

1R - 426-106

**GENERAL  
CORRESPONDENCE**

**YEAR(S):**

2007

# **RICE** *Operating Company*

122 West Taylor • Hobbs, NM 88240  
Phone: (505) 393-9174 • Fax: (505) 397-1471

## **CERTIFIED MAIL**

**RETURN RECEIPT NO. 7005 1820 0001 6804 4936**

February 25, 2008

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

RECEIVED  
2008 FEB 29 PM 2 51

**RE: NOTIFICATION OF GROUNDWATER IMPACT**  
**BD P-26-1 vent, #1R0426-106**  
**Unit P, Sec. 26, T21S, R37E**

Mr. Price:


Rice Operating Company (ROC) notifies the Director of the New Mexico Oil Conservation Division (OCD), Environmental Bureau of groundwater impact at the above-referenced site in accordance with NM Rule 116. The remediation of this site may be subject to NM Rule 19 procedures.

The following work was performed in accordance with the OCD-approved (verbal 7/18/2007) Investigation and Characterization Plan (ICP) submitted by the consulting company, Trident Environmental (Trident), to investigate potential groundwater concerns at this junction box site near Eunice. A soil boring for vertical delineation of chloride and a 2-inch monitoring well were installed on October 29, 2007 under the supervision of Gilbert Van Deventer of Trident. Groundwater was encountered at approximately 47 feet. The well was developed and sampled pursuant to OCD guidelines by Arc Environmental (Arc) of Lovington. Laboratory analyses of two sampling events confirm the Water Quality Control Commission standards for chloride and Total Dissolved Solids are exceeded at the monitoring well. Arc will continue to sample the well on a quarterly basis. Trident will be evaluating this groundwater data for the submission of a Corrective Action Plan.

ROC is the service provider (agent) for the BD Salt Water Disposal System and has no ownership of any portion of the pipelines, wells, or facilities. The BD System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental remediation projects of this magnitude require System Partner AFE approval and work begins as funds are received.

Please accept this notification for the above-referenced site. Should you have any questions or concerns regarding this site, please do not hesitate to contact me.

RICE OPERATING COMPANY

A handwritten signature in black ink that reads "Kristin Farris Pope". The signature is written in a cursive, flowing style.

Kristin Farris Pope  
Project Scientist

enclosures: 2 water analyses, soil boring log, well log, 2 maps

cc: SC, Trident, file, Mr. Chris Williams  
NMOCD, District 1 Office  
1625 N. French Drive  
Hobbs, NM 88240

# SOIL BORING LITHOLOGIC LOG



BOREHOLE NO.: B-1 TOTAL DEPTH: 45 Feet  
 SITE ID: BD Jct. P-26-1 Vent CLIENT: RICE Operating Company  
 CONTRACTOR: Harrison & Cooper, Inc. COUNTY: Lea  
 DRILLING METHOD: Air Rotary STATE: New Mexico  
 START DATE: 10/29/07 LOCATION: T21S-R37E-Sec 26-Unit P  
 COMPLETION DATE: 10/29/07 FIELD REP.: G. Van Deventer  
 COMMENTS: Boring located 14 feet west-southwest of former junction box (plate marker)  
Photo at left shows drilling of B-1 (facing west). Orange pin flagging identifies active brine water lines.

	Sample			Chloride (ppm)	PID (ppm)	USCS	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING FEATURES
	Depth	Time	Type				
3/8 Bentonite Hole Plug			Surface				
	5					BF	Compacted backfill material consisting of fine-grained sand, moderate orange pink (5YR 8/4) with some very pale orange (10YR 8/2) calcium carbonate in matrix.
						CL	Compacted clay layer, grayish red (5R 4/2).
	10					BF	Compacted backfill material consisting of fine-grained sand, moderate orange pink (5YR 8/4) with some very pale orange (10YR 8/2) calcium carbonate in matrix.
	1450		Split Spoon	1001		SM/CAL	Very fine-grained sand, olive gray (5Y 4/1), with calcium carbonate in matrix, loose, unconsolidated, dry, slight hydrocarbon odor.
	15						Fine-grained sand, moderate orange pink (5YR 8/4) with some very pale orange (10YR 8/2) calcium carbonate in matrix. Sand grains are moderately well-sorted, subrounded, unconsolidated, dry. Sample submitted for laboratory analysis with results as follows: Chloride = 866 mg/kg.
	1455		Split Spoon	2801			
	20						Very fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2), moderately hard (indurated caliche). Sand grains are moderately sorted, subrounded, unconsolidated, dry.
	1500		Split Spoon	2611		SW	
	25						
	1510		Split Spoon	2122			Fine-grained sand, light brown (5YR 6/4), moderately hard, moderate sorting of subrounded sand grains, unconsolidated, dry.
	30					SM/CAL	Very fine- and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2), moderately hard (indurated caliche). Sand grains are medium sorted, subrounded, dry.
	1520		Split Spoon	2481			
	35						Very fine-grained sand, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium sorted, subrounded, dry.
	1530		Split Spoon	1623			
	40						Very fine-grained sand, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium sorted, subrounded, dry.
	1542		Split Spoon	1704			
	45	1556	Cuttings	1570			Very fine-grained sand, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium sorted, subrounded, unconsolidated, dry.
							Bottom of boring at 45 ft below ground surface.
	50						



# LITHOLOGIC LOG AND MONITORING WELL CONSTRUCTION DIAGRAM



MONITORING WELL NO.: MW-1 TOTAL DEPTH: 55 Feet  
 SITE NAME: BD Jct. P-26-1 Vent Site CLIENT: RICE Operating Company  
 CONTRACTOR: Harrison & Cooper, Inc. COUNTY: Lea  
 DRILLING METHOD: Air Rotary STATE: New Mexico  
 START DATE: 10/29/07 LOCATION: T21S-R37E-Sec 26 - Unit P  
 COMPLETION DATE: 10/29/07 FIELD REP.: G. Van Deventer  
 COMMENTS: Located approximately 12 feet southeast of former junction box (plate marker).  
Photo at left shows completed MW-1 (facing northwest) and new junction box (right-center).

		Sample		Chloride	PID	USCS	LITHOLOGIC DESCRIPTION:
		Depth	Time	Type	(ppm)		LITHOLOGY, COLOR, GRAIN SIZE, SORTING, ROUNDING, CONSOLIDATION, DISTINGUISHING FEATURES
				Surface			Fine-grained sand, grayish orange (5YR 7/4) with some very pale orange (10YR 8/2) calcium carbonate in matrix. Sand grains are medium-sorted, subrounded, unconsolidated, dry.
		5					
			1620	Split Spoon	1242		Fine-grained sand, grayish orange (5YR 7/4) with some very pale orange (10YR 8/2) calcium carbonate in matrix. Sand grains are medium-sorted, subrounded, unconsolidated, dry.
		10					
			1625	Split Spoon	623		Fine-grained sand, pale yellowish brown (10YR 6/2) with some very pale orange (10YR 8/2) calcium carbonate in matrix. Sand grains are medium-sorted, subrounded, unconsolidated, dry.
		15					
			1628	Split Spoon	692		Very fine and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2). Sand grains are medium-sorted, subrounded, unconsolidated, dry.
		20					
			1630	Split Spoon	1877		Very fine and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2). Sand grains are medium-sorted, subrounded, unconsolidated, dry.
		25	1634	Cuttings	1105	SM/CAL	Very fine and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium-sorted, subrounded, dry.
		30	1636	Cuttings	2506		Very fine and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium-sorted, subrounded, dry. Sample submitted for laboratory analysis with results as follows: Chloride = 903 mg/kg.
		35	1638	Cuttings	1554		Very fine and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium-sorted, subrounded, dry.
		40	1640	Cuttings	1445		Very fine and fine-grained sand with calcium carbonate in matrix, very pale orange (10YR 8/2), hard (indurated caliche). Sand grains are medium-sorted, subrounded, dry.
		45	1642	Cuttings	1464		Very fine and fine-grained sand, grayish orange (5YR 7/4) with some very pale orange (10YR 8/2) calcium carbonate in matrix, hard (indurated caliche). Sand grains are medium-sorted, subrounded, dry.
		50	1645	Cuttings	543	SW	Fine and medium-grained sand, light brown (5YR 5/6), moderately well sorted, subrounded, slightly
		55	1650	Cuttings	537		Fine and medium-grained sand, light brown (5YR 5/6), moderately well sorted, subrounded, slightly
							Bottom of boring at 55 ft below ground surface.
		60					
		65					









Jolt P-20-1 Vent  
Jolt P-20-1  
MM-1

Jolt P-20-1  
Jolt P-20-1  
MM-1

©2007 TeleAtlas  
Image ©2007 DigitalGlobe

Printer: lat: 37.444185 lon: -103.178555

200 m

Streaming 100%

Google

Eye alt: 690.0





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

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

Receiving Date: 11/15/07  
Reporting Date: 11/26/07  
Project Number: NOT GIVEN  
Project Name: BD P-26-1 VENT  
Project Location: T22S R37E SEC26 P~LEA COUNTY, NM


Sampling Date: 11/12/07  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: SB  
Analyzed By: HM/KS

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:		11/21/07	11/21/07	11/21/07	11/21/07	11/20/07	11/20/07
H13717-1	MONITOR WELL #1	1,881	499	323	21.3	13,120	204
Quality Control		NR	51.5	50.8	2.89	1,409	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	103	102	96.3	99.7	NR
Relative Percent Difference		NR	4.6	1.6	2.1	0.4	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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	Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	11/20/07	11/21/07	11/20/07	11/20/07	11/20/07	11/19/07
H13717-1      MONITOR WELL #1	4,350	347	0	249	7.19	8,396
Quality Control	500	22.8	NR	988	7.06	NR
True Value QC	500	25.0	NR	1000	7.00	NR
% Recovery	100	91.1	NR	98.8	101	NR
Relative Percent Difference	< 0.1	6.3	NR	1.2	0.1	NR

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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Chemist

11/26/07  
Date

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 client for 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 thirty (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.







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

Sampling Date: 01/14/08  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: ML  
Analyzed By: HM/KS

Receiving Date: 01/15/08  
Reporting Date: 01/22/08  
Project Number: NOT GIVEN  
Project Name: BD P-26-1 VENT  
Project Location: T21S R37E SEC26 P~LEA COUNTY, NM

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (u S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	01/21/08	01/21/08	01/21/08	01/21/08	01/16/08	01/16/08
H14086-1 MONITOR WELL #1	1,687	452	306	29.0	11,940	232
Quality Control	NR	49.2	52.4	2.93	1,433	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	98.5	105	97.8	101	NR
Relative Percent Difference	NR	< 0.1	3.0	8.5	1.4	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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	Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	01/16/08	01/17/08	01/16/08	01/16/08	01/16/08	01/16/08
H14086-1 MONITOR WELL #1	3,900	355	0	283	7.05	7,655
Quality Control	500	26.8	NR	1000	7.04	NR
True Value QC	500	25.0	NR	1000	7.00	NR
% Recovery	100	107	NR	100	100	NR
Relative Percent Difference	2.0	2.0	NR	< 0.1	0.3	NR

METHODS:	SM4500-Cl-B	375.4	310.1	310.1	150.1	160.1
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*Kristin Supro*  
Chemist

*01/22/08*  
Date

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

Receiving Date: 01/15/08  
Reporting Date: 01/16/08  
Project Number: NOT GIVEN  
Project Name: BD P-26-1 VENT  
Project Location: T21S-R37E-SEC26 P ~ LEA CO., NM

Sampling Date: 01/14/08  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: ML  
Analyzed By: AB

LAB NUMBER	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		01/15/08	01/15/08	01/15/08	01/15/08
H14086-1	MONITOR WELL #1	<0.001	<0.001	<0.001	<0.003
Quality Control		0.097	0.087	0.093	0.270
True Value QC		0.100	0.100	0.100	0.300
% Recovery		96.5	87.4	92.9	89.9
Relative Percent Difference		6.2	5.8	5.2	5.0

METHOD: EPA SW-846 8021B

Chemist

Date

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

# Cardinal Laboratories, Inc.

## CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # \_\_\_\_\_

Company Name: **RICE Operating Company** BILL TO Company: **RICE Operating Company** PO# \_\_\_\_\_  
Project Manager: **Kristin Farris-Pope, Project Scientist** Address: \_\_\_\_\_ (Street, City, Zip)

Address: \_\_\_\_\_ (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240 Phone#: \_\_\_\_\_ Fax#: \_\_\_\_\_

122 W Taylor Street ~ Hobbs, New Mexico 88240 (575) 393-9174 (575) 397-1471

Phone #: (575) 393-9174 Fax #: (575) 397-1471

Project #: \_\_\_\_\_ Project Name: **BD P-26-1 Vent**

Project Location: **T21S R37E Sec26 P ~ Lea County New Mexico** Sampler Signature: \_\_\_\_\_ Rozanne Johnson (505) 631-9310  
rozanne@valornet.com

LAB #  
(LAB USE ONLY)

FIELD CODE

(G)rab or (C)omp

# CONTAINERS

WATER

SOIL

AIR

SLUDGE

HCL (2 40ml VOA)

HNO<sub>3</sub>

NaHSO<sub>4</sub>

H<sub>2</sub>SO<sub>4</sub>

ICE (1-1 Liter HDPE)

NONE

DATE (2008)

TIME

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

X Cations (Ca, Mg, Na, K)

X Anions (Cl, SO<sub>4</sub>, CO<sub>3</sub>, HCO<sub>3</sub>)

X Total Dissolved Solids

Chlorides

## ANALYSIS REQUEST

(Circle or Specify Method No.)

Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Relinquished by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Received by: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Delivered By: (Circle One)

Sample Condition

Cool

Intact

CHECKED BY: \_\_\_\_\_ (Initials)

Sampler - UPS - Bus - Other:

Email Results to: [kpope@riceswd.com](mailto:kpope@riceswd.com)

[weinheimer@riceswd.com](mailto:weinheimer@riceswd.com)

[rozanne@valornet.com](mailto:rozanne@valornet.com)

REMARKS:

Phone Results Yes No  
Fax Results Yes No

Additional Fax Number: \_\_\_\_\_





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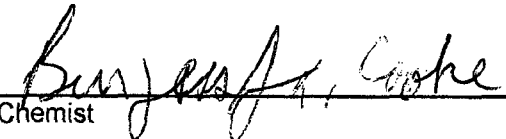
ANALYTICAL RESULTS FOR  
RICE OPERATING COMPANY  
ATTN: KRISTIN FARRIS-POPE  
122 W. TAYLOR DTREET  
HOBBS, NM 88240  
FAX TO: (575) 397-1471

Receiving Date: 11/15/07  
Reporting Date: 11/16/07  
Project Number: NOT GIVEN  
Project Name: BD P-26-1 VENT  
Project Location: T22S R37E SEC26 P ~ LEA COUNTY, NM

Sampling Date: 11/12/07  
Sample Type: GROUNDWATER  
Sample Condition: COOL & INTACT  
Sample Received By: SB  
Analyzed By: BC

LAB NO.	SAMPLE ID	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL BENZENE (mg/L)	TOTAL XYLENES (mg/L)
ANALYSIS DATE		11/15/07	11/15/07	11/15/07	11/15/07
H13717-1	MONITOR WELL #1	<0.002	<0.002	<0.002	<0.006
Quality Control		0.101	0.096	0.099	0.298
True Value QC		0.100	0.100	0.100	0.300
% Recovery		101	95.9	98.6	99.2
Relative Percent Difference		8.6	2.9	2.3	2.4

METHOD: EPA SW-846 8260

  
Chemist

11/16/07  
Date

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