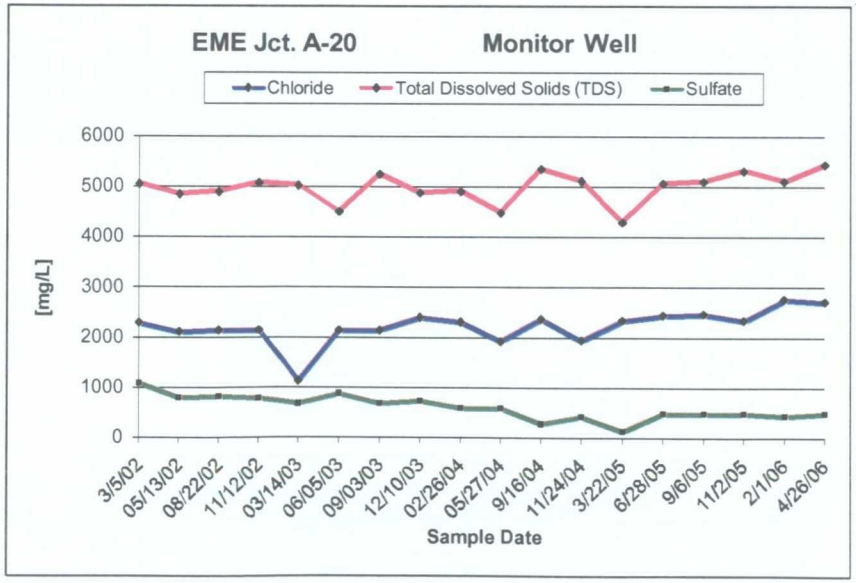


TABLE 2

EME jct. A-20
unit 'A', Sec. 20, T20S, R37E

NMOCD Case #1R0427-89

RICE *Operating Company*
Monitor Well Data Sheet

(ft) (gal) All concentrations are in mg/L

MW #	DEPTH TO WATER *	TOTAL DEPTH	WELL VOLUME	VOLUME PURGED	SAMPLE DATE	Cl^-	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	SULFATE	COMMENTS
2	23.84	32.00	1.300	4.00	3/8/06	2030	4610	<0.001	<0.001	<0.001	<0.001	491	
2	23.72	32.00	1.300	15.00	4/26/06	1970	4800	<0.001	<0.001	<0.001	<0.001	479	
2	24.45	32.00	1.200	10.00	7/24/06	2270	4825	<0.001	<0.001	<0.001	<0.001	648	
2	24.08	32.00	1.300	8.00	10/17/06	2040	4590	<0.001	<0.001	<0.001	<0.001	679	Clear with no odor

** Depth to water measured from top of casing*

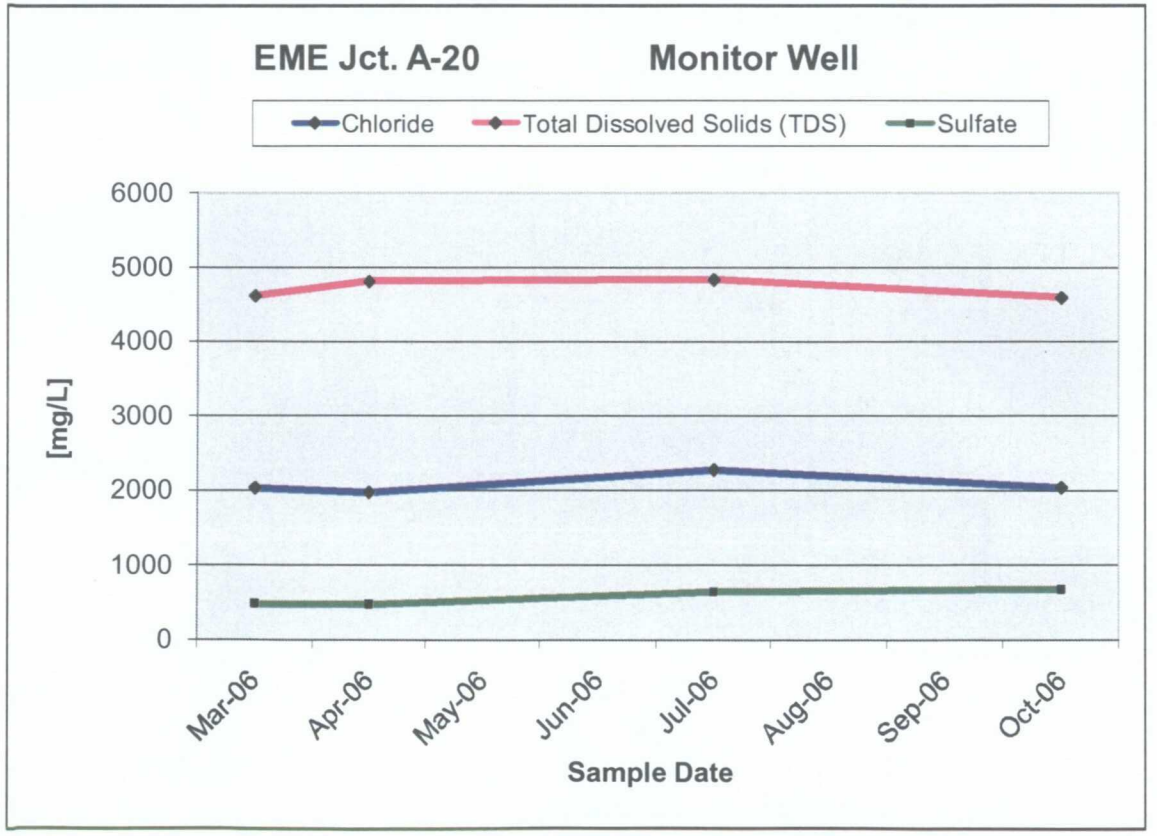


TABLE 2

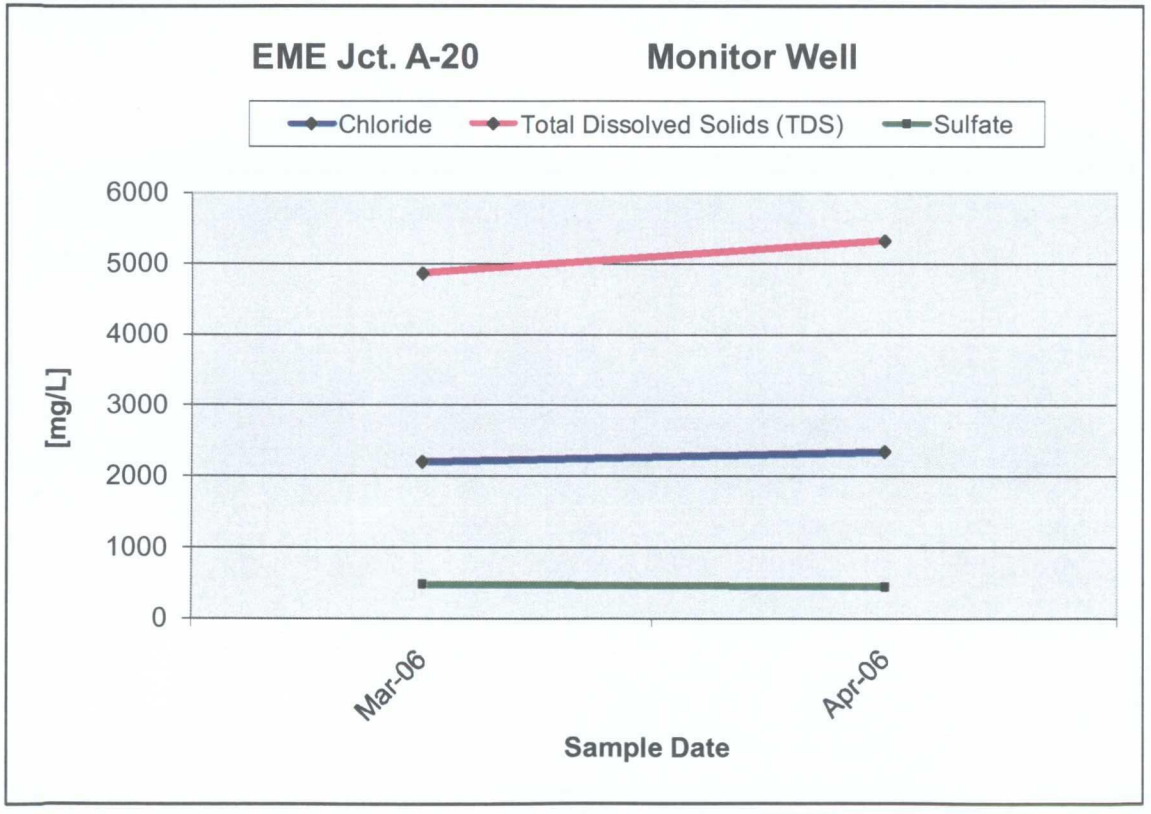
EME jct. A-20
unit 'A', Sec. 20, T20S, R37E

NMOCD Case #1R0427-89

RICE *Operating Company*
Monitor Well Data Sheet

(ft) (gal) All concentrations are in mg/L

MW #	DEPTH TO WATER *	TOTAL DEPTH	WELL VOLUME	VOLUME PURGED	SAMPLE DATE	Cl^-	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	SULFATE	COMMENTS
3	23.90	32.70	1.400	5.00	3/8/06	2200	4860	<0.001	<0.001	<0.001	<0.001	486	
3	23.93	32.70	1.400	15.00	4/29/06	2340	5320	<0.001	<0.001	<0.001	<0.001	452	
3	24.61	32.70	1.300	10.00	7/24/06	2890	4650	<0.001	<0.001	<0.001	<0.001	566	
3	24.23	32.70	1.400	8.00	10/17/06	2310	4900	<0.001	<0.001	<0.001	<0.001	563	



** Depth to water measured from top of casing*

TABLE 2

EME jct. A-20
unit 'A', Sec. 20, T20S, R37E

NMOCD Case #1R0427-89

RICE *Operating Company*
Monitor Well Data Sheet

(ft) (gal) All concentrations are in mg/L

MW #	DEPTH TO WATER *	TOTAL DEPTH	WELL VOLUME	VOLUME PURGED	SAMPLE DATE	Cl^-	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	SULFATE	COMMENTS
4	21.87	31.80	1.600	10.00	6/13/06	3840	6790	<0.001	<0.001	<0.001	<0.001	1060	
4	21.97	31.80	1.600	10.00	7/24/06	3520	6135	<0.001	<0.001	<0.001	<0.001	806	
4	21.59	31.50	1.600	8.00	10/17/06	3020	6560	<0.001	<0.001	<0.001	<0.001	791	

** Depth to water measured from top of casing*

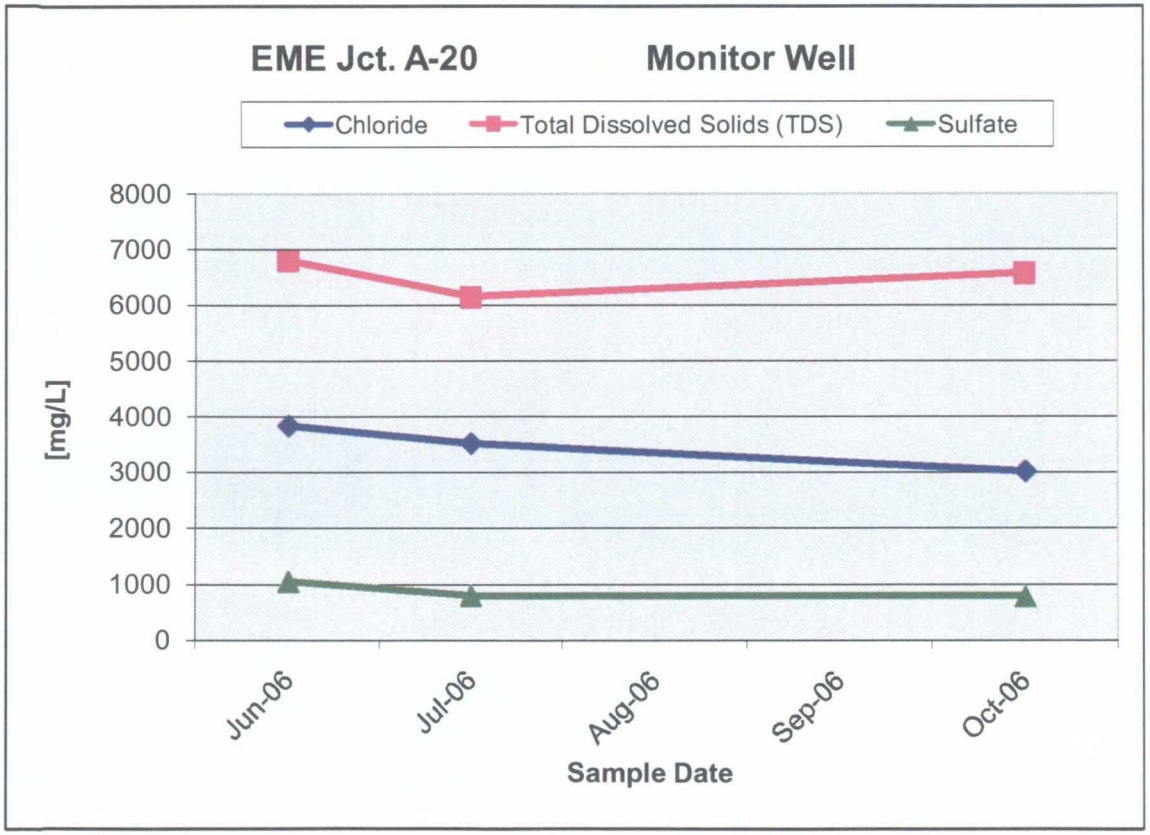


TABLE 2

EME jct. A-20
unit 'A', Sec. 20, T20S, R37E

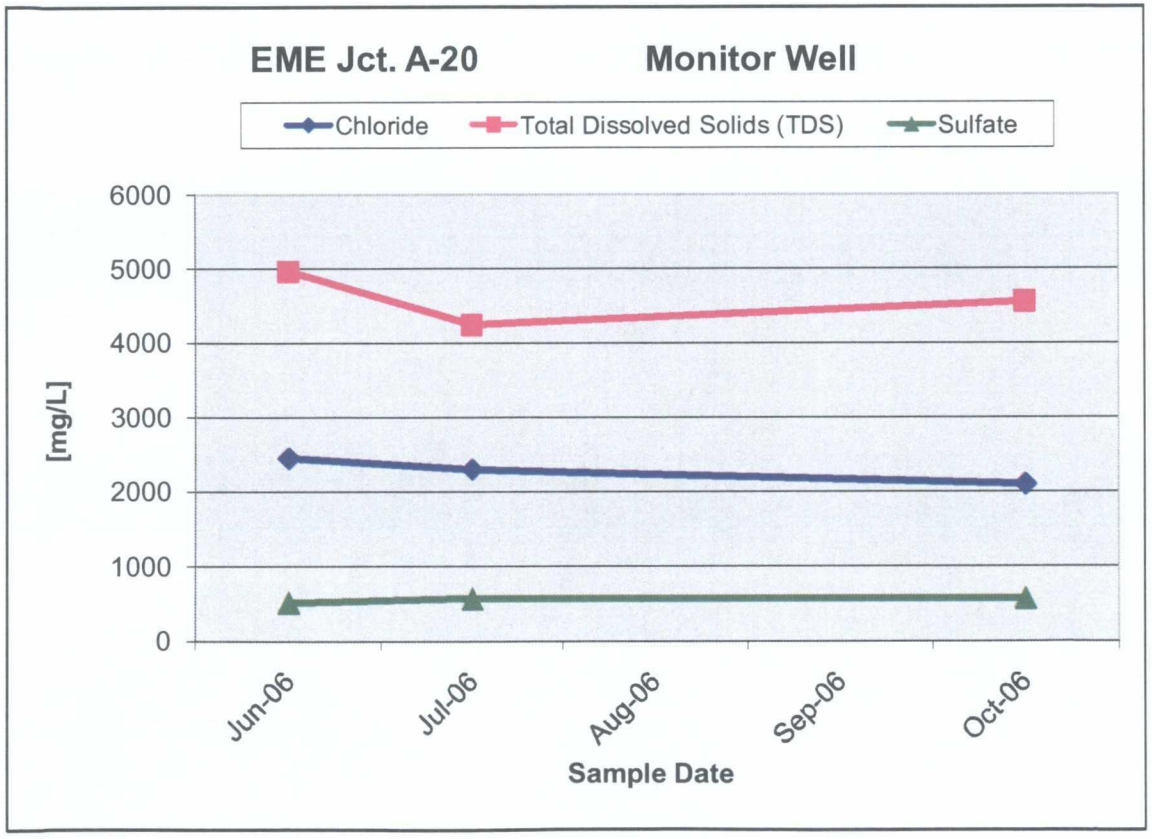
NMOCD Case #1R0427-89

RICE *Operating Company*
Monitor Well Data Sheet

(ft) (gal) All concentrations are in mg/L

MW #	DEPTH TO WATER *	TOTAL DEPTH	WELL VOLUME	VOLUME PURGED	SAMPLE DATE	Cl^-	TDS	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	SULFATE	COMMENTS
5	25.02	32.20	1.100	10.00	6/13/06	2450	4960	<0.001	<0.001	<0.001	<0.001	519	
5	25.26	32.20	1.100	10.00	7/24/06	2300	4235	<0.001	<0.001	<0.001	<0.001	574	
5	24.92	32.20	1.200	8.00	10/17/06	2100	4550	<0.001	<0.001	<0.001	<0.001	573	

** Depth to water measured from top of casing*



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Appendix A

Soil Boring Lithology Log

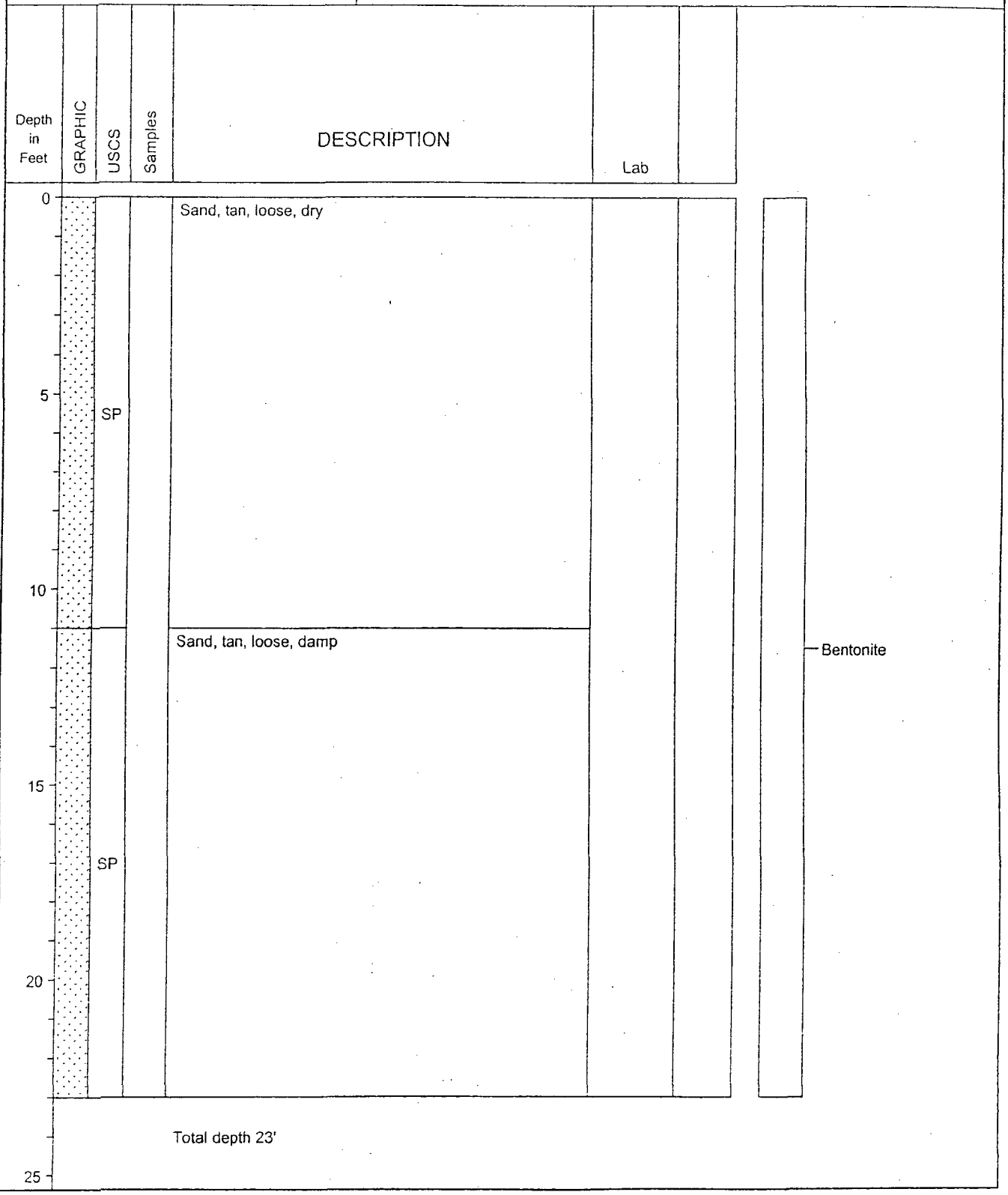
Atkins Engineering Associates, Inc. 2904 W. 2nd St., Roswell, NM 88202-3156	LOG OF BORING Rice A-20 TH (Page 1 of 1)

Rice Operating Co.
122 W. Taylor
Hobbs, New Mexico 88240

Contact: Donnie Anderson

Job#: RICENGI.AIR.01

Date	: 10-04-01	Site Location	: South Monument
Drill Start	: 1300	Auger Type	: Hollow Stem
Drill End	: 1330	Logged By	: Mort Bates
Boring Location	: S. Monument 4.5 mi & W 0.5 mi		



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10-05-2001

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Appendix B

Monitor Well Logs

WELL LOG

WELL NO.
A-20 MW-2

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432/687-5400 Fax: 432/687-5401

PROJECT NUMBER: MT000857.0001
CLIENT NAME: Rice Operating Company
PROJECT NAME: Junction A-20 EME SWD System
SITE LOCATION: Lea County, New Mexico
DRILLING CO: White Drilling Co.
DRILLING METHOD: Rotary/Air
SAMPLE METHOD: Shovel
DATE BEGUN: 2/28/06 DATE COMPLETED: 2/28/06
DRILLER: R. Allen ELEVATION (SURF.):
LOGGER: R. Lang ELEVATION (T.O.C.):
FILE NAME: A-20 MW-2.dat UNIQUE NUMBER: 31-014-00842

STATIC WATER LEVEL: MEAS. PT.: T.O.C. DATE:
HOLE SIZE(S): 6 1/4" TOTAL DEPTH: -30.0
SURFACE COMPLETION: 8" Locking Steel Sleeve, 4'x4'x6" Conc. Slab

	TYPES	DEPTHS
GROUT TYPE:	Portland Cement	-10.0' to Surface
SEAL TYPE:	Bentonite Chips	-13.0'
SCREEN PACK:	-13.0' to -10.0'	-30.0' to -13.0'
CASING TYPE:	2" Diameter Sch. 40 PVC Blank	-15.0' to Surface
	—	—
WELL SCREEN:	2" Diameter Sch. 40 PVC, 0.020" slots	-30.0' to -15.0'
PLUG BACK:	—	—

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	OVM READING	U. S. C. S. CLASS	LITHOLOGY	DESCRIPTION	WELL INSTALLATION
0									SAND 5 YR 5/2 reddish gray, fine grained, subangular to subrounded, well sorted, loose, argillaceous, CALICHE nodules, dry.	
-5		Shovel								
-10		Shovel							SAND 2.5 YR 7/4 pale yellow, fine grained, well sorted, loose, dry. Became moist at -17.0'. Well was wet at -25.0'.	
-15		Shovel								
-20		Shovel								
-25		Shovel								
-30										

WELL LOG

WELL NO.
A-20 MW-3

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432/687-5400 Fax: 432/687-5401

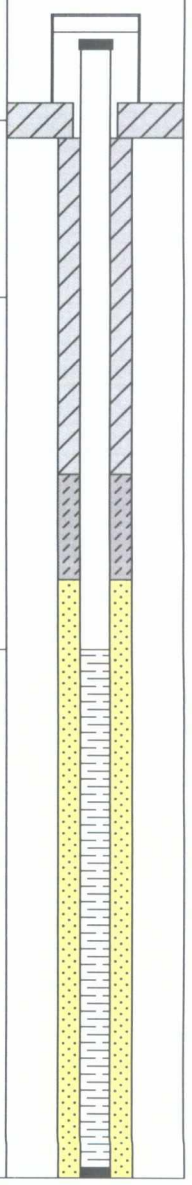
PROJECT NUMBER: MT000857.0001
CLIENT NAME: Rice Operating Company
PROJECT NAME: Junction A-20 EME SWD System
SITE LOCATION: Lea County, New Mexico
DRILLING CO: White Drilling Co.
DRILLING METHOD: Rotary/Air
SAMPLE METHOD: Shovel
DATE BEGUN: 3/1/06 DATE COMPLETED: 3/1/06
DRILLER: R. Allen ELEVATION (SURF.):
LOGGER: R. Lang ELEVATION (T.O.C.):
FILE NAME: A-20 MW-2.dat UNIQUE NUMBER: 31-014-00842

STATIC WATER LEVEL: MEAS. PT.: T.O.C. DATE:
HOLE SIZE(S): 6 1/4" TOTAL DEPTH: -30.0
SURFACE COMPLETION: 8" Locking Steel Sleeve, 4'x4'x6" Conc. Slab

	TYPES	DEPTHS
GROUT TYPE:	Portland Cement	-10.0' to Surface
SEAL TYPE:	Bentonite Chips	-13.0'
SCREEN PACK:	-13.0' to -10.0'	-30.0' to -13.0'
CASING TYPE:	2" Diameter Sch. 40 PVC Blank	-15.0' to Surface
	—	—
WELL SCREEN:	2" Diameter Sch. 40 PVC, 0.020" slots	-30.0' to -15.0'
PLUG BACK:	—	—

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	OVM READING	U. S. C. S. CLASS	LITHOLOGY	DESCRIPTION
0									
		Shovel							SAND 5 YR 5/2 reddish gray, fine grained, subangular to subrounded, well sorted, dry, loose.
-5									
		Shovel							SAND 5 YR 5/2 reddish gray, fine grained, subangular to subrounded, well sorted, dry, loose, CALICHE 50% 5 YR 8/2 pinkish white, soft.
-10									
		Shovel							Moist at -13.0'.
-15									SAND 7.5 YR 6/2 pinkish gray, fine grained, well sorted, moist, argillaceous, faint odor -25.0 to -30.0.
		Shovel							
-20									
		Shovel							Wet at -22.0'.
-25									
		Shovel							
-30									

WELL INSTALLATION



WELL LOG

WELL NO.
A-20 MW-4

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432/687-5400 Fax: 432/687-5401

PROJECT NUMBER: MT000857.0001
CLIENT NAME: Rice Operating Company
PROJECT NAME: Junction A-20 EME SWD System
SITE LOCATION: Lea County, New Mexico
DRILLING CO: White Drilling Co.
DRILLING METHOD: Rotary/Air
SAMPLE METHOD: Shovel
DATE BEGUN: 5/31/06 DATE COMPLETED: 5/31/06
DRILLER: R. Allen ELEVATION (SURF.):
LOGGER: R. Lang ELEVATION (T.O.C.):
FILE NAME: A-20 MW-4.DAT UNIQUE NUMBER: 31-014-00848

STATIC WATER LEVEL: MEAS. PT.: T.O.C. DATE:
HOLE SIZE(S): 6 1/4" TOTAL DEPTH: -30.0
SURFACE COMPLETION: 6" Locking Steel Sleeve, 2'x2'x4" Conc. Slab

	TYPES	DEPTHS
GROUT TYPE:	Portland Cement	-5.0' to Surface
SEAL TYPE:	Bentonite Chips	-8.0' to -5.0'
SCREEN PACK:	8/16 Brady Sand	-30.0' to -8.0'
CASING TYPE:	2" Diameter Sch. 40 PVC Blank	-10.0' to Surface
	—	—
WELL SCREEN:	2" Diameter Sch. 40 PVC, 0.020" slots	-30.0' to -10.0'
PLUG BACK:	—	—

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	OVM READING	U. S. C. S. CLASS	LITHOLOGY	DESCRIPTION	WELL INSTALLATION
0									SANDSTONE 7.5YR 8/2 pinkish white, medium to fine grained, subangular, well sorted, very soft to loose.	
-5		Shovel								
-10		Shovel								
-15		Shovel								
-20		Shovel								
-25		Shovel								
-30										

WELL LOG

WELL NO. A-20 MW-5

ARCADIS
1004 N. Big Spring St. Suite 300, Midland, TX 79701-3383 Tel: 432/687-5400 Fax: 432/687-5401

PROJECT NUMBER: MT000857.0001
CLIENT NAME: Rice Operating Company
PROJECT NAME: Junction A-20 EME SWD System
SITE LOCATION: Lea County, New Mexico
DRILLING CO: White Drilling Co.
DRILLING METHOD: Rotary/Air
SAMPLE METHOD: Shovel
DATE BEGUN: 5/31/06 DATE COMPLETED: 5/31/06
DRILLER: R. Allen ELEVATION (SURF.):
LOGGER: R. Lang ELEVATION (T.O.C.):
FILE NAME: A-20 MW-5.DAT UNIQUE NUMBER: 31-014-00849

STATIC WATER LEVEL: MEAS. PT.: T.O.C. DATE:
HOLE SIZE(S): 6 1/4" TOTAL DEPTH: -30.0
SURFACE COMPLETION: 6" Locking Steel Sleeve, 2'x2'x4" Conc. Slab

	TYPES	DEPTHS
GROUT TYPE:	Portland Cement	-7.0' to Surface
SEAL TYPE:	Bentonite Chips	-12.0' to -7.0'
SCREEN PACK:	8/16 Brady Sand	-30.0' to -12.0'
CASING TYPE:	2" Diameter Sch. 40 PVC Blank	-15.0' to Surface
	—	—
WELL SCREEN:	2" Diameter Sch. 40 PVC, 0.020" slots	-30.0' to -15.0'
PLUG BACK:	—	—

DEPTH	SAMPLED	SAMPLING METHOD	ANALYZED	MOISTURE	RECOVERY	OVM READING	U. S. C. S. CLASS	LITHOLOGY	DESCRIPTION	WELL INSTALLATION
0										
-5		Shovel				0.0			SANDSTONE 2.5YR 6/4 light reddish brown, medium grained, subrounded to subangular, well sorted, loose, dry.	
-10		Shovel				0.0			SANDSTONE 7.5YR 7/4 pink, medium to fine grained, subangular to subrounded, well sorted, very soft.	
-15		Shovel				0.0				
-20		Shovel				0.0				
-25		Shovel				0.0				
-30										

ARCADIS

Appendix C

Laboratory Analytical Results

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Sharon Hall

ARCADIS

1004 N. Big Spring Street

Midland, TX 79701

Project: MT000856.0001

Project Number: MT000856.001

Location: None Given

Lab Order Number: 6C02008

Report Date: 03/08/06

ARCADIS	Project: MT000856.0001	Fax: (432) 687-5401
1004 N. Big Spring Street	Project Number: MT000856.001	**Reported:**
Midland TX, 79701	Project Manager: Sharon Hall	03/08/06 16:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
A20 MW-3 5'-10'	6C02008-01	Soil	02/28/06 14:00	03/02/06 09:20
A20 MW-3 20'-25'	6C02008-02	Soil	02/28/06 14:10	03/02/06 09:20
A20 MW-2 0-5'	6C02008-03	Soil	02/28/06 11:15	03/02/06 09:20
A20 MW-2 15'-20'	6C02008-04	Soil	02/28/06 11:35	03/02/06 09:20
M16-1 MW-3 15'-20'	6C02008-05	Soil	03/01/06 09:10	03/02/06 09:20
M16-1 MW-2 15'-20'	6C02008-06	Soil	02/28/06 17:40	03/02/06 09:20

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

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A20 MW-3 5'-10' (6C02008-01) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	**0.0875**	0.0250	"	"	"	"	"	"	
Ethylbenzene	**0.106**	0.0250	"	"	"	"	"	"	
Xylene (p/m)	**0.176**	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*81.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*105 %*	*80-120*		"	"	"	"	
A20 MW-3 20'-25' (6C02008-02) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*88.2 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*96.0 %*	*80-120*		"	"	"	"	
A20 MW-2 0-5' (6C02008-03) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*81.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*107 %*	*80-120*		"	"	"	"	
A20 MW-2 15'-20' (6C02008-04) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*81.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	

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

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
M16-1 MW-3 15'-20' (6C02008-05) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*81.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	
M16-1 MW-2 15'-20' (6C02008-06) Soil									
Benzene	ND	0.0250	mg/kg dry	25	EC60604	03/06/06	03/06/06	EPA 8021B	
Toluene	ND	0.0250	"	"	"	"	"	"	
Ethylbenzene	ND	0.0250	"	"	"	"	"	"	
Xylene (p/m)	ND	0.0250	"	"	"	"	"	"	
Xylene (o)	ND	0.0250	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*85.0 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*91.8 %*	*80-120*		"	"	"	"	

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

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
A20 MW-3 5'-10' (6C02008-01) Soil									
Chloride	**881**	20.0	mg/kg	40	EC60801	03/07/06	03/08/06	EPA 300.0	
% Moisture	**6.5**	0.1	%	1	EC60307	03/02/06	03/03/06	% calculation	
A20 MW-3 20'-25' (6C02008-02) Soil									
Chloride	**292**	10.0	mg/kg	20	EC60801	03/07/06	03/08/06	EPA 300.0	
% Moisture	**7.1**	0.1	%	1	EC60307	03/02/06	03/03/06	% calculation	
A20 MW-2 0-5' (6C02008-03) Soil									
Chloride	**49.9**	5.00	mg/kg	10	EC60801	03/07/06	03/08/06	EPA 300.0	
% Moisture	**4.9**	0.1	%	1	EC60307	03/02/06	03/03/06	% calculation	
A20 MW-2 15'-20' (6C02008-04) Soil									
Chloride	**500**	10.0	mg/kg	20	EC60801	03/07/06	03/08/06	EPA 300.0	
% Moisture	**9.1**	0.1	%	1	EC60307	03/02/06	03/03/06	% calculation	
M16-1 MW-3 15'-20' (6C02008-05) Soil									
Chloride	**175**	10.0	mg/kg	20	EC60801	03/07/06	03/08/06	EPA 300.0	
% Moisture	**5.7**	0.1	%	1	EC60307	03/02/06	03/03/06	% calculation	
M16-1 MW-2 15'-20' (6C02008-06) Soil									
Chloride	**197**	5.00	mg/kg	10	EC60801	03/07/06	03/08/06	EPA 300.0	
% Moisture	**7.3**	0.1	%	1	EC60307	03/02/06	03/03/06	% calculation	

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 EC60604 - EPA 5030C (GC)										
Blank (EC60604-BLK1)				Prepared & Analyzed: 03/06/06						
Benzene	ND	0.0250	mg/kg wet							
Toluene	ND	0.0250	"							
Ethylbenzene	ND	0.0250	"							
Xylene (p/m)	ND	0.0250	"							
Xylene (o)	ND	0.0250	"							
Surrogate: a,a,a-Trifluorotoluene	*32.1*		*ug/kg*	*40.0*		*80.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*41.0*		*"*	*40.0*		*102*	*80-120*			
LCS (EC60604-BS1)				Prepared & Analyzed: 03/06/06						
Benzene	0.0405	0.00100	mg/kg wet	0.0500		81.0	80-120			
Toluene	0.0464	0.00100	"	0.0500		92.8	80-120			
Ethylbenzene	0.0555	0.00100	"	0.0500		111	80-120			
Xylene (p/m)	0.117	0.00100	"	0.100		117	80-120			
Xylene (o)	0.0579	0.00100	"	0.0500		116	80-120			
Surrogate: a,a,a-Trifluorotoluene	*37.7*		*ug/kg*	*40.0*		*94.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*42.9*		*"*	*40.0*		*107*	*80-120*			
Calibration Check (EC60604-CCV1)				Prepared & Analyzed: 03/06/06						
Benzene	40.3		ug/kg	50.0		80.6	80-120			
Toluene	42.0		"	50.0		84.0	80-120			
Ethylbenzene	47.3		"	50.0		94.6	80-120			
Xylene (p/m)	99.5		"	100		99.5	80-120			
Xylene (o)	50.2		"	50.0		100	80-120			
Surrogate: a,a,a-Trifluorotoluene	*33.6*		*"*	*40.0*		*84.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*33.3*		*"*	*40.0*		*83.2*	*80-120*			
Matrix Spike (EC60604-MS1)	**Source: 6C03004-01**			Prepared & Analyzed: 03/06/06						
Benzene	1.25	0.0250	mg/kg dry	1.55	ND	80.6	80-120			
Toluene	1.40	0.0250	"	1.55	ND	90.3	80-120			
Ethylbenzene	1.73	0.0250	"	1.55	ND	112	80-120			
Xylene (p/m)	3.64	0.0250	"	3.11	ND	117	80-120			
Xylene (o)	1.82	0.0250	"	1.55	ND	117	80-120			
Surrogate: a,a,a-Trifluorotoluene	*34.0*		*ug/kg*	*40.0*		*85.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*47.1*		*"*	*40.0*		*118*	*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 EC60604 - EPA 5030C (GC)										
Matrix Spike Dup (EC60604-MSD1)	**Source: 6C03004-01**			Prepared & Analyzed: 03/06/06						
Benzene	1.26	0.0250	mg/kg dry	1.55	ND	81.3	80-120	0.865	20	
Toluene	1.40	0.0250	"	1.55	ND	90.3	80-120	0.00	20	
Ethylbenzene	1.69	0.0250	"	1.55	ND	109	80-120	2.71	20	
Xylene (p/m)	3.58	0.0250	"	3.11	ND	115	80-120	1.72	20	
Xylene (o)	1.79	0.0250	"	1.55	ND	115	80-120	1.72	20	
Surrogate: a,a,a-Trifluorotoluene	*34.1*		*ug/kg*	*40.0*		*85.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*44.3*		*"*	*40.0*		*111*	*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 EC60307 - General Preparation (Prep)										
Blank (EC60307-BLK1)				Prepared: 03/02/06 Analyzed: 03/03/06						
% Solids	100		%							
Duplicate (EC60307-DUP1)	**Source: 6C02006-01**			Prepared: 03/02/06 Analyzed: 03/03/06						
% Solids	98.9		%		98.8			0.101	20	
Duplicate (EC60307-DUP2)	**Source: 6C02009-08**			Prepared: 03/02/06 Analyzed: 03/03/06						
% Solids	71.3		%		73.3			2.77	20	
Batch EC60801 - Water Extraction										
Blank (EC60801-BLK1)				Prepared: 03/07/06 Analyzed: 03/08/06						
Chloride	ND	0.500	mg/kg							
LCS (EC60801-BS1)				Prepared: 03/07/06 Analyzed: 03/08/06						
Chloride	8.66		mg/L	10.0		86.6	80-120			
Calibration Check (EC60801-CCV1)				Prepared: 03/07/06 Analyzed: 03/08/06						
Chloride	9.34		mg/L	10.0		93.4	80-120			
Duplicate (EC60801-DUP1)	**Source: 6C02003-01**			Prepared: 03/07/06 Analyzed: 03/08/06						
Chloride	473	10.0	mg/kg		470			0.636	20	

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: 3/8/2006

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.

ARCADIS

Laboratory Task Order No./P.O. No. _____

CHAIN-OF-CUSTODY RECORD

Page ____ of ____

Project Number/Name MT000856.0001

Project Location Rice Operating

Laboratory Environmental Lab of Texas

Project Manager Sharon Hall

Sampler(s)/Affiliation ARCADIS/RL

Sample ID/Location	Matrix	Date Sampled	Time	ANALYSIS / METHOD / SIZE: 4 oz jar BTEX and Cl		1 liter plastic General GW Quality and Chloride	(2) 40 ml voa BTEX Neat HCl			Remarks	Total
A20 MW-3 (5'-10')	S	2/28/06	14:00	1						(e)02008-01	1
A20 MW-3 (20'-25')	S	2/28/06	14:10	1						-02	1
A20 MW-2 (0-5')	S	2/28/06	11:15	1						-03	1
A20 MW-2 (15'-20')	S	2/28/06	11:35	1						-04	1
M16-1 MW-3 (15'-20')	S	3/1/06	9:10	1						-05	1
M16-1 MW-2 (15'-20')	S	2/28/06	17:40	1						-06	1

Total No. of Bottles/ Containers: 6

Sample Matrix: L = Liquid; S = Solid; A = Air

Relinquished by: Ralph Lentz	Organization: ARCADIS	Date 3/2/06	Time 9:30	Seal Intact?	
Received by: Celeste Kelly	Organization: ELOT	Date 3/2/06	Time 9:20	(Yes)	No N/A
Relinquished by:	Organization:	Date / /	Time	Seal Intact?	
Received by:	Organization:	Date / /	Time	Yes	No N/A

Special Instructions/Remarks: 5.0°C 4oz glass w/ label

Delivery Method: XXX In Person ☐ Common Carrier _____ ☐ Lab Courier ☐ Other _____

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

Client: ARCADIS

Date/Time: 3/2/06 9:20

Order #: 6020008

Initials: CK

Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	5.0 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:

Variance Documentation:

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

Regarding:

Corrective Action Taken:

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. A-20

Project Number: None Given

Location: Lea County

Lab Order Number: 6F15002

Report Date: 06/26/06

Rice Operating Co.	Project: EME Jct. A-20	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 #4	6F15002-01	Water	06/13/06 07:45	06/15/06 07:50
Monitor Well #5	6F15002-02	Water	06/13/06 08:45	06/15/06 07:50

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Rice Operating Co.	Project: EME Jct. A-20	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 #4 (6F15002-01) Water									
Benzene	ND	0.00100	mg/L	1	EF61921	06/19/06	06/20/06	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		*95.8 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*99.0 %*	*80-120*		"	"	"	"	
Monitor Well #5 (6F15002-02) Water									
Benzene	ND	0.00100	mg/L	1	EF61921	06/19/06	06/20/06	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		*108 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*103 %*	*80-120*		"	"	"	"	

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

Project: EME Jct. A-20
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

General Chemistry Parameters by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Monitor Well #4 (6F15002-01) Water									
Total Alkalinity	**340**	2.00	mg/L	1	EF62316	06/22/06	06/22/06	EPA 310.1M	
Chloride	**3840**	50.0	"	100	EF61712	06/17/06	06/17/06	EPA 300.0	
Total Dissolved Solids	**6790**	5.00	"	1	EF61918	06/15/06	06/16/06	EPA 160.1	
Sulfate	**1060**	50.0	"	100	EF61712	06/17/06	06/17/06	EPA 300.0	
Monitor Well #5 (6F15002-02) Water									
Total Alkalinity	**456**	2.00	mg/L	1	EF62316	06/22/06	06/22/06	EPA 310.1M	
Chloride	**2450**	25.0	"	50	EF61712	06/17/06	06/17/06	EPA 300.0	
Total Dissolved Solids	**4960**	5.00	"	1	EF61918	06/15/06	06/16/06	EPA 160.1	
Sulfate	**519**	25.0	"	50	EF61712	06/17/06	06/17/06	EPA 300.0	

Rice Operating Co.	Project: EME Jct. A-20	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 #4 (6F15002-01) Water									
Calcium	**348**	0.500	mg/L	50	EF61505	06/15/06	06/15/06	EPA 6010B	
Magnesium	**283**	0.0500	"	"	"	"	"	"	
Potassium	**34.7**	0.500	"	10	"	"	"	"	
Sodium	**1540**	5.00	"	500	"	"	"	"	
Monitor Well #5 (6F15002-02) Water									
Calcium	**209**	0.500	mg/L	50	EF61505	06/15/06	06/15/06	EPA 6010B	
Magnesium	**180**	0.0500	"	"	"	"	"	"	
Potassium	**32.4**	0.500	"	10	"	"	"	"	
Sodium	**1100**	2.00	"	200	"	"	"	"	

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

Project: EME Jct. A-20
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 EF61921 - EPA 5030C (GC)										
Blank (EF61921-BLK1)				Prepared: 06/19/06 Analyzed: 06/20/06						
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	*38.4*		*ug/l*	*40.0*		*96.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.4*		"	*40.0*		*96.0*	*80-120*			
LCS (EF61921-BS1)				Prepared: 06/19/06 Analyzed: 06/20/06						
Benzene	0.0529	0.00100	mg/L	0.0500		106	80-120			
Toluene	0.0579	0.00100	"	0.0500		116	80-120			
Ethylbenzene	0.0565	0.00100	"	0.0500		113	80-120			
Xylene (p/m)	0.119	0.00100	"	0.100		119	80-120			
Xylene (o)	0.0589	0.00100	"	0.0500		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	*41.6*		*ug/l*	*40.0*		*104*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.7*		"	*40.0*		*102*	*80-120*			
Calibration Check (EF61921-CCV1)				Prepared: 06/19/06 Analyzed: 06/20/06						
Benzene	58.0		ug/l	50.0		116	80-120			
Toluene	59.2		"	50.0		118	80-120			
Ethylbenzene	57.5		"	50.0		115	80-120			
Xylene (p/m)	119		"	100		119	80-120			
Xylene (o)	59.0		"	50.0		118	80-120			
Surrogate: a,a,a-Trifluorotoluene	*44.1*		"	*40.0*		*110*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.4*		"	*40.0*		*96.0*	*80-120*			
Matrix Spike (EF61921-MS1)	**Source: 6F15001-01**			Prepared: 06/19/06 Analyzed: 06/20/06						
Benzene	0.0488	0.00100	mg/L	0.0500	ND	97.6	80-120			
Toluene	0.0539	0.00100	"	0.0500	ND	108	80-120			
Ethylbenzene	0.0501	0.00100	"	0.0500	ND	100	80-120			
Xylene (p/m)	0.115	0.00100	"	0.100	ND	115	80-120			
Xylene (o)	0.0576	0.00100	"	0.0500	ND	115	80-120			
Surrogate: a,a,a-Trifluorotoluene	*37.6*		*ug/l*	*40.0*		*94.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*41.7*		"	*40.0*		*104*	*80-120*			

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

Project: EME Jct. A-20
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 EF61921 - EPA 5030C (GC)										
Matrix Spike Dup (EF61921-MSD1)	**Source: 6F15001-01**			Prepared: 06/19/06 Analyzed: 06/20/06						
Benzene	0.0484	0.00100	mg/L	0.0500	ND	96.8	80-120	0.823	20	
Toluene	0.0469	0.00100	"	0.0500	ND	93.8	80-120	14.1	20	
Ethylbenzene	0.0451	0.00100	"	0.0500	ND	90.2	80-120	10.3	20	
Xylene (p/m)	0.0979	0.00100	"	0.100	ND	97.9	80-120	16.1	20	
Xylene (o)	0.0497	0.00100	"	0.0500	ND	99.4	80-120	14.6	20	
Surrogate: a,a,a-Trifluorotoluene	*33.7*		*ug/l*	*40.0*		*84.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.1*		"	*40.0*		*97.8*	*80-120*			

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

Project: EME Jct. A-20
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

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 EF61712 - General Preparation (WetChem)										
Blank (EF61712-BLK1)				Prepared & Analyzed: 06/17/06						
Chloride	ND	0.500	mg/L							
Sulfate	ND	0.500	"							
LCS (EF61712-BS1)				Prepared & Analyzed: 06/17/06						
Chloride	10.0		mg/L	10.0		100	80-120			
Sulfate	8.16		"	10.0		81.6	80-120			
Calibration Check (EF61712-CCV1)				Prepared & Analyzed: 06/17/06						
Chloride	10.9		mg/L	10.0		109	80-120			
Sulfate	10.5		"	10.0		105	80-120			
Duplicate (EF61712-DUP1)	**Source: 6F14013-01**			Prepared & Analyzed: 06/17/06						
Chloride	47.9	5.00	mg/L		48.8			1.86	20	
Sulfate	69.2	5.00	"		69.8			0.863	20	
Duplicate (EF61712-DUP2)	**Source: 6F15003-05**			Prepared & Analyzed: 06/18/06						
Chloride	198	5.00	mg/L		197			0.506	20	
Sulfate	154	5.00	"		152			1.31	20	
Matrix Spike (EF61712-MS1)	**Source: 6F14013-01**			Prepared & Analyzed: 06/17/06						
Chloride	157	5.00	mg/L	100	48.8	108	80-120			
Sulfate	154	5.00	"	100	69.8	84.2	75-125			
Matrix Spike (EF61712-MS2)	**Source: 6F15003-05**			Prepared & Analyzed: 06/18/06						
Sulfate	249	5.00	mg/L	100	152	97.0	75-125			
Chloride	301	5.00	"	100	197	104	80-120			

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

Project: EME Jct. A-20
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

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 EF61918 - Filtration Preparation										
Blank (EF61918-BLK1)				Prepared: 06/15/06 Analyzed: 06/16/06						
Total Dissolved Solids	ND	5.00	mg/L							
Duplicate (EF61918-DUP1)		**Source: 6F15001-01**		Prepared: 06/15/06 Analyzed: 06/16/06						
Total Dissolved Solids	7770	5.00	mg/L		7820			0.641	5	
Batch EF62316 - General Preparation (WetChem)										
Blank (EF62316-BLK1)				Prepared & Analyzed: 06/22/06						
Total Alkalinity	ND	2.00	mg/L							
Carbonate Alkalinity	ND	0.100	"							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							
LCS (EF62316-BS1)				Prepared & Analyzed: 06/22/06						
Total Alkalinity	248	2.00	mg/L	250		99.2	85-115			
Duplicate (EF62316-DUP1)		**Source: 6F15001-01**		Prepared & Analyzed: 06/22/06						
Total Alkalinity	380	2.00	mg/L		386			1.57	20	
Carbonate Alkalinity	0.00	0.100	"		0.00				20	
Bicarbonate Alkalinity	380	2.00	"		386			1.57	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	
Duplicate (EF62316-DUP2)		**Source: 6F22003-01**		Prepared & Analyzed: 06/22/06						
Total Alkalinity	142	2.00	mg/L		144			1.40	20	
Carbonate Alkalinity	0.00	0.100	"		0.00				20	
Bicarbonate Alkalinity	142	2.00	"		144			1.40	20	
Hydroxide Alkalinity	0.00	0.100	"		0.00				20	

Rice Operating Co.	Project: EME Jct. A-20	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 EF62316 - General Preparation (WetChem)										
Reference (EF62316-SRM1)				Prepared & Analyzed: 06/22/06						
Total Alkalinity	78.0	2.00	mg/L	82.0		95.1	85-115			
Bicarbonate Alkalinity	78.0	2.00	"	82.0		95.1	85-115			

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

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

Project: EME Jct. A-20
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

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 EF61505 - 6010B/No Digestion										
Blank (EF61505-BLK1)				Prepared & Analyzed: 06/15/06						
Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							
Calibration Check (EF61505-CCV1)				Prepared & Analyzed: 06/15/06						
Calcium	2.01		mg/L	2.00		100	85-115			
Magnesium	2.12		"	2.00		106	85-115			
Potassium	1.76		"	2.00		88.0	85-115			
Sodium	1.74		"	2.00		87.0	85-115			
Duplicate (EF61505-DUP1)	**Source: 6F15001-01**			Prepared & Analyzed: 06/15/06						
Calcium	316	0.500	mg/L		320			1.26	20	
Magnesium	231	0.0500	"		229			0.870	20	
Potassium	38.4	0.500	"		38.5			0.260	20	
Sodium	1740	5.00	"		1760			1.14	20	

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

Project: EME Jct. A-20
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

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: 6/26/2006

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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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. A-20
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
01-F002	Monitor Well #4	6/13/2006	7:45	3	X		2			1		X						X	X					X			X					X
02	Monitor Well #5	6/13/2006	8:45	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: 1.5°C

Relinquished by:	Date	Time	Received by:	Date	Time
Rozanne Johnson	6/15/06	5:30	James Johnson	6/15/06	5:31
James Johnson	6/15/06	07:50	Received by ELOT:	6/15/06	07:50

Laboratory Comments:

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

Rice Op.

e/Time: 6/15/06 7:50

er #: 6F15002

els: OK

Sample Receipt Checklist

perature of container/cooler?	Yes	No	1.5 C
ping container/cooler in good condition?	Yes	No	
ody Seals intact on shipping container/cooler?	Yes	No	Not present
ody Seals intact on sample bottles?	Yes	No	Not present
n of custody present?	Yes	No	
iple Instructions complete on Chain of Custody?	Yes	No	
in of Custody signed when relinquished and received?	Yes	No	
in of custody agrees with sample label(s)	Yes	No	
tainer labels legible and intact?	Yes	No	
ıple Matrix and properties same as on chain of custody?	Yes	No	
ıples in proper container/bottle?	Yes	No	
ıples properly preserved?	Yes	No	
ıple bottles intact?	Yes	No	
servations documented on Chain of Custody?	Yes	No	
tainers documented on Chain of Custody?	Yes	No	
icient sample amount for indicated test?	Yes	No	
es received within sufficient hold time?	Yes	No	
samples have zero headspace?	Yes	No	Not Apolicable

ıer observations:

Variance Documentation:

ntact Person: - Date/Time: Contacted by:

garding:

ırrective Action Taken:

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

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

Report Date: August 22, 2006

Work Order: 6072813

Project Location: Lea County,NM
Project Name: EME Junction A-20
Project Number: EME Junction A-20

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
97130	MW-1	water	2006-07-24	14:20	2006-07-27
97131	MW-2	water	2006-07-24	10:35	2006-07-27
97132	MW-3	water	2006-07-24	09:25	2006-07-27
97133	MW-4	water	2006-07-24	08:15	2006-07-27
97134	MW-5	water	2006-07-24	11:55	2006-07-27

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.

This report consists of a total of 19 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 97130 - MW-1

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	28762	Date Analyzed:	2006-08-07	Analyzed By:	LJ
Prep Batch:	25161	Sample Preparation:	2006-08-07	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		**804**	mg/L as CaCo3	1	4.00
Total Alkalinity		**804**	mg/L as CaCo3	1	4.00

Sample: 97130 - MW-1

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	28457	Date Analyzed:	2006-07-28	Analyzed By:	KB
Prep Batch:	24898	Sample Preparation:	2006-07-28	Prepared By:	KB

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		**0.0341**	mg/L	20	0.00100
Toluene		<0.0200	mg/L	20	0.00100
Ethylbenzene		**0.0823**	mg/L	20	0.00100
Xylene		**0.0866**	mg/L	20	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.83	mg/L	20	0.100	92	66.2 - 127.7
4-Bromofluorobenzene (4-BFB)		1.48	mg/L	20	0.100	74	70.6 - 129.2

Sample: 97130 - MW-1

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	28607	Date Analyzed:	2006-08-02	Analyzed By:	TP
Prep Batch:	24949	Sample Preparation:	2006-07-31	Prepared By:	TS

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**164**	mg/L	10	0.500
Dissolved Potassium		**31.7**	mg/L	1	1.00
Dissolved Magnesium		**206**	mg/L	10	1.00
Dissolved Sodium		**1090**	mg/L	100	1.00

Sample: 97130 - MW-1

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	28550	Date Analyzed:	2006-07-30	Analyzed By:	WB
Prep Batch:	24972	Sample Preparation:	2006-07-29	Prepared By:	WB

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2180**	mg/L	50	0.500
Sulfate		**96.8**	mg/L	50	0.500

Sample: 97130 - MW-1

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	28666	Date Analyzed:	2006-08-01	Analyzed By:	SM
Prep Batch:	25064	Sample Preparation:	2009-07-31	Prepared By:	SM

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**4010**	mg/L	5	10.00

Sample: 97131 - MW-2

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	28762	Date Analyzed:	2006-08-07	Analyzed By:	LJ
Prep Batch:	25161	Sample Preparation:	2006-08-07	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		**590**	mg/L as CaCo3	1	4.00
Total Alkalinity		**590**	mg/L as CaCo3	1	4.00

Sample: 97131 - MW-2

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	28457	Date Analyzed:	2006-07-28	Analyzed By:	KB
Prep Batch:	24898	Sample Preparation:	2006-07-28	Prepared By:	KB

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)		0.0878	mg/L	1	0.100	88	66.2 - 127.7
4-Bromofluorobenzene (4-BFB)	[1]	0.0634	mg/L	1	0.100	63	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: 97131 - MW-2

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	28607	Date Analyzed:	2006-08-02	Analyzed By:	TP
Prep Batch:	24949	Sample Preparation:	2006-07-31	Prepared By:	TS

Parameter	Flag	Result	RL	Units	Dilution	RL
Dissolved Calcium		**263**		mg/L	10	0.500
Dissolved Potassium		**43.6**		mg/L	1	1.00
Dissolved Magnesium		**203**		mg/L	10	1.00
Dissolved Sodium		**1080**		mg/L	100	1.00

Sample: 97131 - MW-2

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	28550	Date Analyzed:	2006-07-30	Analyzed By:	WB
Prep Batch:	24972	Sample Preparation:	2006-07-29	Prepared By:	WB

Parameter	Flag	Result	RL	Units	Dilution	RL
Chloride		**2270**		mg/L	50	0.500
Sulfate		**648**		mg/L	50	0.500

Sample: 97131 - MW-2

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	28666	Date Analyzed:	2006-08-01	Analyzed By:	SM
Prep Batch:	25064	Sample Preparation:	2009-07-31	Prepared By:	SM

Parameter	Flag	Result	RL	Units	Dilution	RL
Total Dissolved Solids		**4825**		mg/L	5	10.00

Sample: 97132 - MW-3

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	28762	Date Analyzed:	2006-08-07	Analyzed By:	LJ
Prep Batch:	25161	Sample Preparation:	2006-08-07	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		**334**		mg/L as CaCo3	1	4.00
Total Alkalinity		**334**		mg/L as CaCo3	1	4.00

Sample: 97132 - MW-3

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	28457	Date Analyzed:	2006-07-28	Analyzed By:	KB
Prep Batch:	24898	Sample Preparation:	2006-07-28	Prepared By:	KB

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)		0.0900	mg/L	1	0.100	90	66.2 - 127.7
4-Bromofluorobenzene (4-BFB)	[2]	0.0664	mg/L	1	0.100	66	70.6 - 129.2

Sample: 97132 - MW-3

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	28607	Date Analyzed:	2006-08-02	Analyzed By:	TP
Prep Batch:	24949	Sample Preparation:	2006-07-31	Prepared By:	TS

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**337**	mg/L	10	0.500
Dissolved Potassium		**37.0**	mg/L	1	1.00
Dissolved Magnesium		**239**	mg/L	10	1.00
Dissolved Sodium		**993**	mg/L	10	1.00

Sample: 97132 - MW-3

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	28552	Date Analyzed:	2006-07-31	Analyzed By:	WB
Prep Batch:	24973	Sample Preparation:	2006-07-29	Prepared By:	WB

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2890**	mg/L	500	0.500
Sulfate		**566**	mg/L	50	0.500

Sample: 97132 - MW-3

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	28666	Date Analyzed:	2006-08-01	Analyzed By:	SM
Prep Batch:	25064	Sample Preparation:	2009-07-31	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 97132 continued . . .

Parameter	Flag	RL Result	Units	Dilution	RL

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**4650**	mg/L	5	10.00

Sample: 97133 - MW-4

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	28763	Date Analyzed:	2006-08-07	Analyzed By:	LJ
Prep Batch:	25162	Sample Preparation:	2006-08-07	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		**338**	mg/L as CaCo3	1	4.00
Total Alkalinity		**338**	mg/L as CaCo3	1	4.00

Sample: 97133 - MW-4

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	28457	Date Analyzed:	2006-07-28	Analyzed By:	KB
Prep Batch:	24898	Sample Preparation:	2006-07-28	Prepared By:	KB

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)		0.0906	mg/L	1	0.100	91	66.2 - 127.7
4-Bromofluorobenzene (4-BFB)	[3]	0.0653	mg/L	1	0.100	65	70.6 - 129.2

Sample: 97133 - MW-4

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	28607	Date Analyzed:	2006-08-02	Analyzed By:	TP
Prep Batch:	24949	Sample Preparation:	2006-07-31	Prepared By:	TS

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**362**	mg/L	10	0.500
Dissolved Potassium		**56.3**	mg/L	1	1.00

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

continued . . .

sample 97133 continued...

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Magnesium		**291**	mg/L	10	1.00
Dissolved Sodium		**1320**	mg/L	100	1.00

Sample: 97133 - MW-4

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	28552	Date Analyzed:	2006-07-31	Analyzed By:	WB
Prep Batch:	24973	Sample Preparation:	2006-07-29	Prepared By:	WB

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**3520**	mg/L	500	0.500
Sulfate		**806**	mg/L	50	0.500

Sample: 97133 - MW-4

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	28666	Date Analyzed:	2006-08-01	Analyzed By:	SM
Prep Batch:	25064	Sample Preparation:	2009-07-31	Prepared By:	SM

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**6135**	mg/L	5	10.00

Sample: 97134 - MW-5

Analysis:	Alkalinity	Analytical Method:	SM 2320B	Prep Method:	N/A
QC Batch:	28763	Date Analyzed:	2006-08-07	Analyzed By:	LJ
Prep Batch:	25162	Sample Preparation:	2006-08-07	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		**500**	mg/L as CaCo3	1	4.00
Total Alkalinity		**500**	mg/L as CaCo3	1	4.00

Sample: 97134 - MW-5

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	28457	Date Analyzed:	2006-07-28	Analyzed By:	KB
Prep Batch:	24898	Sample Preparation:	2006-07-28	Prepared By:	KB

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)		0.0907	mg/L	1	0.100	91	66.2 - 127.7
4-Bromofluorobenzene (4-BFB)	[4]	0.0642	mg/L	1	0.100	64	70.6 - 129.2

Sample: 97134 - MW-5

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	28607	Date Analyzed:	2006-08-02	Analyzed By:	TP
Prep Batch:	24949	Sample Preparation:	2006-07-31	Prepared By:	TS

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		**234**	mg/L	10	0.500
Dissolved Potassium		**45.5**	mg/L	1	1.00
Dissolved Magnesium		**175**	mg/L	10	1.00
Dissolved Sodium		**1220**	mg/L	100	1.00

Sample: 97134 - MW-5

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	28552	Date Analyzed:	2006-07-31	Analyzed By:	WB
Prep Batch:	24973	Sample Preparation:	2006-07-29	Prepared By:	WB

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**2300**	mg/L	50	0.500
Sulfate		**574**	mg/L	50	0.500

Sample: 97134 - MW-5

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	28666	Date Analyzed:	2006-08-01	Analyzed By:	SM
Prep Batch:	25064	Sample Preparation:	2009-07-31	Prepared By:	SM

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids		**4235**	mg/L	5	10.00

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

Method Blank (1) QC Batch: 28457

QC Batch:	28457	Date Analyzed:	2006-07-28	Analyzed By:	KB
Prep Batch:	24898	QC Preparation:	2006-07-28	Prepared By:	KB

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)		0.0915	mg/L	1	0.100	92	79.3 - 116
4-Bromofluorobenzene (4-BFB)		0.0654	mg/L	1	0.100	65	47.6 - 122

Method Blank (1) QC Batch: 28550

QC Batch:	28550	Date Analyzed:	2006-07-30	Analyzed By:	WB
Prep Batch:	24972	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

Method Blank (1) QC Batch: 28552

QC Batch:	28552	Date Analyzed:	2006-07-31	Analyzed By:	WB
Prep Batch:	24973	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

Method Blank (1) QC Batch: 28607

QC Batch:	28607	Date Analyzed:	2006-08-02	Analyzed By:	TP
Prep Batch:	24949	QC Preparation:	2006-07-31	Prepared By:	TS

Parameter	Flag	MDL Result	Units	RL
Dissolved Calcium		0.175	mg/L	0.5
Dissolved Potassium		0.614	mg/L	1
Dissolved Magnesium		0.935	mg/L	1
Dissolved Sodium		0.947	mg/L	1

Method Blank (1) QC Batch: 28666

QC Batch: 28666 | Date Analyzed: 2006-08-01 | Analyzed By: SM
Prep Batch: 25064 | QC Preparation: 2006-07-31 | Prepared By: SM

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

Method Blank (1) QC Batch: 28762

QC Batch: 28762 | Date Analyzed: 2006-08-07 | Analyzed By: LJ
Prep Batch: 25161 | QC Preparation: 2006-08-07 | 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: 28763

QC Batch: 28763 | Date Analyzed: 2006-08-07 | Analyzed By: LJ
Prep Batch: 25162 | QC Preparation: 2006-08-07 | 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

Duplicates (1)

QC Batch: 28666 | Date Analyzed: 2006-08-01 | Analyzed By: SM
Prep Batch: 25064 | QC Preparation: 2006-07-31 | Prepared By: SM

Param	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids	7235	6435	mg/L	5	12	17.2

Duplicates (1)

QC Batch: 28762 | Date Analyzed: 2006-08-07 | Analyzed By: LJ
Prep Batch: 25161 | QC Preparation: 2006-08-07 | 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
Bicarbonate Alkalinity	330	334	mg/L as CaCo3	1	1	12.6
Total Alkalinity	330	334	mg/L as CaCo3	1	1	11.5

Duplicates (1)

QC Batch: 28763 | Date Analyzed: 2006-08-07 | Analyzed By: LJ
Prep Batch: 25162 | QC Preparation: 2006-08-07 | 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
Bicarbonate Alkalinity	170	174	mg/L as CaCo3	1	2	12.6
Total Alkalinity	170	174	mg/L as CaCo3	1	2	11.5

Laboratory Control Spike (LCS-1)

QC Batch: 28457 | Date Analyzed: 2006-07-28 | Analyzed By: KB
Prep Batch: 24898 | QC Preparation: 2006-07-28 | Prepared By: KB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0958	mg/L	1	0.100	<0.000255	96	82.2 - 119
Toluene	0.0943	mg/L	1	0.100	<0.000210	94	81.2 - 119
Ethylbenzene	0.0926	mg/L	1	0.100	<0.000317	93	80 - 122
Xylene	0.284	mg/L	1	0.300	<0.000603	95	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	0.0950	mg/L	1	0.100	<0.000255	96	82.2 - 119	1	20
Toluene	0.0940	mg/L	1	0.100	<0.000210	94	81.2 - 119	0	20
Ethylbenzene	0.0925	mg/L	1	0.100	<0.000317	93	80 - 122	0	20
Xylene	0.284	mg/L	1	0.300	<0.000603	95	81.3 - 122	0	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)	0.0910	0.0909	mg/L	1	0.100	91	91	81.8 - 114
4-Bromofluorobenzene (4-BFB)	0.101	0.101	mg/L	1	0.100	101	101	72.7 - 116

Laboratory Control Spike (LCS-1)

QC Batch: 28550 | Date Analyzed: 2006-07-30 | Analyzed By: WB
Prep Batch: 24972 | QC Preparation: 2006-07-29 | Prepared By: WB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	12.0	mg/L	1	12.5	<0.0181	96	90 - 110
Sulfate	12.2	mg/L	1	12.5	<0.0485	98	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	11.9	mg/L	1	12.5	<0.0181	96	90 - 110	1	20
Sulfate	12.1	mg/L	1	12.5	<0.0485	98	90 - 110	1	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: 28552 | Date Analyzed: 2006-07-31 | Analyzed By: WB
Prep Batch: 24973 | QC Preparation: 2006-07-29 | Prepared By: WB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11.8	mg/L	1	12.5	<0.0181	95	90 - 110
Sulfate	11.9	mg/L	1	12.5	<0.0485	95	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	12.0	mg/L	1	12.5	<0.0181	95	90 - 110	1	20
Sulfate	12.0	mg/L	1	12.5	<0.0485	95	90 - 110	0	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: 28607 | Date Analyzed: 2006-08-02 | Analyzed By: TP
Prep Batch: 24949 | QC Preparation: 2006-07-31 | Prepared By: TS

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	53.7	mg/L	1	50.0	<0.0950	107	85 - 115
Dissolved Potassium	49.7	mg/L	1	50.0	<0.377	99	85 - 113
Dissolved Magnesium	49.5	mg/L	1	50.0	<0.704	99	85 - 113
Dissolved Sodium	48.7	mg/L	1	50.0	<0.261	97	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	52.6	mg/L	1	50.0	<0.0950	107	85 - 115	2	20
Dissolved Potassium	49.0	mg/L	1	50.0	<0.377	99	85 - 113	1	20
Dissolved Magnesium	51.4	mg/L	1	50.0	<0.704	99	85 - 113	4	20
Dissolved Sodium	49.8	mg/L	1	50.0	<0.261	97	85 - 111	2	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: 97188

QC Batch: 28457 | Date Analyzed: 2006-07-28 | Analyzed By: KB
Prep Batch: 24898 | QC Preparation: 2006-07-28 | Prepared By: KB

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Benzene	0.0965	mg/L	1	0.100	<0.000255	96	70.9 - 126
Toluene	0.0961	mg/L	1	0.100	<0.000210	96	70.8 - 125
Ethylbenzene	0.0956	mg/L	1	0.100	<0.000317	96	74.8 - 125
Xylene	0.291	mg/L	1	0.300	<0.000603	97	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	[5]	NA	mg/L	1	0.100	<0.000255	0	70.9 - 126	200	20
Toluene	[6]	NA	mg/L	1	0.100	<0.000210	0	70.8 - 125	200	20
Ethylbenzene	[7]	NA	mg/L	1	0.100	<0.000317	0	74.8 - 125	200	20
Xylene	[8]	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)	[9]	0.0916	NA	mg/L	1	0.1	92	0	73.6 - 121
4-Bromofluorobenzene (4-BFB)	[10]	0.102	NA	mg/L	1	0.1	102	0	81.8 - 114

Matrix Spike (MS-1) Spiked Sample: 96976

QC Batch: 28550 | Date Analyzed: 2006-07-30 | Analyzed By: WB
Prep Batch: 24972 | QC Preparation: 2006-07-29 | Prepared By: WB

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	1360	mg/L	100	12.5	46.3	105	25.4 - 171
Sulfate	3730	mg/L	100	12.5	2360	110	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	1350	mg/L	100	12.5	46.3	104	25.4 - 171	1	20
Sulfate	3740	mg/L	100	12.5	2360	89	0 - 677	0	20

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

[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.
[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.

Matrix Spike (MS-1) Spiked Sample: 97132

QC Batch: 28552
Prep Batch: 24973

Date Analyzed: 2006-07-31
QC Preparation: 2006-07-29

Analyzed By: WB
Prepared By: WB

Param	MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	8800	mg/L	500	12.5	2890	94	25.4 - 171
Sulfate	6870	mg/L	500	12.5	566	101	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	8820	mg/L	500	12.5	2890	95	25.4 - 171	0	20
Sulfate	6780	mg/L	500	12.5	566	99	0 - 677	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: 97133

QC Batch: 28607
Prep Batch: 24949

Date Analyzed: 2006-08-02
QC Preparation: 2006-07-31

Analyzed By: TP
Prepared By: TS

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium		420	mg/L	1	50.0	362	116	68.4 - 138
Dissolved Potassium	[11]	95.5	mg/L	1	50.0	56.3	78	82 - 129
Dissolved Magnesium		344	mg/L	1	50.0	291	106	61.2 - 135
Dissolved Sodium	[12]	1420	mg/L	100	50.0	1320	2	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		416	mg/L	1	50.0	362	108	68.4 - 138	1	20
Dissolved Potassium		101	mg/L	1	50.0	56.3	89	82 - 129	6	20
Dissolved Magnesium		333	mg/L	1	50.0	291	84	61.2 - 135	3	20
Dissolved Sodium	[13]	1480	mg/L	100	50.0	1320	3	81.8 - 125	4	20

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

Standard (ICV-1)

QC Batch: 28457

Date Analyzed: 2006-07-28

Analyzed By: KB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0950	95	85 - 115	2006-07-28
Toluene		mg/L	0.100	0.0942	94	85 - 115	2006-07-28

continued ...

[11]Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.
[12]Matrix spike recoveries out of control limits due to matrix spike being diluted out. Use LCS/LCSD to demonstrate analysis is under control.
[13]Matrix spike recoveries out of control limits due to matrix spike being diluted out. Use LCS/LCSD to demonstrate analysis is under control.

standard continued . . .

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		mg/L	0.100	0.0926	93	85 - 115	2006-07-28
Xylene		mg/L	0.300	0.285	95	85 - 115	2006-07-28

Standard (CCV-1)

QC Batch: 28457 Date Analyzed: 2006-07-28 Analyzed By: KB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.0963	96	85 - 115	2006-07-28
Toluene		mg/L	0.100	0.0945	94	85 - 115	2006-07-28
Ethylbenzene		mg/L	0.100	0.0930	93	85 - 115	2006-07-28
Xylene		mg/L	0.300	0.285	95	85 - 115	2006-07-28

Standard (ICV-1)

QC Batch: 28550 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	12.9	103	90 - 110	2006-07-30
Sulfate		mg/L	12.5	12.8	102	90 - 110	2006-07-30

Standard (CCV-1)

QC Batch: 28550 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	11.9	95	90 - 110	2006-07-30
Sulfate		mg/L	12.5	12.1	97	90 - 110	2006-07-30

Standard (ICV-1)

QC Batch: 28552 Date Analyzed: 2006-07-31 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	11.9	95	90 - 110	2006-07-31
Sulfate		mg/L	12.5	12.1	97	90 - 110	2006-07-31

Standard (CCV-1)

QC Batch: 28552 Date Analyzed: 2006-07-31 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	12.1	97	90 - 110	2006-07-31
Sulfate		mg/L	12.5	12.0	96	90 - 110	2006-07-31

Standard (ICV-1)

QC Batch: 28607 Date Analyzed: 2006-08-02 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	50.5	101	90 - 110	2006-08-02
Dissolved Potassium		mg/L	50.0	48.6	97	90 - 110	2006-08-02
Dissolved Magnesium		mg/L	50.0	50.7	101	90 - 110	2006-08-02
Dissolved Sodium		mg/L	50.0	50.4	101	90 - 110	2006-08-02

Standard (CCV-1)

QC Batch: 28607 Date Analyzed: 2006-08-02 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	50.8	102	90 - 110	2006-08-02
Dissolved Potassium		mg/L	50.0	47.2	94	90 - 110	2006-08-02
Dissolved Magnesium		mg/L	50.0	49.0	98	90 - 110	2006-08-02
Dissolved Sodium		mg/L	50.0	48.9	98	90 - 110	2006-08-02

Standard (ICV-1)

QC Batch: 28666 Date Analyzed: 2006-08-01 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	2006-08-01

Standard (CCV-1)

QC Batch: 28666 Date Analyzed: 2006-08-01 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	1003	100	90 - 110	2006-08-01

Standard (ICV-1)

QC Batch: 28762 Date Analyzed: 2006-08-07 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	238	95	90 - 110	2006-08-07

Standard (CCV-1)

QC Batch: 28762 Date Analyzed: 2006-08-07 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	238	95	90 - 110	2006-08-07

Standard (ICV-1)

QC Batch: 28763 Date Analyzed: 2006-08-07 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	236	94	90 - 110	2006-08-07

Standard (CCV-1)

QC Batch: 28763 Date Analyzed: 2006-08-07 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	2006-08-07

6701 Aberdeen Ave, Ste 9
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El Paso, Texas 79932
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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 6072813

Company Name: RICE Operating Company
Phone #: (505)393-9174
Address: (Street, City, Zip) 122 W Taylor Street - Hobbs, New Mexico 88240
Fax #: (505) 397-1471
Contact Person: Kristin Farris - Pope, Project Scientist
kpope@riceswd.com
Invoice to: (If different from above)
Project #: None Given
Project Name: EME Junction A-20
Project Location: Lea County - New Mexico
Sampler Signature: Rozanne Johnson (505)631-9310 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
97130	Monitor Well #1	2	40 ml	X				X				X		7-24	14:20
3	Monitor Well #1	1	1L	X								X		7-24	14:20
31	Monitor Well #2	2	40 ml	X				X				X		7-24	10:35
	Monitor Well #2	1	1L	X								X		7-24	10:35
32	Monitor Well #3	2	40 ml	X				X				X		7-24	9:25
	Monitor Well #3	1	1L	X								X		7-24	9:25
33	Monitor Well #4	2	40 ml	X				X				X		7-24	8:15
	Monitor Well #4	1	1L	X								X		7-24	8:15
34	Monitor Well #5	2	40 ml	X				X				X		7-24	11:55
	Monitor Well #5	1	1L	X								X		7-24	11:55

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			
	X																				
																X	X	X			
	X																				
																X	X	X			

Relinquished by: Rozanne Johnson Date: 7/26/06 Time: 13:00
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Megan McCord Date: 7/27/06 Time: 1345

LAB USE ONLY
Intact (Y/N)
Headspace Y/N
Temp 4.0°
Log-in Review

REMARKS: Please email the results to:
kpope@riceswd.com
mfranks @ riceswd.com
rozanne@valornet.com
☐ check if special reporting limits needed

Carrier # Bus 169017 6653

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

Report Date: August 22, 2006
EME Junction A-20

Work Order: 6072813
EME Junction A-20

Page Number: 18 of 19
Lea County, NM

Cation-Anion Balance Sheet

DATE: 8/22/2006

Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	Bromide ppm	TDS ppm	EC µMHOs/cm
97130	164	206	1090	31.7	804	96.7985	2182.19				4010	
97131	263	203	1080	43.6	590	647.558	2272.53				4825	
97132	337	239	993	37	334	566	2890				4650	
97133	362	291	1320	56.3	338	806	3520				6135	
97134	234	175	1220	45.5	500	573.887	2305				4235	

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	Bromide in meq/L	**Cations in meq/L**	**Anions in meq/L**	**Percentage Error**
97130	8.18	16.95	47.42	0.81	16.08	2.02	61.56	0	0	0	73.36	79.65	8.226188729
97131	13.12	16.70	46.98	1.12	11.80	13.48	64.11	0	0	0	77.92	89.39	13.70640222
97132	16.82	19.67	43.20	0.95	6.68	11.78	81.53	0	0	0	80.63	99.99	21.44371123
97133	18.06	23.95	57.42	1.44	6.76	16.78	99.30	0	0	0	100.87	122.84	19.64125916
97134	11.68	14.40	53.07	1.16	10.00	11.95	65.02	0	0	0	80.31	86.97	7.963884863

	EC/Cation	EC/Anion				
97130	7336.1226	7965.49247	range	0	to	0
97131	7792.3858	8939.02289	range	0	to	0
97132	8062.557	9999.102	range	0	to	0
97133	10087.0344	12284.012	range	0	to	0
97134	8031.124	8697.23773	range	0	to	0

TDS/EC	TDS/Cat	TDS/Anion	
#DIV/0!	0.55	0.50	needs to be 0.55-0.77
#DIV/0!	0.62	0.54	needs to be 0.55-0.77
#DIV/0!	0.58	0.47	needs to be 0.55-0.77
#DIV/0!	0.61	0.50	needs to be 0.55-0.77
#DIV/0!	0.53	0.49	needs to be 0.55-0.77

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. A-20

Project Number: None Given

Location: T20S-R37E-Sec20A, Lea Co., NM

Lab Order Number: 6J19008

Report Date: 10/31/06

Rice Operating Co.	Project: EME Jct. A-20	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	6J19008-01	Water	10/17/06 12:40	10-19-2006 10:15
Monitor Well #2	6J19008-02	Water	10/17/06 10:00	10-19-2006 10:15
Monitor Well #3	6J19008-03	Water	10/17/06 11:45	10-19-2006 10:15
Monitor Well #4	6J19008-04	Water	10/17/06 10:55	10-19-2006 10:15
Monitor Well #5	6J19008-05	Water	10/17/06 09:10	10-19-2006 10:15

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

Rice Operating Co.	Project: EME Jct. A-20	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 (6J19008-01) Water									
Benzene	**0.0409**	0.00100	mg/L	1	EJ62301	10/23/06	10/24/06	EPA 8021B	
Toluene	**0.0187**	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.124**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	**0.0907**	0.00100	"	"	"	"	"	"	
Xylene (o)	**0.0582**	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*104 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*104 %*	*80-120*		"	"	"	"	
Monitor Well #2 (6J19008-02) Water									
Benzene	ND	0.00100	mg/L	1	EJ62301	10/23/06	10/24/06	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		*100 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*85.2 %*	*80-120*		"	"	"	"	
Monitor Well #3 (6J19008-03) Water									
Benzene	ND	0.00100	mg/L	1	EJ62301	10/23/06	10/24/06	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		*95.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*88.2 %*	*80-120*		"	"	"	"	
Monitor Well #4 (6J19008-04) Water									
Benzene	**I [0.000732]**	0.00100	mg/L	1	EJ62301	10/23/06	10/24/06	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		*90.5 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80.5 %*	*80-120*		"	"	"	"	

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Rice Operating Co.	Project: EME Jct. A-20	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 #5 (6J19008-05) Water									
Benzene	ND	0.00100	mg/L	1	EJ62301	10/23/06	10/24/06	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		*92.0 %*		*80-120*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80.5 %*		*80-120*	"	"	"	"	

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Rice Operating Co.	Project: EME Jct. A-20	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 (6J19008-01) Water									
Total Alkalinity	**870**	10.0	mg/L	5	EJ62306	10/20/06	10/20/06	EPA 310.1M	
Chloride	**1830**	25.0	"	50	EJ62101	10/19/06	10/20/06	EPA 300.0	
Total Dissolved Solids	**4050**	10.0	"	1	EJ61903	10/19/06	10/19/06	EPA 160.1	
Sulfate	**44.7**	25.0	"	50	EJ62101	10/19/06	10/20/06	EPA 300.0	
Monitor Well #2 (6J19008-02) Water									
Total Alkalinity	**400**	4.00	mg/L	2	EJ62306	10/20/06	10/20/06	EPA 310.1M	
Chloride	**2040**	25.0	"	50	EJ62101	10/19/06	10/20/06	EPA 300.0	
Total Dissolved Solids	**4590**	10.0	"	1	EJ61903	10/19/06	10/19/06	EPA 160.1	
Sulfate	**679**	25.0	"	50	EJ62101	10/19/06	10/20/06	EPA 300.0	
Monitor Well #3 (6J19008-03) Water									
Total Alkalinity	**364**	4.00	mg/L	2	EJ62306	10/20/06	10/20/06	EPA 310.1M	
Chloride	**2310**	50.0	"	100	EJ62101	10/19/06	10/20/06	EPA 300.0	
Total Dissolved Solids	**4900**	10.0	"	1	EJ61903	10/19/06	10/19/06	EPA 160.1	
Sulfate	**563**	50.0	"	100	EJ62101	10/19/06	10/20/06	EPA 300.0	
Monitor Well #4 (6J19008-04) Water									
Total Alkalinity	**320**	4.00	mg/L	2	EJ62306	10/20/06	10/20/06	EPA 310.1M	
Chloride	**3020**	50.0	"	100	EJ62101	10/19/06	10/20/06	EPA 300.0	
Total Dissolved Solids	**6560**	10.0	"	1	EJ61903	10/19/06	10/19/06	EPA 160.1	
Sulfate	**791**	50.0	"	100	EJ62101	10/19/06	10/20/06	EPA 300.0	
Monitor Well #5 (6J19008-05) Water									
Total Alkalinity	**456**	4.00	mg/L	2	EJ62306	10/20/06	10/20/06	EPA 310.1M	
Chloride	**2100**	50.0	"	100	EJ62101	10/19/06	10/20/06	EPA 300.0	
Total Dissolved Solids	**4550**	10.0	"	1	EJ61903	10/19/06	10/19/06	EPA 160.1	
Sulfate	**573**	50.0	"	100	EJ62101	10/19/06	10/20/06	EPA 300.0	

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

Project: EME Jct. A-20
Project Number: None Given
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Total Metals by EPA / Standard Methods

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Monitor Well #1 (6J19008-01) Water									
Calcium	**157**	4.05	mg/L	50	EJ62023	10/20/06	10/20/06	EPA 6010B	
Magnesium	**186**	1.80	"	"	"	"	"	"	
Potassium	***20.6***	*0.600*	"	*10*	"	"	"	"	
Sodium	**1180**	10.8	"	250	"	"	"	"	
Monitor Well #2 (6J19008-02) Water									
Calcium	**247**	4.05	mg/L	50	EJ62023	10/20/06	10/20/06	EPA 6010B	
Magnesium	**199**	1.80	"	"	"	"	"	"	
Potassium	**31.8**	0.600	"	10	"	"	"	"	
Sodium	**1130**	10.8	"	250	"	"	"	"	
Monitor Well #3 (6J19008-03) Water									
Calcium	**329**	4.05	mg/L	50	EJ62023	10/20/06	10/20/06	EPA 6010B	
Magnesium	**234**	1.80	"	"	"	"	"	"	
Potassium	**23.5**	0.600	"	10	"	"	"	"	
Sodium	**1080**	10.8	"	250	"	"	"	"	
Monitor Well #4 (6J19008-04) Water									
Calcium	**345**	4.05	mg/L	50	EJ62023	10/20/06	10/20/06	EPA 6010B	
Magnesium	**268**	1.80	"	"	"	"	"	"	
Potassium	**31.8**	0.600	"	10	"	"	"	"	
Sodium	**1410**	10.8	"	250	"	"	"	"	
Monitor Well #5 (6J19008-05) Water									
Calcium	**229**	4.05	mg/L	50	EJ62023	10/20/06	10/20/06	EPA 6010B	
Magnesium	**183**	1.80	"	"	"	"	"	"	
Potassium	**35.6**	0.600	"	10	"	"	"	"	
Sodium	**1190**	10.8	"	250	"	"	"	"	

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

Project: EME Jct. A-20
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 EJ62301 - EPA 5030C (GC)										
Blank (EJ62301-BLK1)				Prepared: 10/23/06 Analyzed: 10/24/06						
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	*34.7*		*ug/l*	*40.0*		*86.8*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*34.3*		"	*40.0*		*85.8*	*80-120*			
LCS (EJ62301-BS1)				Prepared: 10/23/06 Analyzed: 10/24/06						
Benzene	0.0481	0.00100	mg/L	0.0500		96.2	80-120			
Toluene	0.0490	0.00100	"	0.0500		98.0	80-120			
Ethylbenzene	0.0500	0.00100	"	0.0500		100	80-120			
Xylene (p/m)	0.0980	0.00100	"	0.100		98.0	80-120			
Xylene (o)	0.0484	0.00100	"	0.0500		96.8	80-120			
Surrogate: a,a,a-Trifluorotoluene	*36.5*		*ug/l*	*40.0*		*91.2*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*40.5*		"	*40.0*		*101*	*80-120*			
Calibration Check (EJ62301-CCV1)				Prepared: 10/23/06 Analyzed: 10/25/06						
Benzene	51.6		ug/l	50.0		103	80-120			
Toluene	49.4		"	50.0		98.8	80-120			
Ethylbenzene	52.2		"	50.0		104	80-120			
Xylene (p/m)	93.3		"	100		93.3	80-120			
Xylene (o)	47.8		"	50.0		95.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	*40.3*		"	*40.0*		*101*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*35.7*		"	*40.0*		*89.2*	*80-120*			
Matrix Spike (EJ62301-MS1)	**Source: 6J19031-08**			Prepared: 10/23/06 Analyzed: 10/26/06						
Benzene	0.0464	0.00100	mg/L	0.0500	ND	92.8	80-120			
Toluene	0.0470	0.00100	"	0.0500	ND	94.0	80-120			
Ethylbenzene	0.0486	0.00100	"	0.0500	ND	97.2	80-120			
Xylene (p/m)	0.0915	0.00100	"	0.100	ND	91.5	80-120			
Xylene (o)	0.0475	0.00100	"	0.0500	ND	95.0	80-120			
Surrogate: a,a,a-Trifluorotoluene	*38.4*		*ug/l*	*40.0*		*96.0*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*39.0*		"	*40.0*		*97.5*	*80-120*			

Rice Operating Co.	Project: EME Jct. A-20	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	
Hobbs NM, 88240	Project Manager: Kristin Farris-Pope	

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EJ62301 - EPA 5030C (GC)										
Matrix Spike Dup (EJ62301-MSD1)	**Source: 6J19031-08**			Prepared: 10/23/06 Analyzed: 10/26/06						
Benzene	0.0476	0.00100	mg/L	0.0500	ND	95.2	80-120	2.55	20	
Toluene	0.0476	0.00100	"	0.0500	ND	95.2	80-120	1.27	20	
Ethylbenzene	0.0502	0.00100	"	0.0500	ND	100	80-120	2.84	20	
Xylene (p/m)	0.0927	0.00100	"	0.100	ND	92.7	80-120	1.30	20	
Xylene (o)	0.0480	0.00100	"	0.0500	ND	96.0	80-120	1.05	20	
Surrogate: a,a,a-Trifluorotoluene	*38.6*		*ug/l*	*40.0*		*96.5*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*38.1*		*"*	*40.0*		*95.2*	*80-120*			

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

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 EJ61903 - Filtration Preparation										
Blank (EJ61903-BLK1)				Prepared & Analyzed: 10/19/06						
Total Dissolved Solids	ND	10.0	mg/L							
Duplicate (EJ61903-DUP1)		Source: 6J17006-01		Prepared & Analyzed: 10/19/06						
Total Dissolved Solids	6890	10.0	mg/L		6600			4.30	5	
Duplicate (EJ61903-DUP2)		Source: 6J19008-04		Prepared & Analyzed: 10/19/06						
Total Dissolved Solids	6790	10.0	mg/L		6560			3.45	5	
Batch EJ62101 - General Preparation (WetChem)										
Blank (EJ62101-BLK1)				Prepared: 10/19/06 Analyzed: 10/20/06						
Chloride	ND	0.500	mg/L							
Sulfate	ND	0.500	"							
LCS (EJ62101-BS1)				Prepared: 10/19/06 Analyzed: 10/20/06						
Sulfate	11.5	0.500	mg/L	10.0		115	80-120			
Chloride	10.5	0.500	"	10.0		105	80-120			
Calibration Check (EJ62101-CCV1)				Prepared: 10/19/06 Analyzed: 10/20/06						
Chloride	10.8		mg/L	10.0		108	80-120			
Sulfate	11.9		"	10.0		119	80-120			
Duplicate (EJ62101-DUP1)		Source: 6J17007-01		Prepared: 10/19/06 Analyzed: 10/20/06						
Sulfate	163	5.00	mg/L		164			0.612	20	
Chloride	256	5.00	"		256			0.00	20	
Duplicate (EJ62101-DUP2)		Source: 6J19010-02		Prepared: 10/19/06 Analyzed: 10/20/06						
Sulfate	32.9	2.50	mg/L		32.7			0.610	20	
Chloride	20.2	2.50	"		19.9			1.50	20	

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 EJ62101 - General Preparation (WetChem)										
Matrix Spike (EJ62101-MS1)	**Source: 6J17007-01**			Prepared: 10/19/06 Analyzed: 10/20/06						
Chloride	375	5.00	mg/L	100	256	119	80-120			
Sulfate	263	5.00	"	100	164	99.0	80-120			
Matrix Spike (EJ62101-MS2)	**Source: 6J19010-02**			Prepared: 10/19/06 Analyzed: 10/20/06						
Sulfate	83.7	2.50	mg/L	50.0	32.7	102	80-120			
Chloride	77.7	2.50	"	50.0	19.9	116	80-120			
Batch EJ62306 - General Preparation (WetChem)										
Blank (EJ62306-BLK1)				Prepared & Analyzed: 10/20/06						
Total Alkalinity	ND	2.00	mg/L							
Hydroxide Alkalinity	ND	0.100	"							
Duplicate (EJ62306-DUP1)	**Source: 6J19007-01**			Prepared & Analyzed: 10/20/06						
Total Alkalinity	230	2.00	mg/L		234			1.72	20	
Reference (EJ62306-SRM1)				Prepared & Analyzed: 10/20/06						
Total Alkalinity	244		mg/L	250		97.6	90-110			

Rice Operating Co.	Project: EME Jct. A-20	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 EJ62023 - 6010B/No Digestion										
Blank (EJ62023-BLK1)				Prepared & Analyzed: 10/20/06						
Calcium	ND	0.0810	mg/L							
Magnesium	ND	0.0360	"							
Potassium	ND	0.0600	"							
Sodium	ND	0.0430	"							
Calibration Check (EJ62023-CCV1)				Prepared & Analyzed: 10/20/06						
Calcium	2.07		mg/L	2.00		104	85-115			
Magnesium	2.04		"	2.00		102	85-115			
Potassium	2.08		"	2.00		104	85-115			
Sodium	1.72		"	2.00		86.0	85-115			
Duplicate (EJ62023-DUP1)	**Source: 6J19007-01**			Prepared & Analyzed: 10/20/06						
Calcium	145	4.05	mg/L		145			0.00	20	
Magnesium	34.2	0.360	"		35.4			3.45	20	
Potassium	5.37	0.600	"		5.57			3.66	20	
Sodium	97.6	2.15	"		96.6			1.03	20	

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

Rice Operating Co.	Project: EME Jct. A-20	Fax: (505) 397-1471
122 W. Taylor	Project Number: None Given	
Hobbs NM, 88240	Project Manager: Kristin Farris-Pope	

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: 10/31/2006

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 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 Junction A-20
Project Number:
Project Loc: T20S-R37E-Sec20A, Lea County NM
PO Number:

LAB # (lab use only) 6J19008	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO3	HCl (2) 40 ml glass vials	NaOH	H2SO4	None (1) 1 Liter HDPE	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For: TCLP: TPH: 418.1 8015M 1005 1005	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	SAR / ESP / CEC	TCLP: 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	10/17/2006	12:40	3	X		2			1		X					X	X					X			X					X
-02	Monitor Well #2	10/17/2006	10:00	3	X		2			1		X					X	X					X			X					X
-03	Monitor Well #3	10/17/2006	11:45	3	X		2			1		X					X	X					X			X					X
-04	Monitor Well #4	10/17/2006	10:55	3	X		2			1		X					X	X					X			X					X
-05	Monitor Well #5	10/17/2006	9:10	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

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

Laboratory Comments: 2.0

Relinquished by:	Date	Time	Received by:	Date	Time
Rozanne Johnson	10-19-06	6:15	James Johnson	10-19-06	6:16
Relinquished by: James Johnson	10-19-06		Received by ELOT: Corin Wood	10/19/06	10:15

Environmental Lab of Texas

Variance/ Corrective Action Report- Sample Log-In

t: Rice Op.

Date/ Time: 10/19/06 10:15

Lab ID # : 6J19008

Initials: ik

Sample Receipt Checklist

		Yes	No		Client Initials
#1	Temperature of container/ cooler?	Yes	No	2.0 °C	
#2	Shipping container in good condition?	Yes	No		
#3	Custody Seals intact on shipping container/ cooler?	Yes	No	Not Present	
#4	Custody Seals intact on sample bottles/ container?	Yes	No	Not Present	
#5	Chain of Custody present?	Yes	No		
#6	Sample instructions complete of Chain of Custody?	Yes	No		
#7	Chain of Custody signed when relinquished/ received?	Yes	No		
#8	Chain of Custody agrees with sample label(s)?	Yes	No	ID written on Cont./ Lid	
#9	Container label(s) legible and intact?	Yes	No	Not Applicable	
#10	Sample matrix/ properties agree with Chain of Custody?	Yes	No		
#11	Containers supplied by ELOT?	Yes	No		
#12	Samples in proper container/ bottle?	Yes	No	See Below	
#13	Samples properly preserved?	Yes	No	See Below	
#14	Sample bottles intact?	Yes	No		
#15	Preservations documented on Chain of Custody?	Yes	No		
	Containers documented on Chain of Custody?	Yes	No		
	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

ANALYTICAL REPORT

Prepared for:

DONNIE ANDERSON
RICE OPERATING CORP.
122 WEST TAYLOR
HOBBS, NM 88242

Project:	Jct A-20 box Upgrade
Order#:	G0202739
Report Date:	03/07/2002

Certificates
US EPA Laboratory Code TX00158

ENVIRONMENTAL LAB OF TEXAS

SAMPLE WORK LIST

RICE OPERATING CORP.
122 WEST TAYLOR

HOBBS, NM 88242

Order#: G0202739
Project: Soil bore @ 25' bgs
Project Name: Jct A-20 box Upgrade
Location: EME

The samples listed below were submitted to Environmental Lab of Texas and were received under chain of custody. Environmental Lab of Texas makes no representation or certification as to the method of sample collection, sample identification, or transportation/handling procedures used prior to the receipt of samples by Environmental Lab of Texas.

			Date / Time	Date / Time		
0202739-01	Soil bore @ 25' bgs	SOIL		3/5/02 17:00	4 oz Glass	ice

Lab Testing: **Rejected:** No **Temp:** 4C

8015M TPH GRO/DRO
8021B/5030 BTEX
Chloride

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON
RICE OPERATING CORP.
122 WEST TAYLOR
HOBBS, NM 88242

Order#: G0202739
Project: Soil bore @ 25' bgs
Project Name: Jct A-20 box Upgrade
Location: EME

Lab ID: 0202739-01
Sample ID: Soil bore @ 25' bgs

8015M TPH GRO/DRO

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0000785-02		3/6/02 12:59	1	1	CK	8015

Parameter	Result mg/kg	RL
GRO, C6-C12	<10	10.0
DRO, >C12-C28	111	10.0

8021B/5030 BTEX

Method Blank	Date Prepared	Date Analyzed	Sample Amount	Dilution Factor	Analyst	Method
0000788-02		3/6/02	1	1	CK	8021B

Parameter	Result µg/kg	RL
Benzene	<25	25.0
Ethylbenzene	28.4	25.0
Toluene	<25	25.0
p/m-Xylene	122	25.0
o-Xylene	<25	25.0

Soil 3/5/02
@ 25' bgs

MW?
maybe TP2 @ 40' out

Approval: Raland K Tuttle 3-07-02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Irene Perry, QA Assistant
Sandra Biezugbe, Lab Tech.
Curt Cowdrey, Lab Tech.
Sara Molina, Lab Tech.

DL = Diluted out N/A = Not Applicable RL = Reporting Limit

ENVIRONMENTAL LAB OF TEXAS

ANALYTICAL REPORT

DONNIE ANDERSON		Order#:	G0202739
RICE OPERATING CORP.		Project:	Soil bore @ 25' bgs
122 WEST TAYLOR		Project Name:	Jct A-20 box Upgrade
HOBBS, NM 88242		Location:	EME

Lab ID: 0202739-01
Sample ID: Soil bore @ 25' bgs

Test Parameters

Parameter	Result	Units	Dilution Factor	RL	Method	Date Analyzed	Analyst
Chloride	248	mg/kg	1	5.0	9253	3/6/02	SB

Approval: Raland K Tuttle 3-07-02
Raland K. Tuttle, Lab Director, QA Officer — Date
Celey D. Keene, Org. Tech. Director
Jeanne McMurrey, Inorg. Tech. Director
Irene Perry, QA Assistant
Sandra Biezugbe, Lab Tech.
Curt Cowdrey, Lab Tech.
Sara Molina, Lab Tech.

RL = Reporting Limit N/A = Not Applicable

ENVIRONMENTAL LAB OF TEXAS I, LTD. 12600 West I-20 East, Odessa, TX 79765 Ph: 915-563-1800

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8015M TPH GRO/DRO

Order#: G0202739

BLANK	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
GRO, C6-C12-mg/kg	0000785-02			<10		
DRO, >C12-C28-mg/kg	0000785-02			<10		
MS	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
GRO, C6-C12-mg/kg	0202740-01	0	476	447	93.9%	
DRO, >C12-C28-mg/kg	0202740-01	0	476	563	118.3%	
MSD	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
GRO, C6-C12-mg/kg	0202740-01	0	476	424	89.1%	5.3%
DRO, >C12-C28-mg/kg	0202740-01	0	476	506	106.3%	10.7%
SRM	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
GRO, C6-C12-mg/kg	0000785-05		500	441	88.2%	0.%
DRO, >C12-C28-mg/kg	0000785-05		500	524	104.8%	0.%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

8021B/5030 BTEX

Order#: G0202739

BLANK	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/kg	0000788-02			<25		
Ethylbenzene-µg/kg	0000788-02			<25		
Toluene-µg/kg	0000788-02			<25		
p/m-Xylene-µg/kg	0000788-02			<25		
o-Xylene-µg/kg	0000788-02			<25		
CONTROL	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/kg	0000788-03		100	112	112.%	
Ethylbenzene-µg/kg	0000788-03		100	111	111.%	
Toluene-µg/kg	0000788-03		100	113	113.%	
p/m-Xylene-µg/kg	0000788-03		200	230	115.%	
o-Xylene-µg/kg	0000788-03		100	112	112.%	
CONTROL DUP	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/kg	0000788-04		100	113	113.%	0.9%
Ethylbenzene-µg/kg	0000788-04		100	112	112.%	0.9%
Toluene-µg/kg	0000788-04		100	113	113.%	0.%
p/m-Xylene-µg/kg	0000788-04		200	228	114.%	0.9%
o-Xylene-µg/kg	0000788-04		100	114	114.%	1.8%
SRM	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Benzene-µg/kg	0000788-05		100	112	112.%	0.%
Ethylbenzene-µg/kg	0000788-05		100	111	111.%	0.%
Toluene-µg/kg	0000788-05		100	114	114.%	0.%
p/m-Xylene-µg/kg	0000788-05		200	229	114.5%	0.%
o-Xylene-µg/kg	0000788-05		100	112	112.%	0.%

ENVIRONMENTAL LAB OF TEXAS

QUALITY CONTROL REPORT

Test Parameters

Order#: G0202739

BLANK	LAB-ID #	Sample Concentr.	Spike Concentr.	QC Test Result	Pct (%) Recovery	RPD
Chloride-mg/kg	0000787-01			<5.00		
MS	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0202739-01	248	667	910	99.3%	
MSD	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0202739-01	248	667	922	101.%	1.3%
SRM	**LAB-ID #**	**Sample Concentr.**	**Spike Concentr.**	**QC Test Result**	**Pct (%) Recovery**	**RPD**
Chloride-mg/kg	0000787-04		5000	5050	101.%	0.%

Environmental Lab of Texas, Inc.

12600 West I-20
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: DONNIE ANDERSON
Company Name: RICE OPERATING COMPANY
Company Address: 122 W. TAYLOR
City/State/Zip: HOBBS, NEW MEXICO, 88240
Telephone No: (505) 393-9174 Fax No: (505)397-1471
Sampler Signature: D Anderson

Project Name: Sct A-20 box Upgrade
Project #: Soil/bore @ 25' bgs
Project Loc: EME
PO #:

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	Preservative: HNO_3	Preservative: HCl	Preservative: NaOH	Preservative: H_2SO_4	Preservative: None	Preservative: Other (Specify)	Matrix: Water	Matrix: Sludge	Matrix: Soil	Matrix: Other (specify):	Analyze For: TCLP: TDS / CL / SAR / EC	TOTAL: TDS / CL / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030	RUSH TAT (Pre-Scheduled)	Standard TAT
2739-01	Soil/bore @ 25' bgs			1	✓									✓		✓				✓				✓		

Special Instructions:

Sample Containers Intact? Y N
Temperature Upon Receipt: 4°C
Laboratory Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
D Anderson	030502	1100	Loy Craft Anderson	3-5-02	11:00 AM
	3-5-02	5pm	Received by ELOT: Roy Blount	3-5-02	5pm

Aug 07 01 10:22a

P.2

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 01/08/02
Reporting Date: 01/09/02
Project Number: A-20
Project Name: SOIL BORE AT 18' BGS 40' SOUTH OF JCT.
Project Location: EME

Sampling Date: 01/08/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC/AH

LAB NUMBER SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE	01/08/02	01/08/02	01/09/02
H6406-1 -	881	7090	206
Quality Control	817	737	1040
True Value QC	800	800	1000
% Recovery	102	92.1	104
Relative Percent Difference	7.0	3.3	1.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl B
*Analysis performed on a 1:4 w:v aqueous extract.

RECEIVED
JAN 11 2002
ENVIRONMENTAL
HOBBS, NM

Chemist

1/9/02
Date

H6406A.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

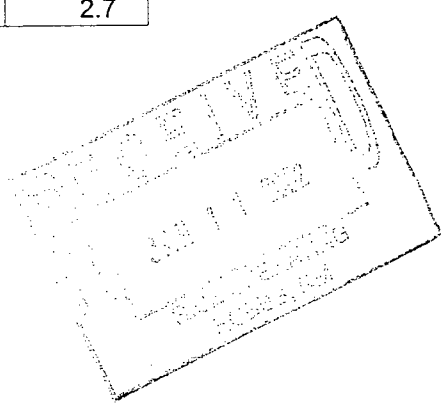
ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX TO: (505) 397-1471

Receiving Date: 01/08/02
Reporting Date: 01/09/02
Project Number: A-20
Project Name: SOIL BORE AT 18' BGS 40' SOUTH OF JCT.
Project Location: EME

Sampling Date: 01/08/02
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE	01/08/02	01/08/02	01/08/02	01/08/02
H6406-1 -	0.006	0.660	4.81	16.5
Quality Control	0.102	0.102	0.105	0.309
True Value QC	0.100	0.100	0.100	0.300
% Recovery	102	102	105	103
Relative Percent Difference	0.6	0.3	1.4	2.7

METHOD: EPA SW-846 8260



Chemist

Date 1/9/02

H6406B.XLS

CARDINAL LABORATORIES, INC.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2111 Beechwood, Abilene, TX 79603 (915) 673-7001 Fax (915) 673-7020
101 East Marland, Hobbs, NM 88240 (505) 393-2326 Fax (505) 393-2476

Page____ of ____

Company Name: Rice Operating Co.	BILL TO PO #:
Project Manager: ~~Ed~~ Donnie Anderson	Company:
Address: 122 W. Taylor	Attn:
City: Hobbs State: NM Zip: 88240	Address:
Phone #: 393-9174	City:
Fax #: 397-1471	State: Zip:
Project #: A-20 Project Owner:	Phone #:
Project Name: Soil bore At 18' bgs 40' south of Jct	Fax #:
Project Location: EME	

FOR LAB USE ONLY LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRES.: ACID:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX	8015
1746-1						✓							1-8-02		✓	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Chris Rodriguez	Date: 1/8/02 Time: 1:06	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
Relinquished By:	Date: 1-8-02 Time: 1:40	Received By: (Lab Staff) Amy	Fax Result: ☐ Yes ☐ No
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No	CHECKED BY: (Initials)

REMARKS:

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W TAYLOR
HOBBS, NM 88240
FAX: 505-393-1471

Sample Type: Soil
Sample Condition: Intact/ Iced/ 1.0 deg C
Project #: A-20
Project Name: EME Box Upgrade
Project Location: Lea County
PO#: 716

Sampling Date: 10/04/01
Receiving Date: 10/19/01
Analysis Date: 10/22/01

ELT#	FIELD CODE	Chloride mg/kg
0101808-01	A-20 23'	213

QUALITY CONTROL	5050
TRUE VALUE	5000
% INSTRUMENT ACCURACY	101
SPIKED AMOUNT	500
ORIGINAL SAMPLE	558
SPIKE	1060
SPIKE DUP	1060
% EXTRACTION ACCURACY	100
BLANK	<5.00
RPD	0.0

Methods: SW 846-9253

Raland K. Tuttle

10-23-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W TAYLOR
HOBBS, NM 88240
FAX: 505-393-1471

Sample Type: Soil
Sample Condition: Intact/ Iced/ 1.0 deg C
Project #: A-20
Project Name: EME Box Upgrade
Project Location: Lea County
PO#: 716

Sampling Date: 10/04/01
Receiving Date: 10/19/01
Analysis Date: 10/19/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
0101808-01	A-20 23'	<10	24

QUALITY CONTROL	494	425
TRUE VALUE	500	500
% INSTRUMENT ACCURACY	99	85
SPIKED AMOUNT	476	476
ORIGINAL SAMPLE	<10	21
SPIKE	539	527
SPIKE DUP	606	619
% EXTRACTION ACCURACY	113	106
BLANK	<10	<10
RPD	10.5	16.0

Methods: SW 846-8015M

Raland K. Tuttle

10-23-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX: 505-393-1471

Sample Type: Soil
Sample Condition: Intact/ Iced/ 1.0 deg C
Project Name: EME Box Upgrade
Project #: A-20
Project Location: Lea County
PO#: 716

Sampling Date: 10/04/01
Receiving Date: 10/19/01
Analysis Date: 10/19/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
0101808-01	A-20 23'	<0.025	<0.025	<0.025	<0.025	<0.025

QUALITY CONTROL	0.094	0.087	0.086	0.175	0.086
TRUE VALUE	0.100	0.100	0.100	0.200	0.100
% IA	94	87	86	88	86
SPIKED AMOUNT	0.100	0.100	0.100	0.200	0.100
ORIGINAL SAMPLE	<0.025	0.034	0.030	0.096	0.050
SPIKE	0.100	0.098	0.089	0.185	0.094
SPIKE DUP	0.097	0.091	0.085	0.174	0.087
%EA	100	97	88	90	92
BLANK	<0.025	<0.025	<0.025	<0.025	<0.025
RPD	3.04	7.49	4.65	5.71	7.91

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

10-23-01
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Donnie Anderson

Company Name: Rice Operating Company

Company Address: 122 W Taylor

City/State/Zip: Hobbs NM 88240

Telephone No: 5053939174

Fax No: 397-1471

Sampler Signature: [signature]

Project Name: EME Box Upgrade

Project #: A-20

Project Loc: Lea County

PO #: 716

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO_3	HCl	NaOH	H_2SO_4	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify)	Analyze For (TCLP / TOTAL): TDS / Cl / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030							RUSH TAT (Pre-Schedule)	Standard TAT
0101800-01	A-20 23'	10/4/01	1200	1	✓											✓			✓				✓								

Special Instructions: fax results to D. Anderson

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	10/18/01	1600			

Relinquished by:	Date	Time	Received by ELOT:	Date	Time
[signature]	10/19/01	7:30	[signature]	10/19/01	0720

Sample Containers Intact? Y N

Temperature Upon Receipt:

Laboratory Comments: Rec 1.0 °C

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W TAYLOR
HOBBS, NM 88240
FAX: 505-393-1471

Sample Type: Soil
Sample Condition: Intact/ Iced/ 1.0 deg C
Project #: A-20
Project Name: EME Box Upgrade
Project Location: Lea County
PO#: 716

Sampling Date: 10/04/01
Receiving Date: 10/19/01
Analysis Date: 10/22/01

ELT#	FIELD CODE	Chloride mg/kg
0101808-01	A-20 23'	213

failure with contact

QUALITY CONTROL	5050
TRUE VALUE	5000
% INSTRUMENT ACCURACY	101
SPIKED AMOUNT	500
ORIGINAL SAMPLE	558
SPIKE	1060
SPIKE DUP	1060
% EXTRACTION ACCURACY	100
BLANK	<5.00
RPD	0.0

Methods: SW 846-9253

Raland K. Tuttle

10-23-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W TAYLOR
HOBBS, NM 88240
FAX: 505-393-1471

Sample Type: Soil
Sample Condition: Intact/ Iced/ 1.0 deg C
Project #: A-20
Project Name: EME Box Upgrade
Project Location: Lea County
PO#: 716

Sampling Date: 10/04/01
Receiving Date: 10/19/01
Analysis Date: 10/19/01

ELT#	FIELD CODE	GRO C6-C10 mg/kg	DRO >C10-C28 mg/kg
0101808-01	A-20 23'	<10	24

QUALITY CONTROL	494	425
TRUE VALUE	500	500
% INSTRUMENT ACCURACY	99	85
SPIKED AMOUNT	476	476
ORIGINAL SAMPLE	<10	21
SPIKE	539	527
SPIKE DUP	606	619
% EXTRACTION ACCURACY	113	106
BLANK	<10	<10
RPD	10.5	16.0

Methods: SW 846-8015M

Raland K. Tuttle

10-23-01
Date

ENVIRONMENTAL LAB OF , INC.

"Don't Treat Your Soil Like Dirt!"

RICE OPERATING COMPANY
ATTN: DONNIE ANDERSON
122 W. TAYLOR
HOBBS, NM 88240
FAX: 505-393-1471

Sample Type: Soil
Sample Condition: Intact/ Iced/ 1.0 deg C
Project Name: EME Box Upgrade
Project #: A-20
Project Location: Lea County
PO#: 716

Sampling Date: 10/04/01
Receiving Date: 10/19/01
Analysis Date: 10/19/01

ELT#	FIELD CODE	BENZENE mg/kg	TOLUENE mg/kg	ETHYLBENZENE mg/kg	m,p-XYLENE mg/kg	o-XYLENE mg/kg
0101808-01	A-20 23'	<0.025	<0.025	<0.025	<0.025	<0.025

QUALITY CONTROL	0.094	0.087	0.086	0.175	0.086
TRUE VALUE	0.100	0.100	0.100	0.200	0.100
% IA	94	87	86	88	86
SPIKED AMOUNT	0.100	0.100	0.100	0.200	0.100
ORIGINAL SAMPLE	<0.025	0.034	0.030	0.096	0.050
SPIKE	0.100	0.098	0.089	0.185	0.094
SPIKE DUP	0.097	0.091	0.085	0.174	0.087
%EA	100	97	88	90	92
BLANK	<0.025	<0.025	<0.025	<0.025	<0.025
RPD	3.04	7.49	4.65	5.71	7.91

METHODS: EPA SW 846-8021B ,5030

Raland K. Tuttle

10-23-01
Date

Environmental Lab of Texas, Inc.

12600 West I-20 East
Odessa, Texas 79763
Phone: 915-563-1800
Fax: 915-563-1713

CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: Donnie Anderson
Company Name: Rice Operating Company
Company Address: 122 W Taylor
City/State/Zip: Hobbs NM 88240
Telephone No: 5053939174
Fax No: 397-1471
Sampler Signature: D Anderson

Project Name: EME Box upgrade
Project #: A-20
Project Loc: Lea County
PO #: 7/6

LAB # (lab use only)	FIELD CODE	Date Sampled	Time Sampled	No. of Containers	Preservative: Ice	HNO$_3$	HCl	NaOH	H$_2$SO$_4$	None	Other (Specify)	Matrix: Water	Sludge	Soil	Other (specify):	Analyze For: TDS / Cl / SAR / EC	TPH 418.1	TPH TX 1005/1006	TPH 8015M GRO/DRO	Metals: As Ag Ba Cd Cr Pb Hg Se	Volatiles	Semivolatiles	BTEX 8021B/5030							RUSH TAT (Pre-Schedule)	Standard TAT
0101808-01	A-20 23'	10/4/01	1300	1	✓											✓			✓				✓								

Special Instructions: fax results to D. Anderson

Relinquished by:	Date	Time	Received by:	Date	Time
D Anderson	10/18/01	1600			
CD Haynes	10/19/01	7:30	Received by ELOT: [illegible signature]	10/19/01	0730

Sample Containers Intact? Y N
Temperature Upon Receipt:
Laboratory Comments: Rec 1.0 °C

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: CHRIS RODRIGUEZ
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/27/01
Reporting Date: 10/01/01
Project Owner: RICE
Project Name: A-20 PILE COMP.
Project Location: EME

Sampling Date: 09/24/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC/AH

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	Cl* (mg/Kg)
ANALYSIS DATE		09/28/01	09/28/01	09/28/01
H6180-1	PILE COMPOSITE	<50	<50	128
Quality Control		755	825	950
True Value QC		800	800	1000
% Recovery		94.3	103	95.0
Relative Percent Difference		3.5	7.1	3.0

METHODS: TPH GRO & DRO: EPA SW-846 8015 M; Cl: Std. Methods 4500-Cl B
*Analysis performed on a 1:4 w:v aqueous extract.

RECEIVED
OCT - 3 2001
RICE OPERATING
HOBBS, NM

Chemist

10/1/01
Date

H6180A.XLS

CARDINAL LABORATORIES

PHONE (915) 673-7001 • 2111 BEECHWOOD • ABILENE, TX 79603
PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

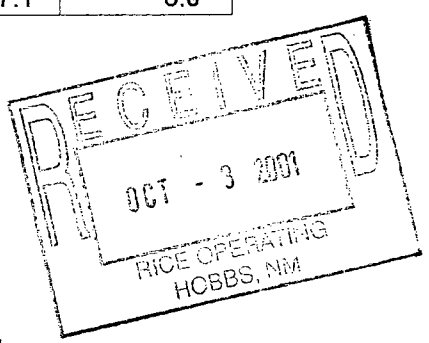
ANALYTICAL RESULTS FOR
RICE OPERATING CO.
ATTN: CHRIS RODRIGUEZ
122 W. TAYLOR
HOBBS, NM 88240
FAX TO:

Receiving Date: 09/27/01
Reporting Date: 10/01/01
Project Owner: RICE
Project Name: A-20 PILE COMP.
Project Location: EME

Sampling Date: 09/24/01
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE		09/28/01	09/28/01	09/28/01	09/28/01
H6180-1	PILE COMPOSITE	<0.005	<0.005	<0.005	<0.015
Quality Control		0.098	0.102	0.110	0.327
True Value QC		0.100	0.100	0.100	0.300
% Recovery		98.0	102	110	109
Relative Percent Difference		1.5	2.3	7.1	8.0

METHOD: EPA SW-846 8260



Chemist

10/1/01
Date

CARDINAL LABORATORIES, INC.

2111 Beechwood, Abilene, TX 79603 101 East Marland, Hobbs, NM 88240
(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of ____

Company Name:	Pic Operating	BILL TO	PO #:
Project Manager:	Chris Rodriguez		
Address:		Company:	
City:	State: Zip:	Attn:	
Phone #:		Address:	
Fax #:		City:	
Project #:	Project Owner:	State:	Zip:
Project Name:	A-20 P.B. Comp	Phone #:	
Project Location:	EME	Fax #:	

FOR LAB USE ONLY				MATRIX						PRES.			SAMPLING		ANALYSIS REQUEST
LAB I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID:	ICE / COOL	OTHER :	DATE	TIME	† BTEX, 8015, Cl
H6180-1	Pike Compressor	C	1			X							4/27/01		X

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Terms and Conditions: Interest will be charged on all accounts more than 30 days past due at the rate of 24% per annum from the original date of invoice, and all costs of collections, including attorney's fees.

Sampler Relinquished: Chris Rodriguez	Date:	Received By:	Phone Result ☐ Yes ☐ No Additional Fax #:
	Time:		Fax Result: ☐ Yes ☐ No
Relinquished By:	Date: 4/27/01	Received By: (Lab Staff) Burgess J. Cooke	REMARKS:
	Time: 5:05		
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☒ Yes ☐ No Intact: ☒ Yes ☐ No	CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to 915-673-7020.

ARCADIS

Appendix D

Recovery Well Design Diagram

RICE Operating Company

Recovery well diagram

8/4/2008