

**AP – 058**

**STAGE 1 & 2  
ABATEMENT PLAN**

**DATE:  
12-07-2006**

# **RICE** *Operating Company*

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

RECEIVED  
2008 MAY 12 PM 1 42

## **CERTIFIED MAIL**

**RETURN RECEIPT NO. 7007 2560 0003 0323 6857**

May 7, 2008

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

RE: BD Santa Rita EOL leak (AP-58)  
PUBLIC NOTIFICATION

Mr. Hansen:

In accordance with Rule 19 (Section 19.15.1.19 NMAC, Subsection G) Public Notice requirements, please accept the enclosed copies of proof that the appropriate individuals and entities were notified of the amended Stage 1 & 2 Abatement Plan submitted by Gilbert J. Van Deventer of Trident Environmental (Trident) for the Santa Rita leak site on April 24, 2008. In an e-mail dated February 13, 2008, the Oil Conservation Division (OCD) notified Rice Operating Company (ROC) that the Stage 1 & 2 Abatement Plan of December 7, 2006 was conditionally administratively complete and directed ROC to proceed with public notice. Trident addressed the technical deficiencies outlined by OCD in the communication and submitted an amended Stage 1 & 2 Abatement Plan for this site on April 24, 2008.

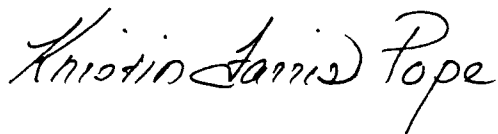
Notices were sent via certified mail to landowners within the prescribed radius and return receipts were received for all landowners, indicating that the mailing was received. Mailings were also sent to the Lea County Commission and the list of Interested Parties found on the OCD website. Three individuals on the Interested Parties list were notified via e-mail to the addresses provided on the list. Forty-three total notifications were sent and delivery was not confirmed for two individuals on the Interested Parties List. The notification to Mike Schultz of the International Technology Corp. (from the OCD Interested Parties list) was returned as "attempted—not known." Previous delivery attempts to this address have been refused. At the time of this submission, a return receipt for the State Parks & Recreation director has not been received.

As directed by OCD, the Stage 1 & 2 Abatement Plan notifications were published in the *Albuquerque Journal* and the *Hobbs News-Sun* newspapers on February 27, 2008. Affidavits for these publications are enclosed.

ROC requests that OCD consider public notice complete for this abatement plan. Should you have any further questions regarding this request, do not hesitate to contact me. Thank you for your consideration.

ROC is the service provider (agent) for the Blinbry-Drinkard (BD) SWD System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis.

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: summary table of notifications,  
newspaper affidavits,  
return receipt copies,  
e-mail copies

cc: MB, Trident, file, Daniel Sanchez (NMOCD)

# STATE OF NEW MEXICO

County of Bernalillo

SS

## NOTICE OF PUBLICATION

State of New Mexico  
Energy, Minerals and Natural  
Resources Department  
Oil Conservation Division

Notice is hereby given that pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 and 2 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440.

Rice Operating Company, Scott Curtis, General Manager, Telephone (505) 393-9174, 1222 West Taylor, Hobbs, New Mexico 88240, has submitted a Stage 1 and 2 Abatement Plan Proposal (AP-58) for a release from the pipeline junction at the BD Santa Rita EOL, located in Section 27, Township 22 South, Range 37 East, Lea County, New Mexico, approximately 4 miles southeast of Eunice, New Mexico. Rice Operating Company operates a saltwater disposal pipeline at the site. Soil impacts and groundwater samples at the site exhibit elevated chloride concentrations. The Stage 1 and 2 Abatement Plan Proposal presents the following site soil and groundwater investigation activities: (1) Define regional groundwater flow direction, potential sources of chloride in groundwater and ambient groundwater chemistry; (2) further delineation of the vertical and lateral extent of soil and groundwater impact; (3) install an evapotranspiration barrier in the upper vadose zone to eliminate further threat to groundwater impact; and (4) install a point of use groundwater treatment system.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 and 2 Abatement Plan Revision Proposal may be viewed at the above address or at the Oil Conservation Division District Office, 1625 N. French Drive, Hobbs, New Mexico 88240, Telephone (505) 393-6161, between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed Stage 1 and 2 Abatement Plan, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which written requests for a public hearing that includes reasons why a hearing should be held and written comments may be submitted to him. Journal: February 29, 2008

Bill Tafoya, being duly sworn, declares and says that he is Classified Advertising Manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 1 times, the first publication being on the 29 day of Feb., 2008 and the subsequent consecutive publications on \_\_\_\_\_, 20\_\_\_\_.

Sworn and subscribed to before me, a Notary Public, in and

for the County of Bernalillo and State of New Mexico this

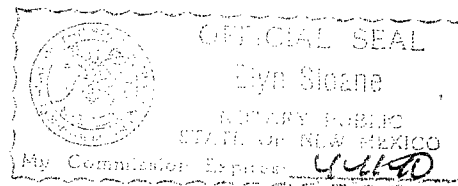
29 day of Feb. of 2008

PRICE \$46.08

Statement to come at end of month.

ACCOUNT NUMBER C82274

CLA-22-A (R-1/93)



*[Signature]*



AFFIDAVIT OF PUBLICATION

State of New Mexico,  
County of Lea.

I, KATHI BEARDEN

PUBLISHER

of the Hobbs News-Sun, a  
newspaper published at  
Hobbs, New Mexico, do solemnly  
swear that the clipping attached  
hereto was published once a  
week in the regular and entire  
issue of said paper, and not a  
supplement thereof for a period.

of 1

       weeks.

Beginning with the issue dated

February 29 2008

and ending with the issue dated

February 29 2008

Kathi Bearden

PUBLISHER

Sworn and subscribed to before

me this 29th day of

February 2008

Notary Public.

My Commission expires  
February 07, 2009  
(Seal)



OFFICIAL SEAL  
DORA MONTZ  
NOTARY PUBLIC  
STATE OF NEW MEXICO

My Commission Expires:                     

This newspaper is duly qualified  
to publish legal notices or adver-  
tisements within the meaning of  
Section 3, Chapter 167, Laws of  
1937, and payment of fees for  
said publication has been made.

LEGAL NOTICE  
February 29, 2008

NOTICE OF PUBLICATION

State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division

Notice is hereby given that pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 and 2 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

Rice Operating Company, Scott Curtis, General Manager, Telephone (505) 393-9174, 122 West Taylor, Hobbs, New Mexico 88240, has submitted a Stage 1 and 2 Abatement Plan Proposal (AP-58) for a release from the pipeline junction at the BQ Santa Rita EOL, located in Section 27, Township 22 south, Range 37 east, Lea County, New Mexico, approximately 4 miles southeast of Eunice, New Mexico. Rice Operating Company operates a saltwater disposal pipeline at the site. Soil impacts and groundwater samples at the site exhibit elevated chloride concentrations. The Stage 1 and 2 Abatement Plan Proposal presents the following site soil and groundwater investigation activities: (1) Define regional ground water flow direction, potential sources of chloride in ground water and ambient ground water chemistry; (2) further delineation of the vertical and lateral extent of soil and groundwater impact; (3) install an evapotranspiration barrier in the upper vadose zone to eliminate further threat to groundwater impact; and (4) install a point of use groundwater treatment system.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 and 2 Abatement Plan Revision Proposal may be viewed at the above address or at the Oil Conservation Division District Office, 1625 N. French Drive, Hobbs, New Mexico 88240, Telephone (505) 393-6161, between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed Stage 1 and 2 Abatement Plan, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which written requests for a public hearing that includes reasons why a hearing should be held and written comments may be submitted to him.

#23872

01104367000 02598562  
RICE OPERATING COMPANY  
122 WEST TAYLOR  
HOBBS, NM 88240

# BD Santa Rita leak

Unit 'A', Sec. 27, T22S, R37E

Public Notice Mailings (3/3/2008)

Stage 1 & 2 Abatement Plan (AP-58)

	Landowner or Interested Party	Delivery Status			Comments
		Delivered US Mail	Delivered E-mail	Not Delivered	
1	Anadarko Petroleum Corporation Mariah Resources Inc P.O. Box 5562 Midland, TX 79704-5562	X			
2	Irvin Boyd P.O. Box 121 Eunice, NM 88231	X			
3	Rosalio M. Ruiz P.O. Box 91 Eunice, NM 88231	X			
4	George A Graham Jr. Janene G Jenike P.O. Box 1020 Artesia, NM 88210	X			
5	Leo Sims P.O. Box 186 Eunice, NM 88231	X			
6	William E Johnston P.O. Box 152 Monument, NM 88265	X			
7	Chloe Sims P.O. Box 922 Eunice, NM 88231	X			
8	Jay D. Martin P.O. Box 416 Eunice, NM 88231	X			
9	NM State Hwy & Trans. Dept. P.O. Box 1149 Santa Fe, NM 87504	X			
10	Northern Natural Gas Co. Property Tax Dept. P.O. Box 3330 Omaha, NE 68103-0333	X			
11	Versada Gas Processors KE Andrews & Co. Box 870849 Mesquite, TX 75187	X			
12	Millard Deck Est. #4193 Harding & Carbone Inc. 3903 Bellaire Blvd. Houston, TX 77025	X			

13	State Land Office Thaddeus Kostrubala 310 Old Santa Fe Trail P.O. Box 1148 Santa Fe, NM 87504-1148	X			
14	Anselmo Gayton P.O. Box 363 Eunice, NM 88231	X			
15	Vincente Reyna Dorotea Cadena Box 244 Eunice, NM 88231	X			
16	Missouri Pacific RR Co. Union Pacific Corp. Property Tax Dept. 1400 Douglas St. Stop 1640 Omaha, NE 68179-1640	X			
17	Secretary New Mexico Environment Department P.O. Box 26110 Santa Fe, NM 87504 email: Cathy.Tyson@state.nm.us	X			
18	Bruce S. Garber Attorney at Law P.O. Box 0850 Santa Fe, NM 87504-0850 Email: bsg@garbhall.com	X			
19	Ron Dutton Southwestern Public Service P.O. Box 1261 Amarillo, TX 79170 email: ron.dutton@xcelenergy.com	X			
20	Gerald R. Zimmerman Colorado River Board of Calif. 770 Fairmont Ave., Ste.100 Glendale, CA 91203-1035 email: jcc_crb@pacbell.net	X			
21	Regional Forester USFS Regional Office 517 Gold Avenue SW Albuquerque, NM 87102 email: cgarica@fs.fed.us		X		emailed 5/7/2008
22	Chief Groundwater Bureau Runnels Building Santa Fe, NM 87504 email: Bill.Olson@state.nm.us	X			
23	Jack A. Barnett Colorado River Basin Ctrl. Forum 106 West 500 South, Suite 101 Bountiful, UT 84010 email: jbarnett@barnettwater.com	X			

24	Colin Adams Environmental Counsel Public Service Company of NM 414 Silver, Southwest Albuquerque, NM 87158 email: cadams@pnm.com		X		emailed 5/7/2008
25	Chief Hazardous Waste Bureau Runnels Building Santa Fe, NM 87504 email: James.Bearzi@state.nm.us	X			
26	Ned Kendrick Attorney at Law 325 Paseo de Peralta Santa Fe, NM 87501 email: ekendrick@montand.com	X			
27	Mike Schulz International Technology Corp. 5301 Central Avenue, N.E. Suite 700 Albuquerque, NM 87108 email: mschulz@theitgroup.com			X	Return to sender: attempted-not known; unable to forward
28	Ken Marsh email: ken@carihobbs.com		X		This email address does not exist; emailed 5/7/2008 to info@carihobbs.com
29	Director Department of Game & Fish Villagra Building Santa Fe, NM 87503	X			
30	Director State Parks & Recreation 1220 S. St. Francis Santa Fe, NM 87503			X	Return receipt has not been received as of 5/7/2008
31	Soil & Water Conservation Bureau, NM Dept. of Agriculture Ag. Programs & Resources Div. Box 30005/APR Las Cruces, New Mexico 88003	X			
32	William Turner, NM Trustee For Natural Resources C/O American Ground Water Consultants 610 Gold St. SW, Suite 111 Albuquerque, NM 87102	X			
33	State Engineer Water Resources Division Bataan Building Santa Fe, NM 87503	X			

34	State Director Bureau of Land Management P.O. Box 27115 Santa Fe, NM 87502-0115	X			
35	Lynn Brandvold NM Bureau of Mines & Mineral Resources NM Institute of Mining & Tech. Socorro, NM 87801	X			
36	Field Supervisor US Fish & Wildlife Service 2105 Osuna Road, Northeast Albuquerque, NM 87113-1001	X			
37	Elmo Baca State Historic Preservation Officer 228 East Palace Avenue Villa Rivera Room 101 Santa Fe, NM 87503	X			
38	Dr. Harry Bishara P.O. Box 748 Cuba, NM 87013	X			
39	Randy Hicks RT Hicks Consultants 901 Rio Grand Blvd. NW Suite F-142 Albuquerque, NM 87104 Email: r@rthickconsult.com	X			
40	Lee Wilson & Associates P.O. Box 931 Santa Fe, NM 87501 Email: lwa@lwasf.com	X			
41	Chris Shuey Southwest Research & Information Center P.O. Box 4524 Albuquerque, NM 87106 Email: sricdon@earthlink.net	X			
42	Jay Lazarus P.O. Box 5727 Santa Fe, NM 87502 Email: lazarus@glorietageo.com	X			
43	Lea County Administration Office Attn: Lue Ethridge 100 N. Main Street, Suite 4 Lovington, NM 88260	X			
<b>TOTALS</b>		38	3	2	

**Kristin Pope**

---

**From:** "Kristin Pope" <kpope@riceswd.com>  
**To:** <cgarcia@fs.fed.us>  
**Sent:** Wednesday, May 07, 2008 1:35 PM  
**Attach:** Santa Rita Stage 1 & 2 Public Notice amended.doc  
**Subject:** Public Notice--BD Santa Rita leak

Regional Forester:

In accordance with the NMOCD Rule 19 Public Notice requirements, please find the attached public notification document. This document was originally mailed to you on March 3, 2008, but delivery was not confirmed.

Kristin Farris Pope, Project Scientist  
RICE Operating Company  
Hobbs, New Mexico  
(575) 393-9174

5/7/2008

**Kristin Pope**

---

**From:** "Kristin Pope" <kpope@riceswd.com>  
**To:** <cadams@pnm.com>  
**Sent:** Wednesday, May 07, 2008 1:37 PM  
**Attach:** Santa Rita Stage 1 & 2 Public Notice amended.doc  
**Subject:** Public Notice--BD Santa Rita leak

Mr. Adams:

In accordance with the NMOCD Rule 19 Public Notice requirements, please find the attached public notification document. This document was originally mailed to you on March 3, 2008, but delivery was not confirmed.

Kristin Farris Pope, Project Scientist  
RICE Operating Company  
Hobbs, New Mexico  
(575) 393-9174

5/7/2008

**Kristin Pope**

---

**From:** "Kristin Pope" <kpope@riceswd.com>  
**To:** <info@carihobbs.com>  
**Sent:** Wednesday, May 07, 2008 1:55 PM  
**Attach:** Santa Rita Stage 1 & 2 Public Notice amended.doc  
**Subject:** Public Notice--BD Santa Rita leak

The email below was not delivered because a mailbox for [ken@carihobbs.com](mailto:ken@carihobbs.com) apparently does not exist. Please forward this notice to the appropriate personnel. Ken Marsh is located on the NMOCD Interested Parties list which makes notification to him mandatory.

<http://www.emnrd.state.nm.us/ocd/documents/noticelist.pdf>

If his email address is incorrect or if he is no longer with CRI, or if CRI does not wish to receive these notices, please contact the NMOCD to be removed from the list or for corrections. Thanks.

----- Original Message -----

**From:** Kristin Pope  
**To:** [ken@carihobbs.com](mailto:ken@carihobbs.com)  
**Sent:** Wednesday, May 07, 2008 1:38 PM  
**Subject:** Public Notice--BD Santa Rita leak

Mr. Marsh:

In accordance with the NMOCD Rule 19 Public Notice requirements, please find the attached public notification document. This document was originally mailed to you on March 3, 2008, but delivery was not confirmed.

Kristin Farris Pope, Project Scientist  
RICE Operating Company  
Hobbs, New Mexico  
(575) 393-9174

5/7/2008



SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature <input checked="" type="checkbox"/> Agent <i>Dorotea Cadena</i>	
1. Article Addressed to:  Vincente Reyna Dorotea Cadena Box 244 Eunice, NM 88231		B. Received by (Printed Name) <i>Dorotea Cadena</i> C. Date of Delivery <i>3/3/04</i>	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0502		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		Domestic Return Receipt	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature <input checked="" type="checkbox"/> Agent <i>Dorotea Cadena</i>	
1. Article Addressed to:  Missouri Pacific RR Co. Union Pacific Corp. Property Tax Dept. 1400 Douglas St. Stop 1640 Omaha, NE 68179-1640		B. Received by (Printed Name) <i>Dorotea Cadena</i> C. Date of Delivery <i>3/3/04</i>	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0519		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		Domestic Return Receipt	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature <input checked="" type="checkbox"/> Agent <i>Sandy Schexnayder</i>	
1. Article Addressed to:  Millard Deck Est. #4193 Harding & Carbone Inc. 3903 Bellaire Blvd. Houston, TX 77025		B. Received by (Printed Name) <i>SANDY SCHEXNAYDER</i> C. Date of Delivery <i>3/3/04</i>	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0472		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		Domestic Return Receipt	

SENDER: COMPLETE THIS SECTION		COMPLETE THIS SECTION ON DELIVERY	
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits.		A. Signature <input checked="" type="checkbox"/> Agent <i>Jay D. Martin</i>	
1. Article Addressed to:  Jay D. Martin P.O. Box 416 Eunice, NM 88231		B. Received by (Printed Name) <i>Jay D. Martin</i> C. Date of Delivery <i>3/3/04</i>	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0430		D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input checked="" type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.		4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		Domestic Return Receipt	

**SENDER: COMPLETE THIS SECTION**

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Water Conservation Bureau  
Mexico Department of Agriculture  
Culture Programs & Resources Division  
30005 NMPR  
Pines, New Mexico 88003-8005

Article Number  
(Transfer from service label)  
Form 3811, February 2004

7007 2560 0003 0317 0748

Domestic Return Receipt

102595-02-M-15-40

PS Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15-40

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature ☒ Agent
- B. Received by (Printed Name) ☒ Date of Delivery 2-3-04
- C. Is delivery address different from item 1? ☐ Yes ☒ No
- D. If YES, enter delivery address below:

**SENDER: COMPLETE THIS SECTION**

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Miss Shuey  
Southwest Research & Information Center  
O. Box 4524  
Albuquerque, NM 87106  
mail:spicdon@earthlink.net

Article Number  
(Transfer from service label)  
Form 3811, February 2004

7007 2560 0003 0317 0779

Domestic Return Receipt

102595-02-M-15-40

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature ☒ Agent
- B. Received by (Printed Name) ☒ Date of Delivery 2-3-04
- C. Is delivery address different from item 1? ☐ Yes ☒ No
- D. If YES, enter delivery address below:

**SENDER: COMPLETE THIS SECTION**

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

State Director  
Bureau of Land Management  
P.O. Box 27115  
Santa Fe, NM 87502-0115

Article Number  
(Transfer from service label)  
Form 3811, February 2004

7007 2560 0003 0317 0663

Domestic Return Receipt

102595-02-M-15-40

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature ☒ Agent
- B. Received by (Printed Name) ☒ Date of Delivery 2-3-04
- C. Is delivery address different from item 1? ☐ Yes ☒ No
- D. If YES, enter delivery address below:

**SENDER: COMPLETE THIS SECTION**

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

State Land Office  
Thaddeus Koshubala  
310 Old Santa Fe Trail  
P.O. Box 1148  
Santa Fe, NM 87504-1148

Article Number  
(Transfer from service label)  
Form 3811, February 2004

7007 2560 0003 0317 0489

Domestic Return Receipt

102595-02-M-15-40

**COMPLETE THIS SECTION ON DELIVERY**

- A. Signature ☒ Agent
- B. Received by (Printed Name) ☒ Date of Delivery 2-3-04
- C. Is delivery address different from item 1? ☐ Yes ☒ No
- D. If YES, enter delivery address below:

# SENDER: COMPLETE THIS SECTION

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Northern Natural Gas Co.  
Property Tax Dept.  
P.O. Box 3330  
Omaha, NE 68103-0333

Article Number:

(Transfer from service label)

7007 2560 0003 0317 0434

S Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15-10

# COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☐ Agent ☐ Addressee
- B. Received by (Printed Name) ☐ Date of Delivery
- C. Is delivery address different from item 1? ☐ Yes ☐ No
- D. If YES, enter delivery address below: ☐ Yes ☐ No

*[Signature]*  
1/27/04  
102595-02-M-15-10

3. Service Type

- ☐ Certified Mail ☐ Express Mail
- ☐ Registered ☐ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

# SENDER: COMPLETE THIS SECTION

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- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

NAT State Hwy & Trans. Dept.  
P.O. Box 1149  
Santa Fe, NM 87504

Article Number:

(Transfer from service label)

7007 2560 0003 0317 0441

S Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15-10

# COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☐ Agent ☐ Addressee
- B. Received by (Printed Name) ☐ Date of Delivery
- C. Is delivery address different from item 1? ☐ Yes ☐ No
- D. If YES, enter delivery address below: ☐ Yes ☐ No

*[Signature]*  
1/27/04  
102595-02-M-15-10

3. Service Type

- ☐ Certified Mail ☐ Express Mail
- ☐ Registered ☐ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

# SENDER: COMPLETE THIS SECTION

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Chloe Sims  
P.O. Box 922  
Lincoln, NM 88231

Article Number:

(Transfer from service label)

7007 2560 0003 0317 0427

S Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15-10

# COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☐ Agent ☐ Addressee
- B. Received by (Printed Name) ☐ Date of Delivery
- C. Is delivery address different from item 1? ☐ Yes ☐ No
- D. If YES, enter delivery address below: ☐ Yes ☐ No

*[Signature]*  
1/27/04  
102595-02-M-15-10

3. Service Type

- ☒ Certified Mail ☐ Express Mail
- ☐ Registered ☐ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

# SENDER: COMPLETE THIS SECTION

- 1. Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- 2. Print your name and address on the reverse so that we can return the card to you.
- 3. Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Leo Sims  
P.O. Box 186  
Lincoln, NM 88231

Article Number:

(Transfer from service label)

7007 2560 0003 0317 0373

S Form 3811, February 2004

Domestic Return Receipt

102595-02-M-15-10

# COMPLETE THIS SECTION ON DELIVERY

- A. Signature ☐ Agent ☐ Addressee
- B. Received by (Printed Name) ☐ Date of Delivery
- C. Is delivery address different from item 1? ☐ Yes ☐ No
- D. If YES, enter delivery address below: ☐ Yes ☐ No

*[Signature]*  
1/27/04  
102595-02-M-15-10

3. Service Type

- ☐ Certified Mail ☐ Express Mail
- ☐ Registered ☐ Return Receipt for Merchandise
- ☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

**SENDER: COMPLETE THIS SECTION**  
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Rosalio M. Ruiz  
P.O. Box 91  
Farmington, NM 88231

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature ☒ Agent  
B. Received by (Printed Name) ☐ Addressee  
C. Date of Delivery 3-30-04  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☒ No

3. Service Type  
☒ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

Article Number 7007 2560 0003 0317 0366  
Transfer from service label  
Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**  
Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

State Engineer  
Water Resources Division  
Bataan Building  
Santa Fe, NM 87503

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature ☒ Agent  
B. Received by (Printed Name) ☐ Addressee  
C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

Article Number 7007 2560 0003 0317 0731  
Transfer from service label  
Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Lazarus  
P.O. Box 5727  
Santa Fe, NM 87502  
Email: lazarus@glorietageo.com

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature ☒ Agent  
B. Received by (Printed Name) ☐ Addressee  
C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

Article Number 7007 2560 0003 0317 0762  
Transfer from service label  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.  
Print your name and address on the reverse so that we can return the card to you.  
Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Secretary  
New Mexico Environment Department  
P.O. Box 26110  
Santa Fe, NM 87504  
Email: Cathy.Tyson@state.nm.us

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature ☒ Agent  
B. Received by (Printed Name) ☐ Addressee  
C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

Article Number 7007 2560 0003 0317 0533  
Transfer from service label  
PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

George A. Graham Jr.  
Janene G. Jenike  
P.O. Box 1020  
Artesia, NM 88210

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature George A. Graham Jr. ☐ Agent

B. Received by (Printed Name) Janene G. Jenike ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0397 102595-02-M-1540  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Anselmo Grayton  
P.O. Box 363  
Eunice, NM 88231

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Anselmo Grayton ☐ Agent

B. Received by (Printed Name) Anselmo Grayton ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0496 102595-02-M-1  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Bruce S. Garber  
Attorney at Law  
P.O. Box 0850  
Santa Fe, NM

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Bruce S. Garber ☐ Agent

B. Received by (Printed Name) Bruce S. Garber ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0397 102595-02-M-1540  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Ned Kendrick  
Attorney at Law  
325 Paseo de Peralta  
Santa Fe, NM 87501  
Email: [nedkendrick@montad.com](mailto:nedkendrick@montad.com)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Ned Kendrick ☐ Agent

B. Received by (Printed Name) Ned Kendrick ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0526 102595-02-M-1540  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Ned Kendrick  
Attorney at Law  
325 Paseo de Peralta  
Santa Fe, NM 87501  
Email: [nedkendrick@montad.com](mailto:nedkendrick@montad.com)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Ned Kendrick ☐ Agent

B. Received by (Printed Name) Ned Kendrick ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0595 102595-02-M-1  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Ned Kendrick  
Attorney at Law  
325 Paseo de Peralta  
Santa Fe, NM 87501  
Email: [nedkendrick@montad.com](mailto:nedkendrick@montad.com)

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Ned Kendrick ☐ Agent

B. Received by (Printed Name) Ned Kendrick ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0595 102595-02-M-1  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Bruce S. Garber  
Attorney at Law  
P.O. Box 0850  
Santa Fe, NM

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Bruce S. Garber ☐ Agent

B. Received by (Printed Name) Bruce S. Garber ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0397 102595-02-M-1540  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

**SENDER: COMPLETE THIS SECTION**

Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.

Print your name and address on the reverse so that we can return the card to you.

Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Bruce S. Garber  
Attorney at Law  
P.O. Box 0850  
Santa Fe, NM

**COMPLETE THIS SECTION ON DELIVERY**

A. Signature Bruce S. Garber ☐ Agent

B. Received by (Printed Name) Bruce S. Garber ☐ Address

C. Date of Delivery 1/13/04

D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

3. Service Type ☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number 7007 2560 0003 0317 0397 102595-02-M-1540  
(Transfer from service label)  
PS Form 3811, February 2004 Domestic Return Receipt

<b>SENDER: COMPLETE THIS SECTION</b>		<b>COMPLETE THIS SECTION ON DELIVERY</b>	
1. Article Addressed to:  William E. Johnston P.O. Box 152 Monument, NM 88265		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee B. Received by (Printed Name) C. Date of Delivery D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0403		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Registered <input type="checkbox"/> Insured Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		102595-02-M-1540	
<b>SENDER: COMPLETE THIS SECTION</b>		<b>COMPLETE THIS SECTION ON DELIVERY</b>	
1. Article Addressed to:  Tandy Hicks T Hicks Consultants 01 Rio Grande Blvd. NW Suite F-142 Albuquerque, NM 87104 mailto:t@thickconsult.com		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee B. Received by (Printed Name) C. Date of Delivery D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0700		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Registered <input type="checkbox"/> Insured Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		102595-02-M-1540	
<b>SENDER: COMPLETE THIS SECTION</b>		<b>COMPLETE THIS SECTION ON DELIVERY</b>	
1. Article Addressed to:  Luc Ethridge 100 N. Main Street, Suite 4 Lovington, NM 882620		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee B. Received by (Printed Name) C. Date of Delivery D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0786		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Registered <input type="checkbox"/> Insured Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		102595-02-M-1540	
<b>SENDER: COMPLETE THIS SECTION</b>		<b>COMPLETE THIS SECTION ON DELIVERY</b>	
1. Article Addressed to:  US Fish & Wildlife Service 2105 Osuna Road, Northeast Albuquerque, NM 87113-1001		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee B. Received by (Printed Name) C. Date of Delivery D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0670		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Registered <input type="checkbox"/> Insured Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		102595-02-M-1540	
<b>SENDER: COMPLETE THIS SECTION</b>		<b>COMPLETE THIS SECTION ON DELIVERY</b>	
1. Article Addressed to:  Field Supervisor US Fish & Wildlife Service 2105 Osuna Road, Northeast Albuquerque, NM 87113-1001		A. Signature <input checked="" type="checkbox"/> Agent <input type="checkbox"/> Addressee B. Received by (Printed Name) C. Date of Delivery D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
2. Article Number (Transfer from service label) 7007 2560 0003 0317 0670		3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Registered <input type="checkbox"/> Insured Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Return Receipt for Merchandise 4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes	
PS Form 3811, February 2004		102595-02-M-1540	

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Director  
Department of Game & Fish  
Villagra Building  
Santa Fe, NM 87503

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0649

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Dr. Harry Bishara  
P.O. Box 748  
Cuba, NM 87013

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0687

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Ron Dutton  
Southwestern Public Service  
P.O. Box 1261  
Amarillo, TX 79170  
Email: ron.Dutton@xcelenergy.com

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0557

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Chief  
Hazardous Waste Bureau  
Rumrills Building  
Santa Fe, NM 87504  
Email: James.Bearzi@state.nm.us

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0625

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15-40

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Chief  
Hazardous Waste Bureau  
Rumrills Building  
Santa Fe, NM 87504  
Email: James.Bearzi@state.nm.us

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0625

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Chief  
Hazardous Waste Bureau  
Rumrills Building  
Santa Fe, NM 87504  
Email: James.Bearzi@state.nm.us

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0625

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Chief  
Hazardous Waste Bureau  
Rumrills Building  
Santa Fe, NM 87504  
Email: James.Bearzi@state.nm.us

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0625

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

SENDER: COMPLETE THIS SECTION

1. Article Addressed to:  
Chief  
Hazardous Waste Bureau  
Rumrills Building  
Santa Fe, NM 87504  
Email: James.Bearzi@state.nm.us

2. Article Number  
(Transfer from service label)  
7007 2560 0003 0317 0625

3. Service Type  
☐ Certified Mail ☐ Express Mail  
☐ Registered ☐ Return Receipt for Merchandise  
☐ Insured Mail ☐ C.O.D.  
4. Restricted Delivery? (Extra Fee) ☐ Yes

COMPLETE THIS SECTION ON DELIVERY

A. Signature ☒ Agent ☐ Addressee  
B. Received by (Printed Name) C. Date of Delivery  
D. Is delivery address different from item 1? ☐ Yes  
If YES, enter delivery address below: ☐ No

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-15-40



SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
  - Attach this card to the back of the mailpiece, or on the front if space permits.

Article Addressed to:

Chief  
Groundwater Bureau  
Tunnels Building  
Santa Fe, NM 87504  
Email: Bill.Olson@state.nm.us

COMPLETE THIS SECTION ON DELIVERY

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Article Addressed to:

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M Institute of Mining & Tech.  
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1. Article Addressed to:

Jim Turner NM Trustee For Natural Resources  
American Ground Water Consultants  
Gold St. SW, Suite 11  
Albuquerque, NM 87102

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*James Turner*

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1. Article Addressed to:

Gerald R. Zimmerman  
Colorado River Board of Calif.  
70 Fairmont Ave., Ste. 100  
Glendale, CA 91203-1035  
Email: icc\_crb@pacbell.net

2. Article Number

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1. Article Addressed to:

Gerald R. Zimmerman  
Colorado River Board of Calif.  
770 Fairmont Ave., Ste. 100  
Glendale, CA 91203-1035  
Email: icc\_crb@pacbell.net

2. Article Number

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Versada Gas Processors  
KE Andrews & Co.  
Box 870849  
Mesquite, TX 75187

2. Article Number

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1. Article Addressed to:

Lee Wilson & Associates  
P.O. Box 931  
Santa Fe, NM 87501  
Email: lwa@lwasf.com

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Stage 1 & 2 Abatement Plan  
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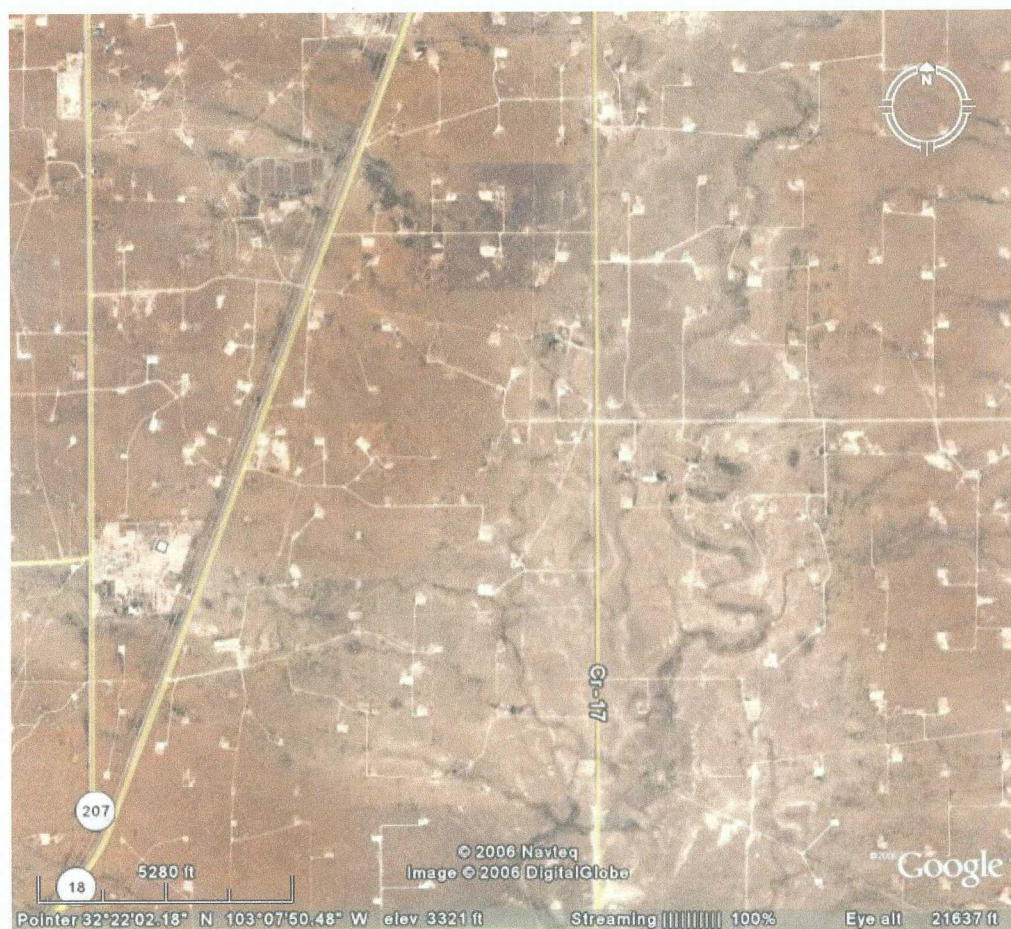
# **STAGE 1 & 2 ABATEMENT PLAN (AP-58)**

**DECEMBER 7, 2006**

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Environmental Bureau  
Oil Conservation Division

## **BD SANTA RITA EOL RELEASE SITE** **T22S, R37E, SECTION 27, UNIT LETTER A** **LEA COUNTY, NEW MEXICO**



Prepared by:

Prepared for:



P. O. Box 7624  
Midland, Texas 79708

**RICE** Operating Company

122 West Taylor

Hobbs, New Mexico 88240

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PLATE 3: Preliminary Soil Sample Results
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Appendix A: Photodocumentation
Appendix B: Lithologic Log and Well Construction Diagram (MW-1)
Appendix C: Laboratory Reports and Chain of Custody Documentation
Appendix D: Quality Procedures
Appendix E: C-141 Form



## 1.0 EXECUTIVE SUMMARY

The Santa Rita EOL Release site is operated by Rice Operating Company (ROC) and is located in Township 22 South, Range 37 East, Section 27, unit letter A approximately 4.5 miles southeast of Eunice, NM. This Stage 1 and 2 Abatement Plan (AP-58) incorporates the preliminary findings from previous investigations and recommendations for additional assessment activities.

The discovery of a brine water release from a 2-inch PVC compression coupling occurred on November 22, 2003. Initial characterization of soil impacts were conducted at the site on November 26, 2003 using a backhoe. Vadose zone samples taken from trenches indicated a maximum chloride concentration of 3,284 mg/kg at a depth of 5-feet bgs directly adjacent to the release point. On January 6, 2004, ROC disclosed this site to OCD as potential groundwater impact and the site was placed on a prioritized list of similar sites. After landowner access was granted, soil samples were collected at 16 locations to depths of 3 to 4 feet below ground surface (bgs) with a hand auger to determine the horizontal extent of the impacted soils on August 9, 2005. On August 30, 2005, a drilling rig was mobilized approximately 5-feet east of the release point for vertical delineation of the vadose zone. Based on a field-tested chloride concentration of 2,313 ppm at 50 feet bgs immediately above the water table, impact to groundwater was suspected; therefore the soil boring was completed as a monitoring well (MW-1). The depth to ground water at the site is approximately 51 feet bgs. Since September 2, 2005, the monitoring well has been sampled quarterly for analysis of major ions and benzene, toluene, ethylbenzene, and xylenes (BTEX). The chloride and total dissolved solids (TDS) concentrations in ground water at the on-site monitoring well are 2,100 milligrams per liter (mg/L) and 4,560 mg/L, respectively, based on analysis of samples obtained during the most recent sampling event on October 11, 2006. BTEX concentrations in groundwater have been below the method detection limit of 0.001 mg/L during each sampling event.

We propose the work elements described in detail in Section 7.0 to delineate the extent and magnitude of regulated constituents of concern (chlorides and TDS) in the vadose zone. Although existing data show that BTEX constituents are not present in the vadose zone or ground water, this proposal includes testing for these constituents. The purpose of these work elements is to assist ROC in selecting the soil and/or ground water remedy that is commensurate with any contribution from the Santa Rita EOL Release site to the regional ground water quality. The proposed work elements are summarized below:

1. Define regional ground water flow direction, potential sources of chloride in ground water and ambient ground water chemistry
2. Install additional soil borings and monitoring wells for evaluation of constituents of concern in the vadose zone and ground water.
3. Install a minimum 2-foot thick clay layer over chloride-impacted soils that exceed a field tested chloride concentration of 1,000 mg/kg threshold. The clay layer will be laid to a grade that will direct any infiltrated precipitation away from the spill area.

4. Stockpiled soils with chloride concentrations less than 1,000 mg/kg will be placed above the clay layer such that a slight mound is constructed to direct excess precipitation from the spill area. If necessary, topsoil will be imported to complete the upper evapotranspiration layer.
5. Native grass seed will be broadcast for re-vegetation, and the site will be monitored for plant growth.
6. Groundwater pumping to recover the highly impacted fluid may be employed. This fluid would be used for routine line maintenance operations. If applicable, a point-of-use (cattle, wildlife, etc. watering) treatment system may be installed with reject fluid used for line maintenance or disposed into the BD SWD System.

When implementing any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

ROC is the service provider (agent) for the Blinbry-Drinkard (BD) saltwater disposal (SWD) System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner Authorization for Expenditure (AFE) approval and work begins as funds are received. In general, project funding is not forthcoming until OCD approves the work plan.



## 2.0 CHRONOLOGY OF EVENTS

November 22, 2003	Release of approximately 50 barrels (bbls) discovered as a result of the failure of a compression fitting on the 2-inch PVC line. Approximately 40 bbls was recovered. The fitting was replaced and a new 10-ft joint of PVC was installed.
November 26, 2003	Initial subsurface soil sampling activities were conducted with a backhoe at six locations. Soil samples were field tested for chloride and hydrocarbon levels. This investigation indicated chloride impact to the vadose zone.
December 1, 2003	ROC submitted initial C-141 form to NMOCD.
December 19, 2003	Confirmation samples taken at 12 feet bgs directly beneath the source and at 12 feet bgs at a point 5 feet east of the source were submitted to Cardinal Laboratories in Hobbs. The analysis indicated chloride concentrations of 2,495 mg/kg and 2,623 mg/kg, respectively.
January 6, 2004	ROC disclosed this site to OCD as potential groundwater impact and the site was placed on a prioritized list of similar sites.
August 9, 2005	Soil samples were collected at 16 locations to depths of 3 to 4 feet bgs with a hand auger to determine the horizontal extent of the impacted soils.
August 30, 2005	On August 30, 2005, a drilling rig was mobilized approximately 5-feet east of the release point for vertical delineation of the vadose zone. Based on a field-tested chloride concentration of 2,313 ppm at 50 feet bgs immediately above the water table, impact to groundwater was suspected; therefore the soil boring was completed as a monitoring well. (MW-1).
October 3, 2005	ROC notified the OCD office in Santa Fe that ground water impact was confirmed based on laboratory results of ground water samples analyzed from the on site monitoring well.

### 3.0 BACKGROUND

#### 3.1 Site Location and Land Use

The Santa Rita EOL Release site and release is located on land owner by Irwin Boyd in Township 22 South, Range 37 East, Section 27, unit letter A approximately 4.5 miles southeast of Eunice, NM as shown on the attached Site Location Map (Plate 1). Produced water gathered by the BD SWD System in the site area is sent to the H-35 SWD well, which is located approximately 1.6 miles southeast of the Santa Rita EOL Release site. Land in the site area is primarily utilized for crude oil, gas production, and cattle ranching. Plate 2 is a recent aerial photograph at the same scale as Plate 1 showing the land use.

According to production data records from the OCD Online database, Moriah Resources Inc., Lewis B Burleson Inc., John H. Hendrix Corp., Arch Petroleum Inc., and Encore Operating LP, are the most active in crude oil and gas production in the area. Based on the OCD OnGuard database the oil and gas wells listed in Table 1 below are located within a half-mile of the site.

**Table 1: Active Oil, Gas, and Injection Wells Within ½ mile of the Site**

OPERATOR	WELL NAME	WELL TYPE
LAURA J MAY #001	ARCH PETROLEUM INC	OIL
HSOG #002	ENCORE OPERATING LP	OIL
SHIRLEY BOYD #001	JOHN H HENDRIX CORP	OIL
SANTA RITA #001	LEWIS B BURLESON INC	OIL
SANTA RITA #011	LEWIS B BURLESON INC	OIL
SANTA RITA #002	LEWIS B BURLESON INC	OIL
LANGLIE MATTIX PENROSE SAND UNIT #138	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #311	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #137	MORIAH RESOURCES, INC.	INJECTION
LANGLIE MATTIX PENROSE SAND UNIT #310	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #136	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #315	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #194	MORIAH RESOURCES, INC.	INJECTION
LANGLIE MATTIX PENROSE SAND UNIT #171	MORIAH RESOURCES, INC.	INJECTION
LANGLIE MATTIX PENROSE SAND UNIT #172	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #161	MORIAH RESOURCES, INC.	OIL
LANGLIE MATTIX PENROSE SAND UNIT #152	MORIAH RESOURCES, INC.	INJECTION

#### 3.2 Nature of Release and Summary of Previous Work

The BD Santa Rita EOL (end-of-line) site experienced an accidental discharge on November 22, 2003 due to the separation of a compression coupling on a 2-inch PVC pipeline. This discharge occurred on the pipeline 82 ft north of the BD Santa Rita EOL junction box. A C-

141 form (initial) was submitted to the NMOCD Hobbs District 1 office on December 1, 2003. Soil samples were collected for chloride delineation on November 26 and December 19, 2003 using a backhoe. ROC concluded that further characterization was warranted. On January 16, 2004, ROC disclosed this site to OCD as a potential for groundwater impact and the site was placed on a prioritized list of similar sites.

On August 30, 2005, a drilling rig was mobilized approximately 5-feet east of the release point for vertical delineation of the vadose zone. Based on a field-tested chloride concentration of 2,313 ppm at 50 feet bgs immediately above the water table, impact to groundwater was suspected; therefore the soil boring was completed as a monitoring well (MW-1). The depth to ground water at the site is approximately 51 feet bgs. The investigations indicated chloride impact to the vadose zone and groundwater, however no indication of hydrocarbon impact was evident based on field screening with a photoionization detector (all readings were less than 0.1 ppm). Soil sample results are depicted in Plate 3.

The monitoring well (MW-1) has been sampled and analyzed for BTEX, major ions, and TDS on a quarterly basis since September 2, 2005. On October 3, 2005, ROC notified the OCD office in Santa Fe that ground water impact was confirmed based on laboratory results of ground water samples analyzed from MW-1. The constituents of concern include chloride and TDS. No constituents of BTEX have been detected (less than the laboratory detection limit of 0.001 mg/L).

Photographs of the site are included in Appendix A.

## 4.0 GEOLOGY AND HYDROGEOLOGY

### 4.1 Regional and Local Geology

According to published information (Nicholson and Clebsch, 1961, Barnes, 1976, and Anderson, Jones, and Green, 1997) the site is underlain by Quaternary eolian and piedmont deposits composed of sand, silt, and gravel deposited by slope wash, and talus from the Ogallala Formation. The eolian and piedmont deposits are often calichified (indurated with cemented calcium carbonate) with caliche layers from 1- to 20-feet thick. The lithology of the eolian and piedmont deposits is very similar to that of the Ogallala since the Ogallala is the source of these re-deposited colluvial sediments. The nearest outcropping of the Ogallala Formation occurs approximately two miles east of the site along what is known as Rattlesnake Ridge. The thickness of the colluvium deposits and Ogallala Formation is estimated at 75-feet, however it varies locally as a result of significant paleo-topography at the top of the underlying Triassic Dockum Group. Since Cretaceous Age rocks in the region have been removed by pre-Tertiary erosion, the colluvial deposits and Ogallala Formation rest unconformably on the Triassic Dockum Group. Plate 4 displays the portion of the geologic map of southern Lea County southeast of Eunice, New Mexico (Nicholsen and Clebsch, 1961). The Ogallala Formation underlies the City of Eunice and the eastern boundary of the map. Quaternary erosion and deposition removed the Ogallala and deposited alluvium within the central part of Plate 4, which effectively outlines the active channel of Monument Draw. The Santa Rita EOL site is plotted on Plate 4 and is in the middle of the alluvium within Monument Draw.

Plate 4 also shows the elevation of the top of the red-bed surface, which occurs at approximately 130 feet below ground surface at the Santa Rita EOL site. The Dockum Group red beds are an aquiclude below the Ogallala and alluvial aquifers. In the area of the Santa Rita EOL site, the red bed elevation contours define a paleo-valley just west of and sub-parallel to Monument Draw. The elevation of the red-bed surface exerts controls on ground water flow. Where this surface is higher than the water table elevation, it obviously creates a barrier to flow. Where the red-bed surface is an expression of a paleo-valley, such as our area of interest, ground water may be directed toward the axis of this subsurface feature and the saturated thickness of the aquifer can increase as a result.

Plate 5 is the ground water map of southern Lea County (Nicholsen and Clebsch, 1961) covering the same area as Plate 4. This plate shows that the water table elevation mimics the red-bed elevation. At the Santa Rita EOL site, ground water flows southeast towards the axis of Monument Draw. Nicholsen and Clebsch (1961) concluded, "The bulk of the water [in the sediments along Monument Draw and under the Eunice Plain] is derived by underground flow from the Laguna Valley [Monument] area." The red-bed surface map and the water table map support this hypothesis.

Based on the lithologic log description for the monitoring well on site (Appendix B) the subsurface soils are composed of light-brown sandy loam (0-2 ft), light-brown silty clayey

sand (2-6 ft), sandy caliche (6-25 ft), calcareous fine sand with intermittent hard streaks (25-35 ft), silty fine sand (35-45 ft), and fine sand (45-61 ft).

#### **4.2 Regional and Local Hydrogeology**

Potable ground water used in southern Lea County is derived primarily from the Ogallala Formation (including the colluvial deposits) and the Quaternary alluvium. Lower yields have also been provided by water bearing zones within the Triassic Dockum Group in a few scattered areas within southern Lea County. No potable water is known to be derived below the Triassic Dockum Group. Water from the Ogallala and alluvium aquifers in southern Lea County is used for irrigation, stock, domestic, industrial, and public supply purposes.

Nicholsen and Clebsch (1961) found that the regional gradient of the Ogallala and interconnected colluvial aquifer in the site area generally flows toward the southeast and the hydraulic gradient varies from approximately 0.001 to 0.01 feet/feet. Recent data from ROC sites within two miles from the Santa Rita EOL site (E-15 junction box, Zachary Hinton EOL O-12) confirm a similar potentiometric surface.

Recharge to the Ogallala aquifer occurs primarily by infiltration of precipitation at a slow rate (typically one quarter to one half inch of water per year) due to the characteristically arid climate of southern Lea County (Nicholson and Clebsch, 1961).

Values for hydraulic conductivity are estimated to be between 2 to 200-feet per day for the Ogallala aquifer near the site area based on various published information (Office of the State Engineer, Musharrafieh and Chudnoff, 1999; Hart & McAda, 1985; and Myers, 1969).

Depth to ground water beneath the site area is approximately 51-feet below ground surface.

There are no natural surface water bodies located within a mile of the site.

## 5.0 VADOSE ZONE CHARACTERISTICS

ROC conducted initial upper vadose zone delineation field activities on November 26 and December 19, 2003. Investigation activities were conducted with a backhoe by trenching to 12-feet below ground surface (bgs) at 6 locations immediately adjacent to the source of the leak and in areas where pooling was observed (Plate 3). Soil samples were analyzed in the field for chlorides using field-adapted Method 9253 (QP-03). Field chlorides ranged from a concentration of 1128 parts per million (ppm) at sample point TP-2 located 50 feet northwest of the release point and 2 feet deep to 5,530 ppm at the surface of sample point TP-1 located 45 feet northeast of the release point (Plate 3).

On August 9, 2005, soil samples were collected by ROC with a hand auger at 16 locations within a 25-foot grid spacing that encompassed the area where the spill had encroached. The hand augered borings did not go further than 4 feet below ground surface due to encountering a hard caliche layer. Soil samples were analyzed in the field for chlorides using field-adapted Method 9253 (QP-03). Field chlorides ranged from a concentration of 41 ppm at sample point SP-3 located about 55 feet east of the release point and 3 feet deep to 851 ppm at the surface of sample point SP-5 located 85 feet east of the release point along the lease road (Plate 3).

On August 30, 2005, a drilling rig was mobilized approximately 5-feet east of the release point for vertical delineation of the vadose zone. Based on a field-tested chloride concentration of 2,313 ppm at 50 feet bgs immediately above the water table, impact to groundwater was suspected; therefore the soil boring was completed as a monitoring well. The monitoring well (MW-1) was completed to a depth of 61-feet bgs and depth to groundwater was determined to be approximately 51 feet bgs. A duplicate of the sample collected at 45 feet bgs was submitted to the laboratory, which indicated a chloride concentration of 3,570 mg/kg. A more detailed description of the lithology, field chloride tests, and well construction is shown on the boring log in Appendix B.

Copies of the laboratory analytical reports and chain of custody forms are included in Appendix C.

## 6.0 GROUND WATER QUALITY

### 6.1 Groundwater Monitoring Program

Monitoring well (MW-1) has been sampled on a quarterly basis for major ions, TDS, and BTEX since September 9, 2005. A summary of historical analytical results and ground water elevations is listed in Table 2. Analytical results for the most recent sampling event conducted on July 19, 2006, are also depicted in graphical format in Figure 1. A copy of the laboratory analytical report and chain of custody form for the most recent ground water sampling event is included in Appendix C.

**Table 2: Summary of Ground Water Monitoring Results (MW-1)**

Sample Date	Depth to Groundwater (feet BTOC)	Chloride (mg/L)	TDS (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
09/02/05	54.04	4,480	7,600	<0.001	<0.001	<0.001	<0.001
10/24/05	53.85	7,170	16,400	<0.001	<0.001	<0.001	<0.001
01/23/06	53.98	7,450	14,300	<0.001	<0.001	<0.001	<0.001
04/24/06	54.07	7,100	14,300	<0.001	<0.001	<0.001	<0.001
07/19/06	54.08	6,180	14,000	<0.001	<0.001	<0.001	<0.001
10/11/06	53.99	2,100	4,560	<0.001	<0.001	<0.001	<0.001
WQCC Standards		250	1,000	0.01	0.75	0.75	0.62

### 6.2 Hydrocarbons in Ground Water

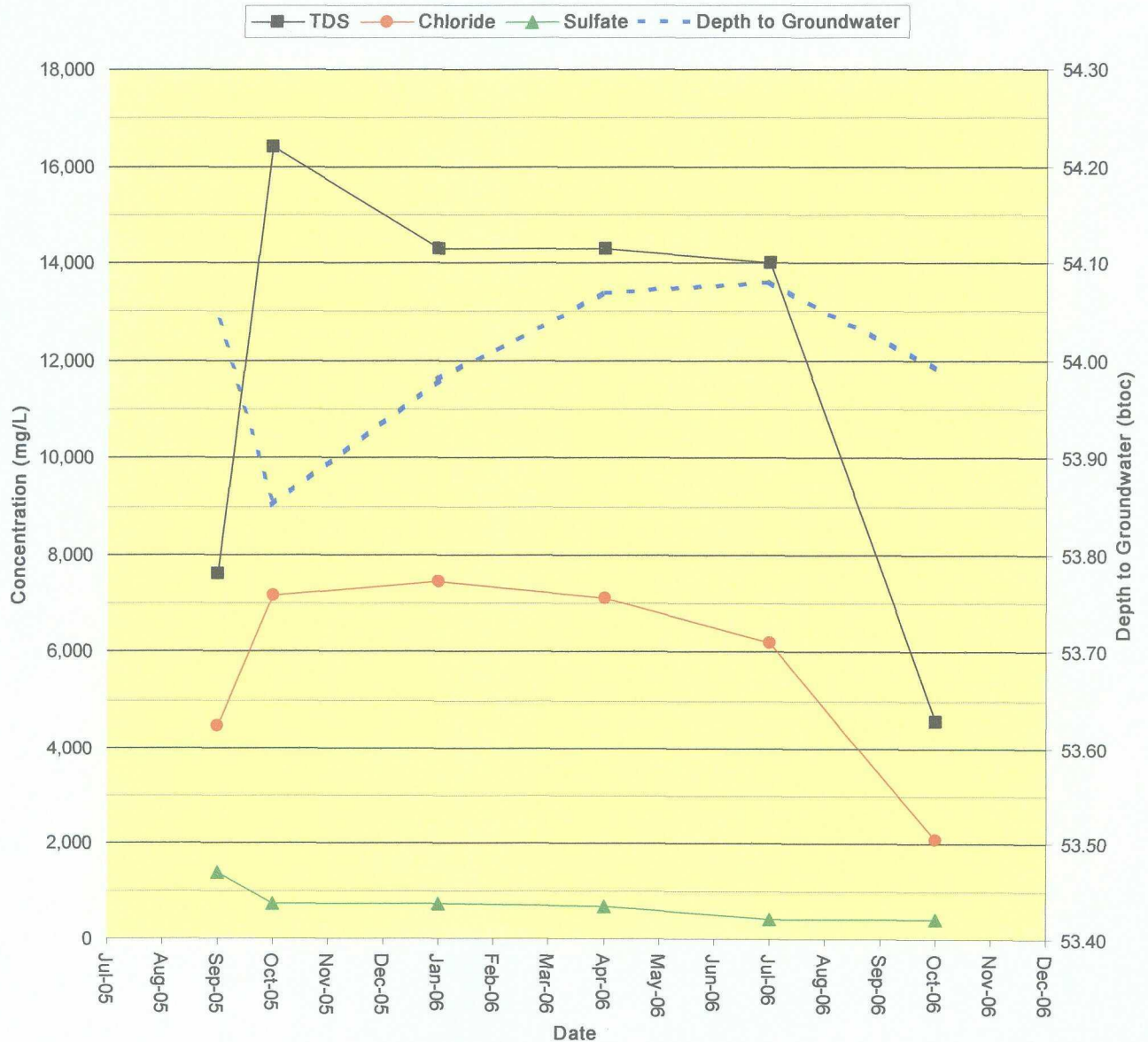
All BTEX concentrations in monitoring well MW-1 have been below the laboratory detection limit of 0.001 mg/L in every sampling event.

### 6.3 Other Constituents of Concern

- Although monitoring well MW-1 exceeded the WQCC standard of 250 mg/L for chloride concentration (2,100 mg/L) during the most recent sampling event in October 2006, levels have decreased by a factor of 3.5 since January 2006.
- The TDS concentration in monitoring well MW-1 (4,560 mg/L) exceeds the WQCC standard of 1,000 mg/L, but has decreased by a factor of 3.6 since October 2005.

Background and ambient concentrations of these compounds have not been established at this time. Chloride and TDS concentrations in MW-1 have consistently decreased since the initial sampling event. No correlations between chloride/TDS concentrations and changes in ground water levels are evident.

MW-1  
Chloride, Sulfate, TDS Concentrations, and Water Table Elevation Versus Time Graph  
Santa Rita EOL Site





## **7.0 Stage 1 and 2 Abatement Plan**

Additional lateral delineation of impact to the vadose zone and groundwater is necessary before the final remedies for the vadose zone and groundwater are implemented.

### **7.1 Evaluate Constituents of Concern in the Vadose Zone**

Soil borings will be completed to delineate the lateral extent of impact to the vadose zone. We will field test each soil sample for chloride concentrations at a maximum of five-foot sampling intervals. Soil lithology and the presence of any observed staining or odor will be recorded. Samples will also be field screened for headspace analysis using an organic vapor meter (OVM) calibrated to assume a benzene response factor. Selected samples with headspace readings above 100 ppm will also be analyzed by a laboratory for the regulated constituents BTEX using EPA Method 8021B.

The number and placement of borings is dependent on the findings of the above-described criteria, however each boring will penetrate at least 30 feet of the vadose zone.

### **7.2 Define Regional Ground Water Flow Direction, Potential Sources of Chloride in Ground Water and Ambient Ground Water Chemistry**

We plan to examine records at the OCD, NMED, Office of the State Engineer (OSE) and the US Geological Survey (USGS) for water quality and water level data. This file search will provide a better understanding of ground water flow and ambient (and possibly background) water chemistry. Plate 6 shows the locations of nearby water supply and monitoring wells obtained from ROC, OCD, NMED, OSE, and USGS databases. Further examination of data for these wells will assist us in understanding the contribution of the Santa Rita EOL site to the observed regional chemistry. Our characterization of ground water will include evaluation of monitoring data from other ground water investigation sites in the area, including the South Eunice gas plant. The water well inventory will also assist in identifying the location of potential water supply receptors (domestic, irrigation, or livestock wells).

### **7.3 Installation of Additional Monitoring Wells for Further Delineation**

Soil boring samples and ground water samples from the existing monitoring well suggest that the release has contributed to chlorides and TDS into ground water. For further characterization as to the extent of the release from the line leak, we will construct a second monitoring well down gradient (south-southeast) from the existing monitoring well (MW-1). Since regional data is insufficient to determine the ambient, or background, chloride concentration in this area, we will also complete an up gradient monitoring well. We will complete these monitoring wells in accordance with OCD and industry standard methods with 5 feet of well screen above the water

table and a minimum of 10 feet of well screen below the water table. We plan to drill to the underlying Triassic red beds (Chinle Formation) for the up-gradient monitoring well to define the saturated thickness in the area.

#### **7.4 Corrective Action/Closure**

The information gathered from the results of the additional assessment actions described above will be evaluated and utilized to design the appropriate soil and ground water remedy. Upon completion of the Stage 1 tasks the findings will be evaluated to adjust the conceptual remedies outlined below. Any changes and refinements to the proposed remedies will be submitted to the NMOCD in a subsequent amendment to this Abatement Plan based on the findings of the field activities described herein.

The proposed conceptual remedy at this time is as follows:

##### Vadose zone remedy

- A 2-foot thick clay layer will be selectively placed over chloride-impacted soils that exceed the 1,000 mg/kg threshold. The clay layer will be laid to a grade that will direct any infiltrated precipitation away from the spill area, and further directed such that one clay barrier area does not direct water towards another.
- Stockpiled soils with chloride concentrations less than 1,000 mg/kg will be placed above the clay layer such that a slight mound is constructed to direct excess precipitation from the spill area. If necessary, topsoil will be imported to complete the upper evapotranspiration (ET) layer to aid in hosting and propagating native vegetation.
- Native grass seed will be broadcast for re-vegetation, and the site will be monitored for plant growth. The goal will be to re-vegetate the site to approximately 70% of the ground cover as observed in adjacent areas not affected by the release.

##### Groundwater remedy

- Groundwater pumping to recover the highly impacted fluid may be employed. This fluid would be used for routine line maintenance operations. If applicable, a point-of-use (cattle, wildlife, etc. watering) treatment system may be installed with reject fluid used for line maintenance or disposed into the BD SWD System.



When evaluating any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

The remedy that offers the greatest environmental benefit while causing the least environmental impairment will be selected. Such recommendations and findings will be presented to OCD in a subsequent amendment to this Abatement Plan.

## **8.0 QUALITY ASSURANCE / QUALITY CONTROL**

Sampling and analytical procedures shall be performed in accordance with Title 20 NMAC 6.3107.B and Section 103 of the Water Quality Standards for Interstate and Intrastate Streams in New Mexico (20 NMAC 6.1).

Soil samples will be screened in the field using a PID (QP-07) and field tested for chlorides (QP-03). Soil samples with a PID response of 100 ppm or greater will be submitted to the laboratory for analysis of BTEX. Ten percent (10%) of the soil samples will be submitted for laboratory analysis of chlorides as confirmation of our field analysis.

Ground water samples will be collected in accordance with procedures explained in QP-04 and QP-05, and analyzed for BTEX, major ions, and TDS.

Specific quality procedures for collecting and analyzing soil and ground water samples are included in Appendix D.

## **9.0 PROPOSED SCHEDULE OF ACTIVITIES**

Within 45 days of approval of this Abatement Plan from the NMOCD initiate field activities. First we will seek groundwater data from surrounding wells (within a half-mile radius). We plan on using this information to determine the local groundwater gradient direction and ambient groundwater quality to determine the location of an upgradient and downgradient monitoring well on site to delineate and quantify the extent of the release at the Santa Rita EOL site. During the installation of the monitoring wells we will also perform soil borings for delineation of the vadose zone as described in section 7.1.

Upon completion of the Stage 1 tasks the findings will be evaluated to adjust the conceptual remedies outlined above. Any changes and refinements to the proposed remedies will be submitted to the NMOCD in a subsequent modification based on the findings of the field activities described herein. The remedies will be implemented upon approval by the OCD as proposed by ROC.

Completion dates for the tasks outlined in this Abatement Plan will be dependent access to area (off site) wells, contractor availability, weather conditions, and possibly other unforeseen considerations.

# **PLATES**

Plate 1: Site Location Map

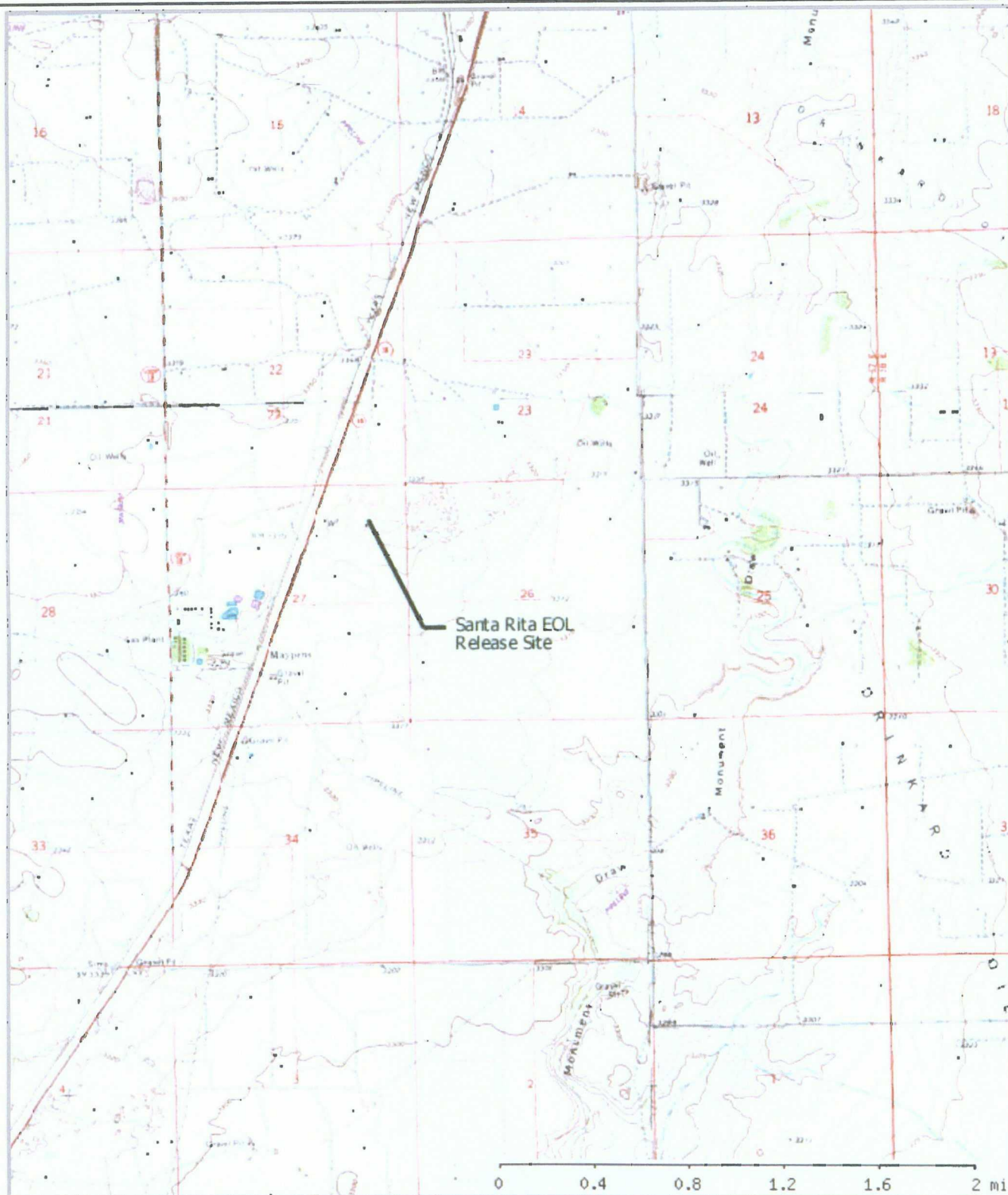
Plate 2: Aerial Photographic Map

Plate 3: Preliminary Soil Sample Results

Plate 4: Geologic Map (Nicholson & Clebsch)

Plate 5: Ground Water Map (Nicholson & Clebsch)

Plate 6: Water Well Map (NMSEO & USGS)



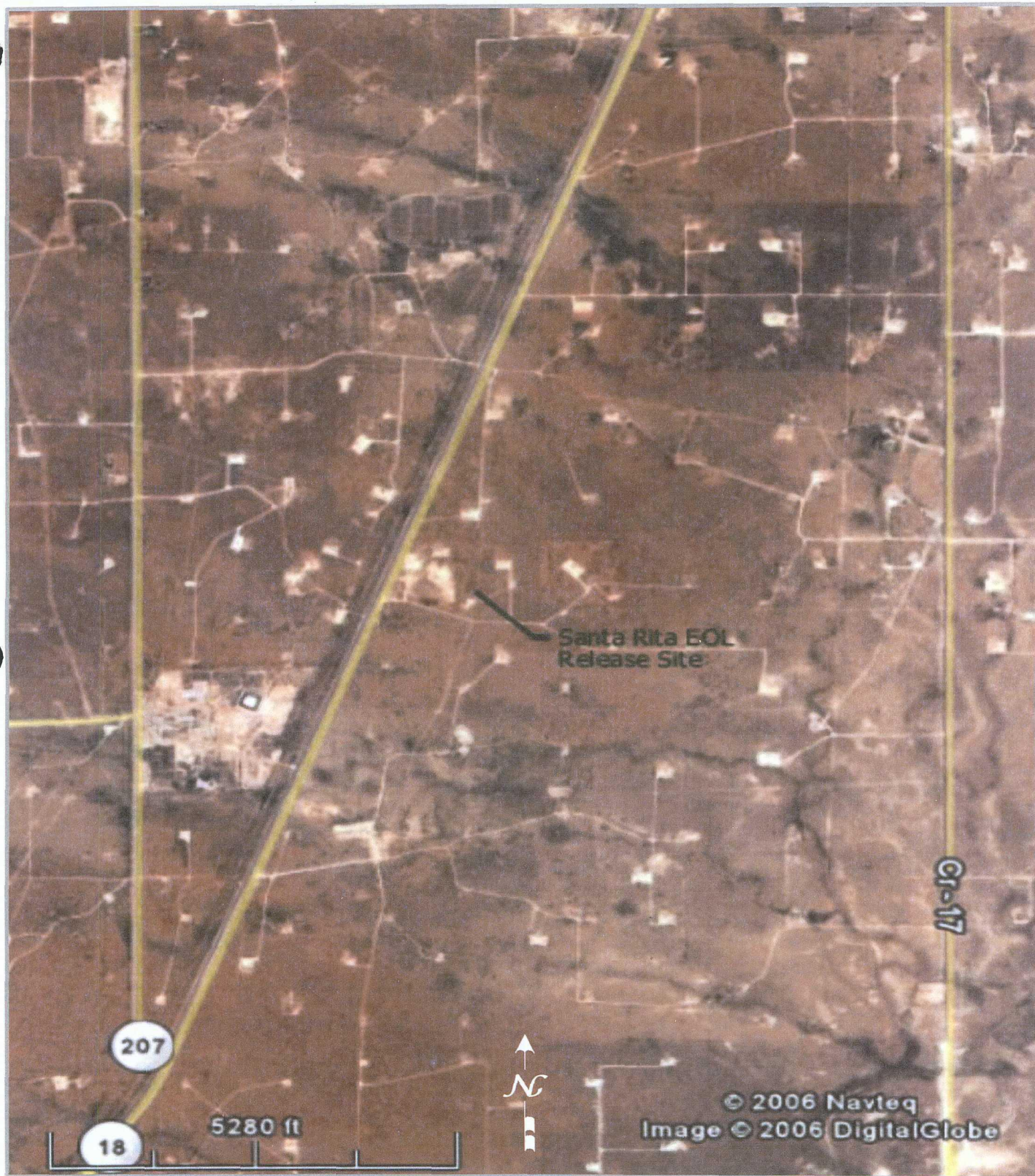
Rattlesnake Canyon (NM) Quadrangle (1977)



BD Santa Rita EOL Release Site  
T22S - R37E - Section 27A  
**RICE** *Operating Company*

PLATE 1  
SITE LOCATION MAP






BD Santa Rita EOL Release Site  
T22S - R37E - Section 27, Unit A  
**RICE** *Operating Company*

PLATE 2  
AERIAL PHOTO MAP



# MAP LEGEND

MW-1  Monitoring Well (8/30/05)

SP-16.  Soil Sample Location (8/9/05)

TP1  Soil Sample Location (11/22/03)

Sample Number	Sample Depth (Ft bgs)	Chloride (ppm)	Sample Number	Sample Depth (Ft bgs)	Chloride (ppm)
---------------	-----------------------	----------------	---------------	-----------------------	----------------

Sample Date: 8/9/2005

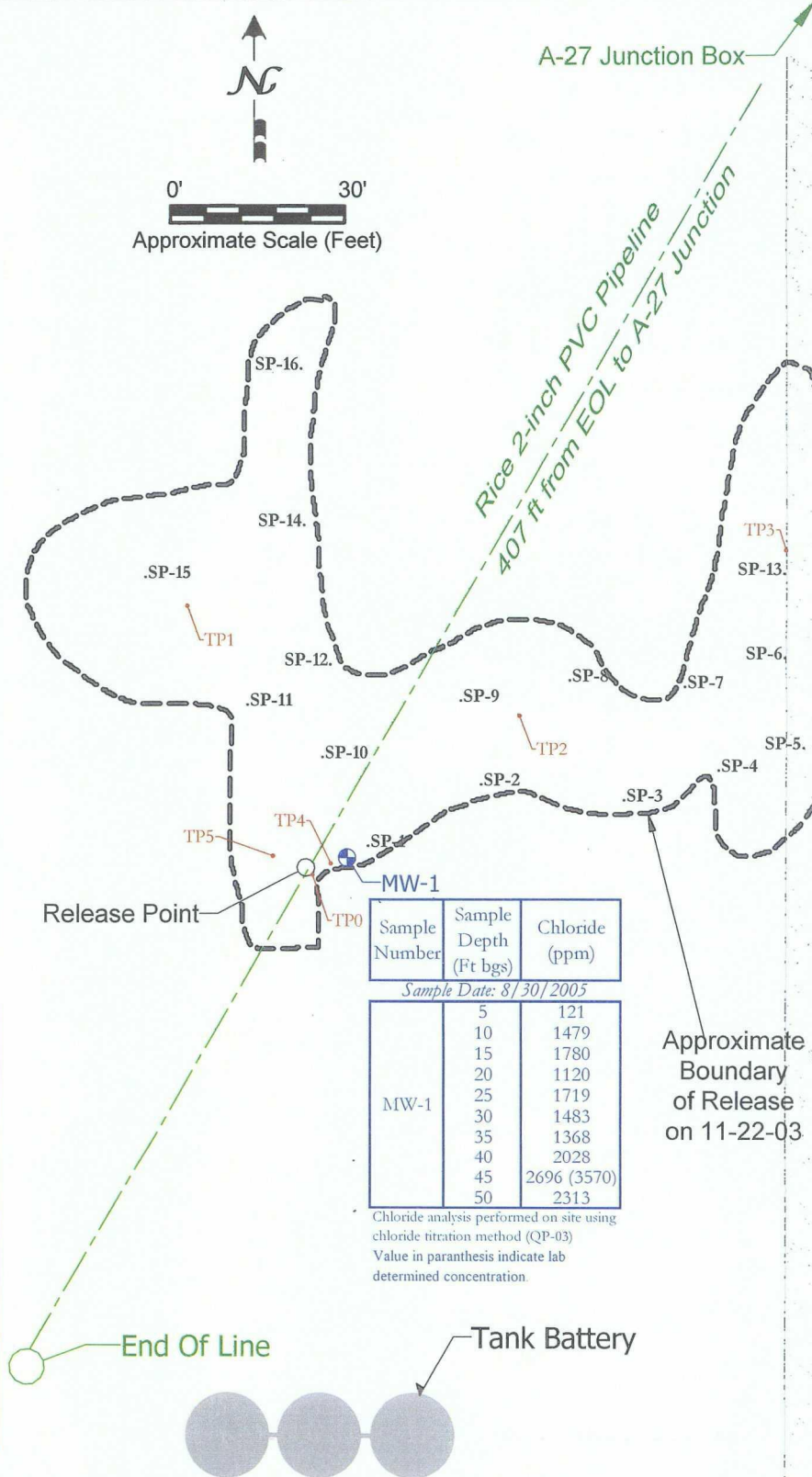
SP-1	0	66	SP-11	0	83
	1	76		1	50
	2	93		2	74
	3	108		3	104
SP-2	4	78	SP-12	4	170
	0	45		0	72
	1	126		1	73
	2	92		2	80
SP-3	3	47	SP-13	3	48
	4	75		4	97
	0	69		0	75
	1	64		1	66
SP-4	2	67	SP-14	2	60
	3	41		3	60
	4	77		0	50
	0	97		1	68
SP-5	1	64	SP-15	2	79
	2	106		3	107
	3	77		0	131
	4	65		1	117
SP-6	0	851	SP-16	2	50
	1	49		3	58
	2	58		0	66
	3	129		1	76
SP-7	4	89		2	90
	0	123		3	89
	1	49			
	2	55			
SP-8	3	54			
	4	76			
	0	101			
	1	159			
SP-9	2	127			
	3	101			
	4	90			
	0	114			
SP-10	1	44			
	2	116			
	3	119			
	4	67			

Sample Date: 11/26/2003

TP0	5	2343
	6	2761
	12	2495
TP1	0	5530
	1	3482
	2	3157
TP2	0	2346
	1	1834
	2	1128
TP3	0	3136
	1	2657
	2	1778
TP4	5	3284
	6	2681
	8	2992
TP5	10	2908
	12	2816
	6	3130
	7	2793
	10	2684
	12	2764

Sample Number	Sample Depth (Ft bgs)	Chloride (ppm)
MW-1	5	121
	10	1479
	15	1780
	20	1120
	25	1719
	30	1483
	35	1368
	40	2028
	45	2696 (3570)
	50	2313

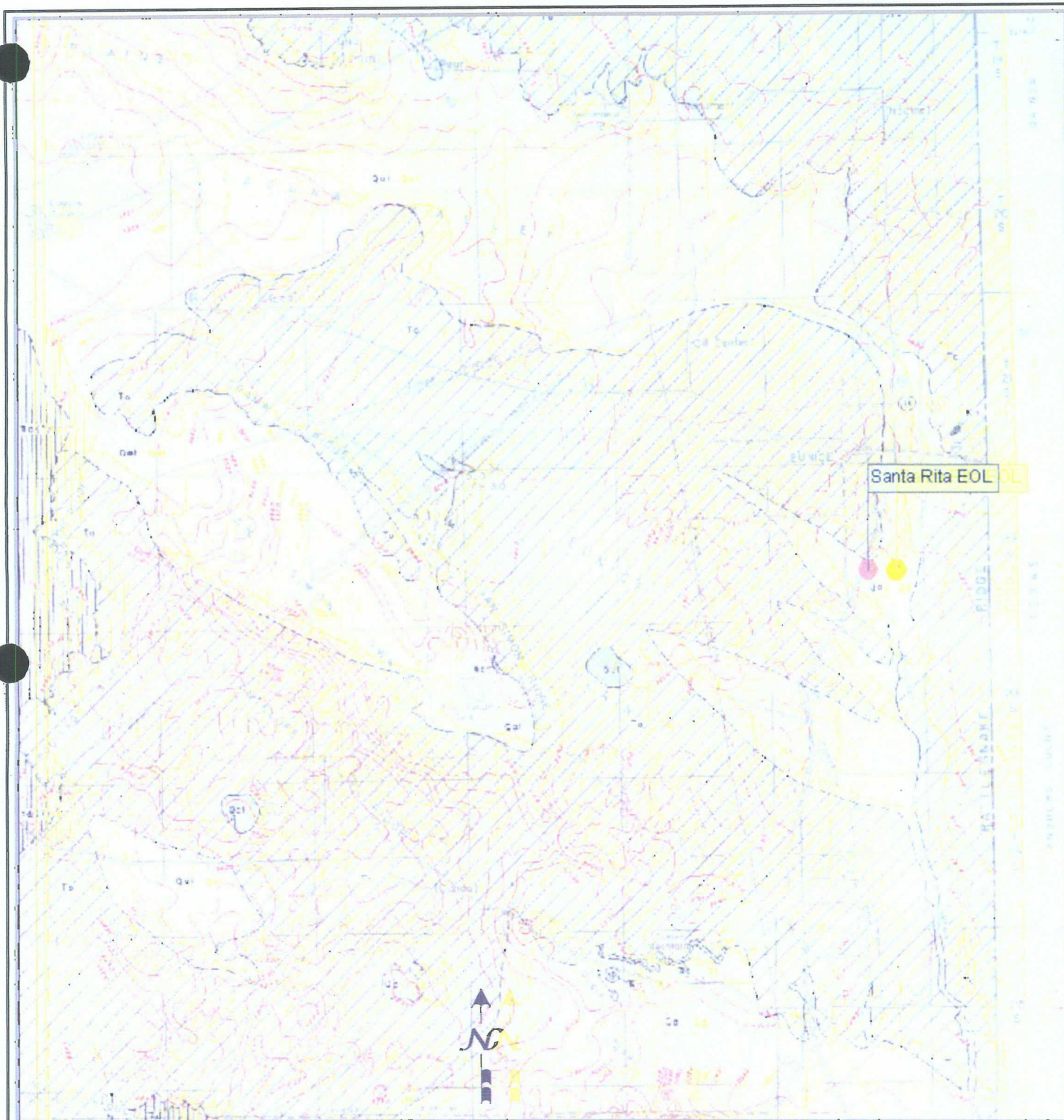
Chloride analysis performed on site using chloride titration method (QP-03)  
Value in paranthesis indicate lab determined concentration.



BD Santa Rita EOL Release Site  
T22S - R37E - Section 27, Unit A  
**RICE** Operating Company

PLATE 3  
PRELIMINARY SOIL  
SAMPLE RESULTS





Source: Nicholson & Clebsch (1961)

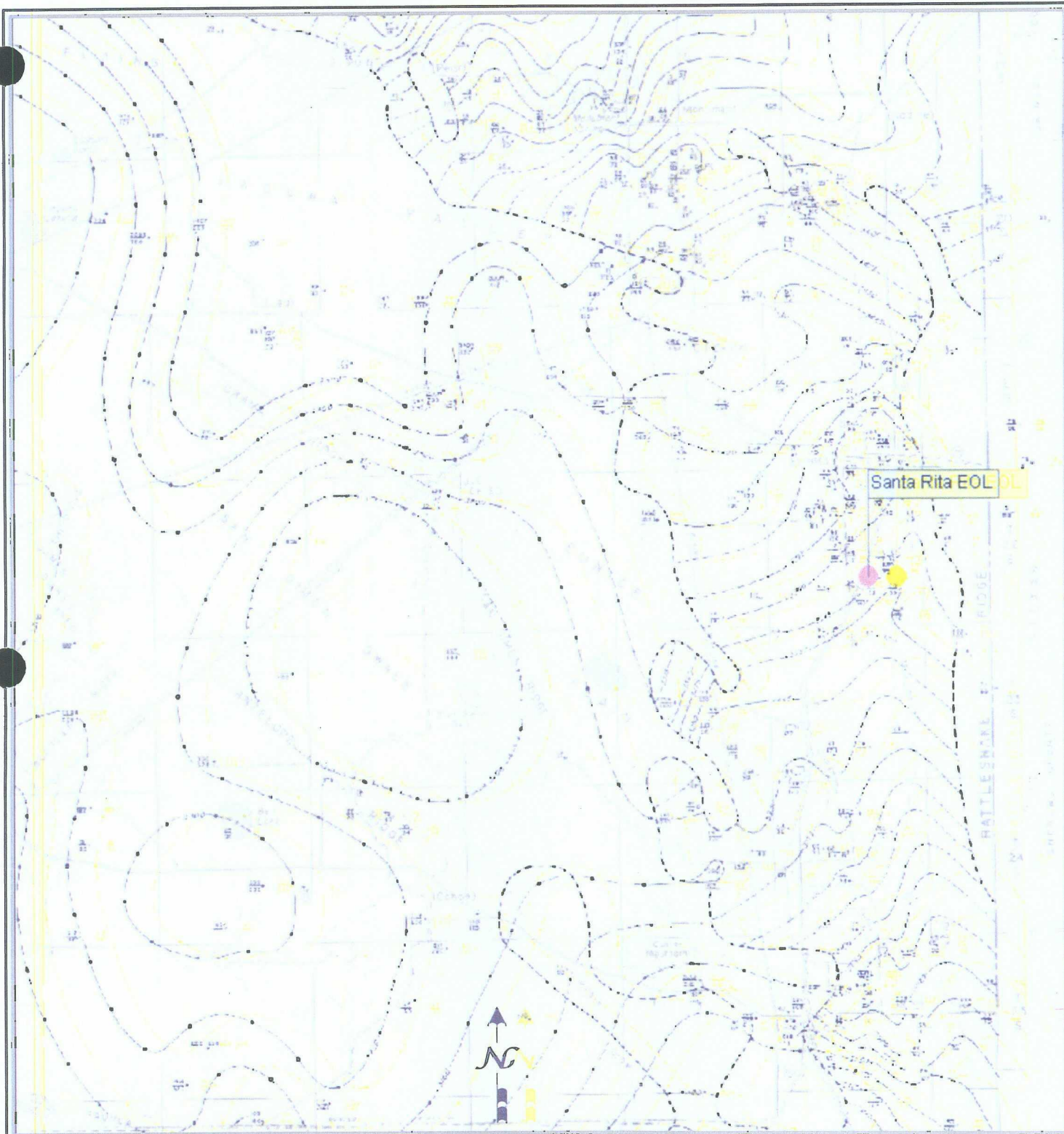
0 6  
Approximate Scale (Miles)



BD Santa Rita EOL Release Site  
T22S - R37E - Section 27, Unit A  
**RICE** Operating Company

PLATE 4  
GEOLOGIC MAP





Source: Nicholson & Clebsch (1961)

0 6  
Approximate Scale (Miles)



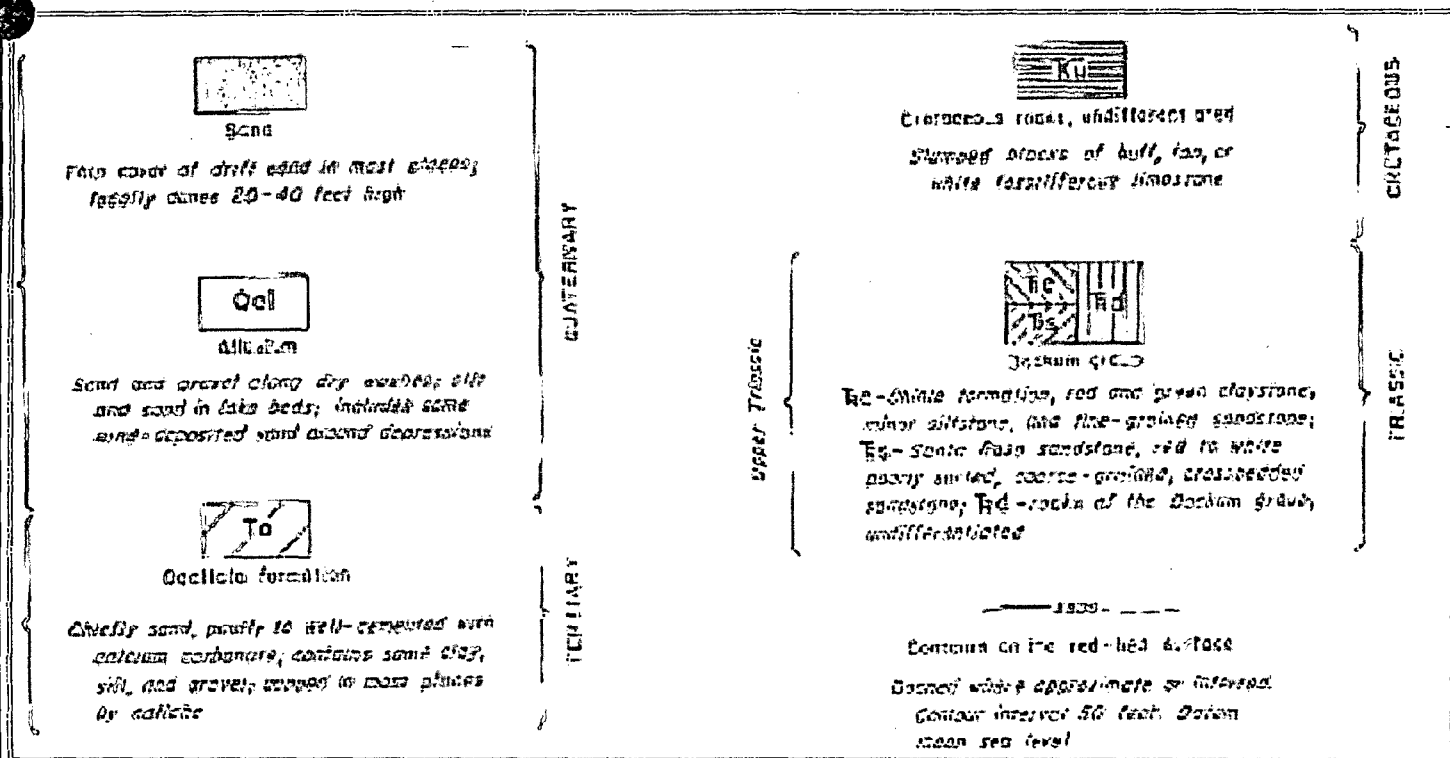
BD Santa Rita EOL Release Site

T22S - R37E - Section 27, Unit A

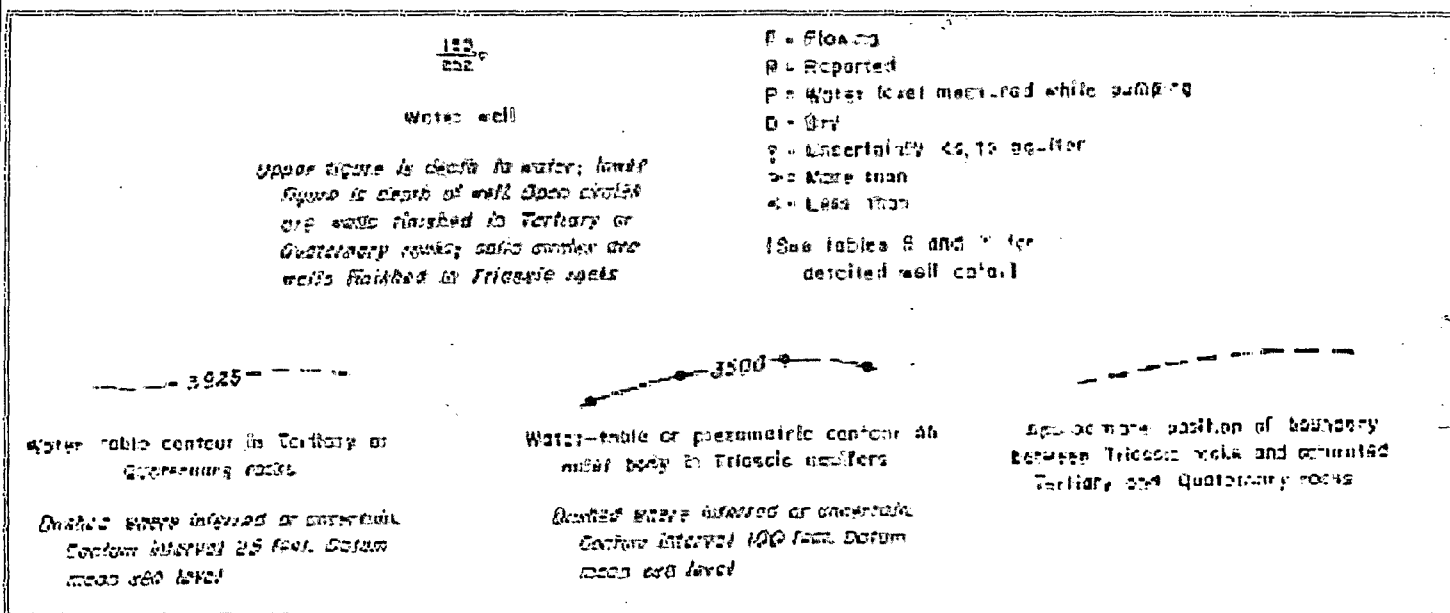
**RICE** Operating Company

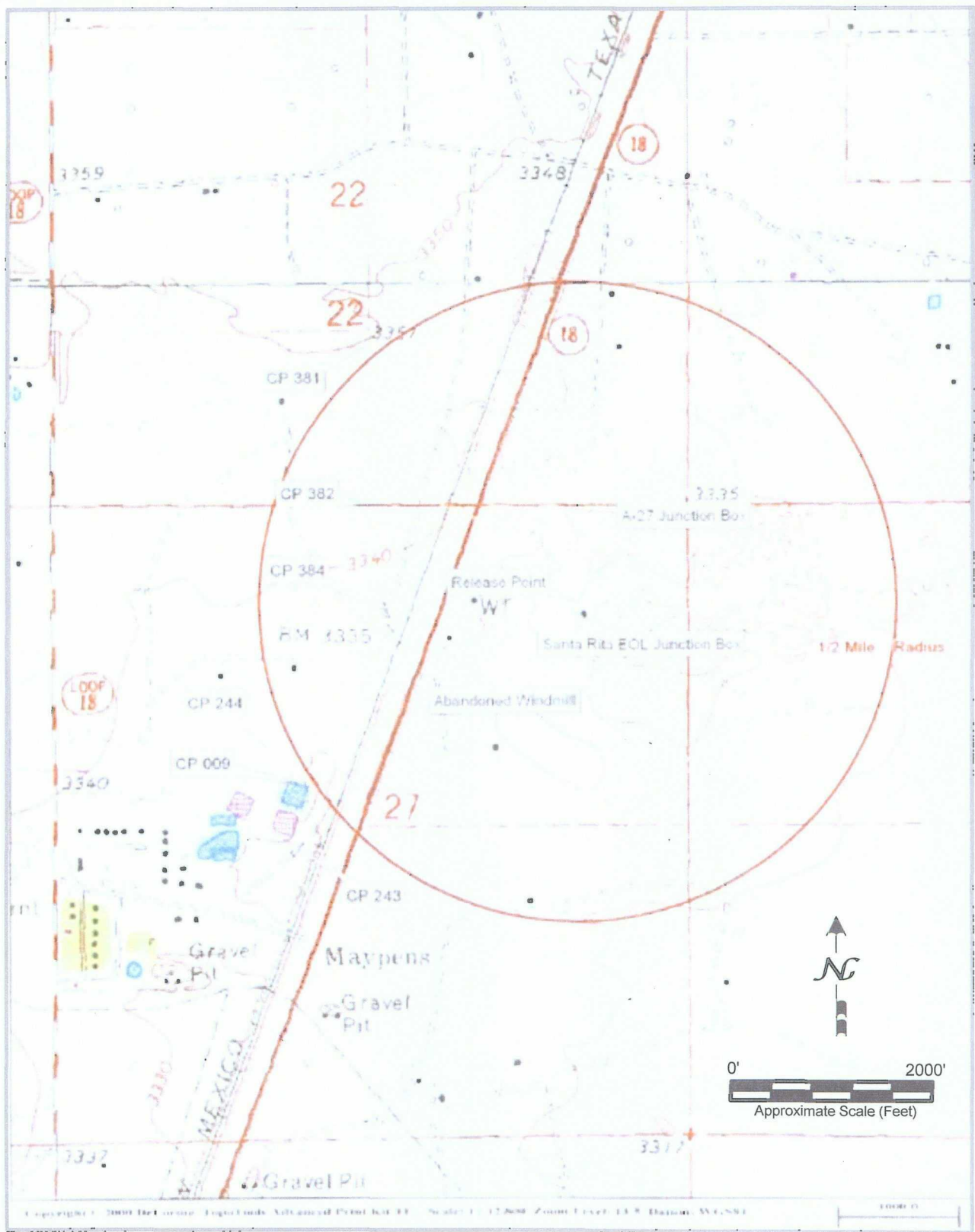
PLATE 5  
GROUND WATER MAP

## EPLANATION TO GEOLOGIC MAP (PLATE 4)



## EPLANATION TO GROUND WATER MAP (PLATE 5)





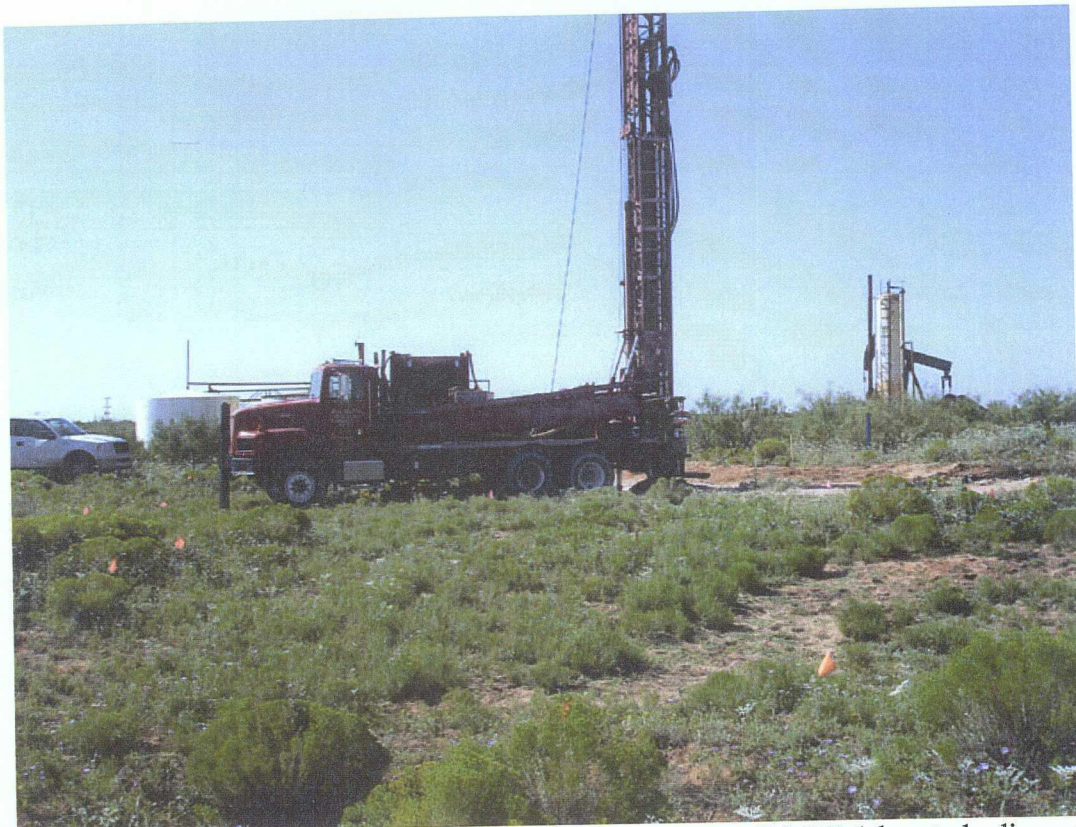
BD Santa Rita EOL Release Site  
T22S - R37E - Section 27A  
**RICE** Operating Company

PLATE 6  
WATER WELL MAP

## **APPENDIX A**

# **PHOTODOCUMENTATION**





View facing southwest showing drilling of monitoring well MW-1 located adjacent to release point at the Santa Rita EOL Site. (08-30-05)



View facing west showing chloride screening activities for soil samples obtained from monitoring well MW-1 at the Santa Rita EOL site (08-30-05)

**APPENDIX B**

**LITHOLOGIC LOG**

**AND**

**WELL CONSTRUCTION DIAGRAM**



**LOG OF BORING**  
K. Farris Pope

Logger:		Gil Van Deventer; Jennifer Johnson		RICE Operating Company		Well ID:	
Driller:		Eades Drilling				MW-1	
Drilling Method:		Air Rotary		Project Name:			
Start Date:		08/30/05		Santa Rita leak			
End Date:		08/30/05		Location:			
Notes:		Approx. 82 ft north of Santa Rita EOL junction box site TD = 61 ft      Groundwater = 54.04 ft (TOC)		BD SWD System			
				unit 'A', Sec. 27, T22S, R37E			
				Lea Countv. NM			

Depth (feet)	cuttings composite		Description	Lithology	Notes	Well Construction
	chloride (ppm)	PID (ppm)				
0.0			0 - 2 ft SANDY LOAM light brown, medium-grained			
2.0						
4.0			2 - 6 ft SILTY CLAYEY SAND light brown			
6.0	121	1.3				
8.0	1479	3.3				
10.0						
12.0	1780	1.2				
14.0						
16.0			6 - 25 ft SANDY CALICHE			
18.0	1120	0.5				
20.0						
22.0	1719	0.1				
24.0						
26.0						
28.0	1483	0.1				
30.0			25 - 35 ft CALCAREOUS FINE SAND with intermittent hard streaks			
32.0	1368	0.1				
34.0						
36.0						
38.0	2028	0.1				
40.0			35 - 45 ft SILTY FINE SAND red			
42.0	2696	0.1				
44.0						
46.0					45 - 50 ft sample lab = 3570 ppm Cl <sup>-</sup>	
48.0	2313	0.1			water at ~ 51 ft BGS	
50.0						
52.0			45 - 61 ft FINE SAND red			
54.0						
56.0						
58.0						
60.0						

2-in. sch. 40 PVC casing

3/8 inch bentonite chips

sand pack

2-in. sch. 40 PVC casing

3/8 inch  
bentonite  
chips

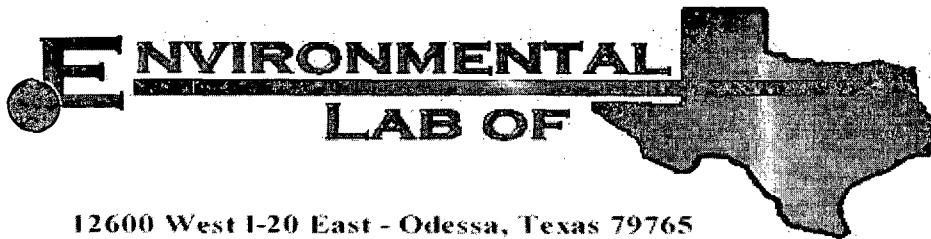
sand  
pack

# **APPENDIX C**

## **LABORATORY REPORTS**

### **AND**

## **CHAIN OF CUSTODY DOCUMENTATION**



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: BD System Santa Rita EOL Site

Project Number: None Given

Location: BD System Santa Rita EOL Site

Lab Order Number: 5I01023

Report Date: 09/06/05

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

Project: BD System Santa Rita EOL Site  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
09/06/05 11:43

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1 (40'-45')	SI01023-01	Soil	08/30/05 11:00	09/01/05 12:47

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

Project: BD System Santa Rita EOL Site  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
09/06/05 11:43

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (40'-45') (5I01023-01) Soil</b>									
<b>Chloride</b>	<b>3570</b>	50.0	mg/kg	100	EI50206	09/02/05	09/02/05	EPA 300.0	
<b>% Moisture</b>	<b>21.6</b>	0.1	%	1	EI50201	09/01/05	09/02/05	% calculation	

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

Project: BD System Santa Rita EOL Site  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
09/06/05 11:43

**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 EI50201 - General Preparation (Prep)**

<b>Blank (EI50201-BLK1)</b>		Prepared: 09/01/05 Analyzed: 09/02/05								
% Solids	100		%							
<b>Duplicate (EI50201-DUP1)</b>		<b>Source: 5H31020-01</b>		Prepared: 09/01/05 Analyzed: 09/02/05						
% Solids	91.1		%		90.3			0.882	20	
<b>Duplicate (EI50201-DUP2)</b>		<b>Source: 5I01027-02</b>		Prepared: 09/01/05 Analyzed: 09/02/05						
% Solids	90.4		%		90.6			0.221	20	

**Batch EI50206 - Water Extraction**

<b>Blank (EI50206-BLK1)</b>		Prepared & Analyzed: 09/02/05								
Chloride	ND	0.500	mg/kg							
<b>LCS (EI50206-BS1)</b>		Prepared & Analyzed: 09/02/05								
Chloride	8.55		mg/L	10.0		85.5	80-120			
<b>Calibration Check (EI50206-CCV1)</b>		Prepared & Analyzed: 09/02/05								
Chloride	9.04		mg/L	10.0		90.4	80-120			
<b>Duplicate (EI50206-DUP1)</b>		<b>Source: 5I01023-01</b>		Prepared & Analyzed: 09/02/05						
Chloride	3670	50.0	mg/kg		3570			2.76	20	

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

Project: BD System Santa Rita EOL Site  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471  
**Reported:**  
09/06/05 11:43

### 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:

9/6/2005

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.





# Environmental Lab of Texas

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

Content: Rice Operating

Date/Time: 9-01-05

Order #: SL01023

Initials: ck

### Sample Receipt Checklist

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

Other observations:

---



---



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### Variance Documentation:

Contact Person: - \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Regarding:

---



---

Corrective Action Taken:

---



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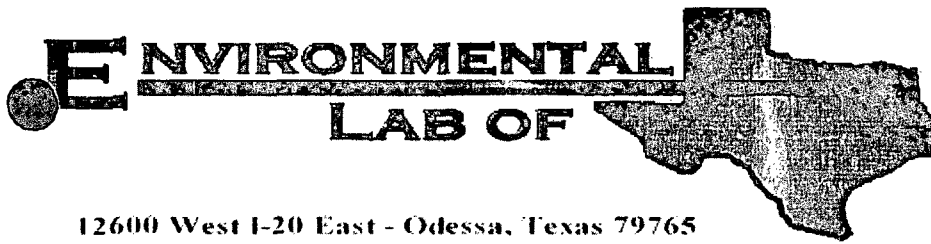
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## Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

---

Project: BD Santa Rita Leak

Project Number: None Given

Location: T22S-R37E-Sec27A, Lea County, NM

Lab Order Number: 6J12014

Report Date: 10/25/06

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well #1	6J12014-01	Water	10/11/06 09:40	10-12-2006 16:00

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (6J12014-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EJ61407	10/14/06	10/16/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		84.2 %	80-120	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %	80-120	"	"	"	"	"	

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

Project: BD Santa Rita Leak  
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
<b>Monitor Well #1 (6J12014-01) Water</b>									
<b>Total Alkalinity</b>	<b>244</b>	2.00	mg/L	1	EJ61311	10/13/06	10/13/06	EPA 310.1M	
<b>Chloride</b>	<b>2100</b>	50.0	"	100	EJ61403	10/19/06	10/19/06	EPA 300.0	
<b>Total Dissolved Solids</b>	<b>4560</b>	10.0	"	1	EJ61404	10/14/06	10/15/06	EPA 160.1	
<b>Sulfate</b>	<b>408</b>	50.0	"	100	EJ61403	10/19/06	10/19/06	EPA 300.0	

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

Project: BD Santa Rita Leak  
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
<b>Monitor Well #1 (6J12014-01) Water</b>									
<b>Calcium</b>	<b>327</b>	4.05	mg/L	50	EJ61604	10/13/06	10/16/06	EPA 6010B	
<b>Magnesium</b>	<b>191</b>	1.80	"	"	"	"	"	"	
<b>Potassium</b>	<b>15.4</b>	3.00	"	"	"	"	"	"	
<b>Sodium</b>	<b>894</b>	10.8	"	250	"	"	"	"	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EJ61407 - EPA 5030C (GC)**

**Blank (EJ61407-BLK1)**

Prepared: 10/14/06 Analyzed: 10/15/06

Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	33.5		ug/l	40.0		83.8	80-120			
Surrogate: 4-Bromofluorobenzene	35.0		"	40.0		87.5	80-120			

**LCS (EJ61407-BS1)**

Prepared: 10/14/06 Analyzed: 10/15/06

Benzene	0.0451	0.00100	mg/L	0.0500		90.2	80-120			
Toluene	0.0430	0.00100	"	0.0500		86.0	80-120			
Ethylbenzene	0.0513	0.00100	"	0.0500		103	80-120			
Xylene (p/m)	0.0929	0.00100	"	0.100		92.9	80-120			
Xylene (o)	0.0423	0.00100	"	0.0500		84.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	34.4		ug/l	40.0		86.0	80-120			
Surrogate: 4-Bromofluorobenzene	43.8		"	40.0		110	80-120			

**Calibration Check (EJ61407-CCV1)**

Prepared: 10/14/06 Analyzed: 10/17/06

Benzene	49.9		ug/l	50.0		99.8	80-120			
Toluene	43.1		"	50.0		86.2	80-120			
Ethylbenzene	42.0		"	50.0		84.0	80-120			
Xylene (p/m)	83.7		"	100		83.7	80-120			
Xylene (o)	41.2		"	50.0		82.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	36.1		"	40.0		90.2	80-120			
Surrogate: 4-Bromofluorobenzene	34.3		"	40.0		85.8	80-120			

**Matrix Spike (EJ61407-MS1)**

Source: 6J12015-01

Prepared: 10/14/06 Analyzed: 10/17/06

Benzene	0.0501	0.00100	mg/L	0.0500	ND	100	80-120			
Toluene	0.0440	0.00100	"	0.0500	ND	88.0	80-120			
Ethylbenzene	0.0416	0.00100	"	0.0500	ND	83.2	80-120			
Xylene (p/m)	0.0914	0.00100	"	0.100	ND	91.4	80-120			
Xylene (o)	0.0427	0.00100	"	0.0500	ND	85.4	80-120			
Surrogate: a,a,a-Trifluorotoluene	35.5		ug/l	40.0		88.8	80-120			
Surrogate: 4-Bromofluorobenzene	40.2		"	40.0		100	80-120			

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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**Batch EJ61407 - EPA 5030C (GC)**

**Matrix Spike Dup (EJ61407-MSD1)**

**Source: 6J12015-01**

Prepared: 10/14/06 Analyzed: 10/17/06

Benzene	0.0502	0.00100	mg/L	0.0500	ND	100	80-120	0.00	20	
Toluene	0.0442	0.00100	"	0.0500	ND	88.4	80-120	0.454	20	
Ethylbenzene	0.0412	0.00100	"	0.0500	ND	82.4	80-120	0.966	20	
Xylene (p/m)	0.0913	0.00100	"	0.100	ND	91.3	80-120	0.109	20	
Xylene (o)	0.0437	0.00100	"	0.0500	ND	87.4	80-120	2.31	20	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	35.4		ug/l	40.0		88.5	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	41.0		"	40.0		102	80-120			



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

Project: BD Santa Rita Leak  
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
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**Batch EJ61311 - General Preparation (WetChem)**

**Blank (EJ61311-BLK1)**

Prepared & Analyzed: 10/13/06

Total Alkalinity	ND	2.00	mg/L							
Carbonate Alkalinity	ND	0.100	"							
Bicarbonate Alkalinity	ND	2.00	"							
Hydroxide Alkalinity	ND	0.100	"							

**LCS (EJ61311-BS1)**

Prepared: 10/13/06 Analyzed: 10/20/06

Bicarbonate Alkalinity	196	2.00	mg/L	200		98.0	85-115			
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**Duplicate (EJ61311-DUP1)**

Source: 6J12011-01

Prepared & Analyzed: 10/13/06

Total Alkalinity	238	2.00	mg/L		242			1.67	20	
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**Reference (EJ61311-SRM1)**

Prepared & Analyzed: 10/13/06

Total Alkalinity	250		mg/L	250		100	90-110			
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**Batch EJ61403 - General Preparation (WetChem)**

**Blank (EJ61403-BLK1)**

Prepared & Analyzed: 10/19/06

Chloride	ND	0.500	mg/L							
Sulfate	ND	0.500	"							

**LCS (EJ61403-BS1)**

Prepared & Analyzed: 10/19/06

Sulfate	9.55	0.500	mg/L	10.0		95.5	80-120			
Chloride	9.62	0.500	"	10.0		96.2	80-120			

**Calibration Check (EJ61403-CCV1)**

Prepared & Analyzed: 10/19/06

Sulfate	10.1		mg/L	10.0		101	80-120			
Chloride	10.5		"	10.0		105	80-120			

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

Project: BD Santa Rita Leak  
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
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**Batch EJ61403 - General Preparation (WetChem)**

<b>Duplicate (EJ61403-DUP1)</b>		<b>Source: 6J12011-01</b>		<b>Prepared &amp; Analyzed: 10/19/06</b>						
Sulfate	291	25.0	mg/L		308			5.68	20	
Chloride	1430	25.0	"		1430			0.00	20	
<b>Duplicate (EJ61403-DUP2)</b>		<b>Source: 6J12016-02</b>		<b>Prepared &amp; Analyzed: 10/19/06</b>						
Sulfate	236	12.5	mg/L		237			0.423	20	
Chloride	690	12.5	"		692			0.289	20	
<b>Matrix Spike (EJ61403-MS1)</b>		<b>Source: 6J12011-01</b>		<b>Prepared &amp; Analyzed: 10/19/06</b>						
Chloride	2040	25.0	mg/L	500	1430	122	80-120			S-07
Sulfate	781	25.0	"	500	308	94.6	80-120			
<b>Matrix Spike (EJ61403-MS2)</b>		<b>Source: 6J12016-02</b>		<b>Prepared &amp; Analyzed: 10/19/06</b>						
Sulfate	476	12.5	mg/L	250	237	95.6	80-120			
Chloride	979	12.5	"	250	692	115	80-120			

**Batch EJ61404 - Filtration Preparation**

<b>Blank (EJ61404-BLK1)</b>		<b>Prepared: 10/14/06 Analyzed: 10/15/06</b>								
Total Dissolved Solids	ND	10.0	mg/L							
<b>Duplicate (EJ61404-DUP1)</b>		<b>Source: 6J12011-01</b>		<b>Prepared: 10/14/06 Analyzed: 10/15/06</b>						
Total Dissolved Solids	3380	10.0	mg/L		3260			3.61	5	
<b>Duplicate (EJ61404-DUP2)</b>		<b>Source: 6J12016-02</b>		<b>Prepared: 10/14/06 Analyzed: 10/15/06</b>						
Total Dissolved Solids	1850	10.0	mg/L		1900			2.67	5	

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

Project: BD Santa Rita Leak  
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 Limits	RPD Limit	Notes
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**Batch EJ61604 - 6010B/No Digestion**

**Blank (EJ61604-BLK1)**

Prepared: 10/13/06 Analyzed: 10/16/06

Calcium	ND	0.0810	mg/L					
Magnesium	ND	0.0360	"					
Potassium	ND	0.0600	"					
Sodium	ND	0.0430	"					

**Calibration Check (EJ61604-CCV1)**

Prepared: 10/13/06 Analyzed: 10/16/06

Calcium	1.99		mg/L	2.00	99.5	85-115		
Magnesium	2.20		"	2.00	110	85-115		
Potassium	1.94		"	2.00	97.0	85-115		
Sodium	1.79		"	2.00	89.5	85-115		

**Duplicate (EJ61604-DUP1)**

Source: 6J12001-04

Prepared: 10/13/06 Analyzed: 10/16/06

Calcium	0.426	0.0810	mg/L	0.427			0.234	20
Magnesium	0.432	0.0360	"	0.422			2.34	20
Potassium	0.596	0.0600	"	0.582			2.38	20
Sodium	0.890	0.0430	"	0.866			2.73	20

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

### Notes and Definitions

S-07 Recovery outside Laboratory historical or method prescribed limits.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

LCS Laboratory Control Spike

MS Matrix Spike

Dup Duplicate

Report Approved By:

*Raland K. Tuttle*

Date:

10/25/2006

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

*The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.*

Page 10 of 10

**12600 West 120 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@priceswd.com](mailto:kpope@priceswd.com)

**Project Name:**

## BD Santa Rita Leak

**Company Name** **RICE Operating Company**

Project Number:

**Company Address:** 122 W. Taylor Street

**Project Log:**

**T22S-R37E-Sec27A, Lea County NM**

City/State/Zip: Hobbs, New Mexico 88240

**PQ Number:**

**Telephone No: (505) 393-9174**

Fax No: (505) 397-1471

**Sampler Signature: Rozanne Johnson (505) 631-9310**

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

[illegible]

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

nt: Rice Op.  
 Date/Time: 10/12/06 4:00  
 ID #: 6512014  
 als: 018

**Sample Receipt Checklist**

Client Initials

Temperature of container/ cooler?	Yes	No	<u>2.0</u> °C	
Shipping container in good condition?	<u>Yes</u>	No		
Custody Seals intact on shipping container/ cooler?	<u>Yes</u>	No	Not Present	
Custody Seals intact on sample bottles/ container?	<u>Yes</u>	No	Not Present	
Chain of Custody present?	<u>Yes</u>	No		
Sample instructions complete of Chain of Custody?	<u>Yes</u>	No		
Chain of Custody signed when relinquished/ received?	<u>Yes</u>	No		
Chain of Custody agrees with sample label(s)?	<u>Yes</u>	No	ID written on Cont./ Lid	
Container label(s) legible and intact?	<u>Yes</u>	No	Not Applicable	
0 Sample matrix/ properties agree with Chain of Custody?	<u>Yes</u>	No		
1 Containers supplied by ELDT?	<u>Yes</u>	No		
2 Samples in proper container/ bottle?	<u>Yes</u>	No	See Below	
3 Samples properly preserved?	<u>Yes</u>	No	See Below	
4 Sample bottles intact?	<u>Yes</u>	No		
5 Preservations documented on Chain of Custody?	<u>Yes</u>	No		
6 Containers documented on Chain of Custody?	<u>Yes</u>	No		
7 Sufficient sample amount for indicated test(s)?	<u>Yes</u>	No	See Below	
8 All samples received within sufficient hold time?	<u>Yes</u>	No	See Below	
9 VOC samples have zero headspace?	<u>Yes</u>	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



6701 Aberdeen Avenue, Suite 9  
155 McCutcheon, Suite H

Lubbock, Texas 79424  
El Paso, Texas 79932

800•378•1296  
888•588•3443  
E-Mail: lab@traceanalysis.com

806•794•1296  
915•585•3443

FAX 806•794•1298  
FAX 915•585•4944

## Analytical and Quality Control Report

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

Report Date: August 17, 2006

Work Order: 6072145



Project Location: Lea County, New Mexico  
Project Name: BD Santa Rita Leak  
Project Number: BD Santa Rita Leak

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

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
96142	Monitor Well #1	water	2006-07-19	10:45	2006-07-21

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

This report consists of a total of 11 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

## Analytical Report

### Sample: 96142 - Monitor Well #1

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

Parameter	Flag	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		230	mg/L as CaCo3	1	4.00
Total Alkalinity		230	mg/L as CaCo3	1	4.00

### Sample: 96142 - Monitor Well #1

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

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0950	mg/L	1	0.100	95	66.2 - 127.7
4-Bromofluorobenzene (4-BFB)	1	0.0576	mg/L	1	0.100	58	70.6 - 129.2

### Sample: 96142 - Monitor Well #1

Analysis:	Cations	Analytical Method:	S 6010B	Prep Method:	S 3005A
QC Batch:	28357	Date Analyzed:	2006-07-26	Analyzed By:	TP
Prep Batch:	24749	Sample Preparation:	2006-07-24	Prepared By:	TS

Parameter	Flag	RL Result	Units	Dilution	RL
Dissolved Calcium		863	mg/L	10	0.500
Dissolved Potassium		67.3	mg/L	1	1.00
Dissolved Magnesium		438	mg/L	10	1.00
Dissolved Sodium		2180	mg/L	100	1.00

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



**Sample: 96142 - Monitor Well #1**

Analysis:	Ion Chromatography	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	29104 <sup>a</sup>	Date Analyzed:	2006-08-16	Analyzed By:	WB
Prep Batch:	25429	Sample Preparation:	2006-08-15	Prepared By:	WB

<sup>a</sup>Matrix not reported %LA Cl is 124 and SO4 123 and RPD is 2 for CL and 2 for SO4.

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		6180	mg/L	500	0.500
Sulfate		412	mg/L	50	0.500

**Sample: 96142 - Monitor Well #1**

Analysis:	TDS	Analytical Method:	SM 2540C	Prep Method:	N/A
QC Batch:	29099 <sup>a</sup>	Date Analyzed:	2006-08-16	Analyzed By:	WB
Prep Batch:	25438	Sample Preparation:	2006-08-15	Prepared By:	WB

<sup>a</sup>duplicate not reported RPD is 6.

Parameter	Flag	RL Result	Units	Dilution	RL
Total Dissolved Solids	2	14000	mg/L	20	10.00

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

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

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

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

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

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

<sup>2</sup>Reran out of hold time. •

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: 28357

QC Batch: 28357 Date Analyzed: 2006-07-26 Analyzed By: TP  
Prep Batch: 24749 QC Preparation: 2006-07-24 Prepared By: TS

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

**Method Blank (1)** QC Batch: 29099

QC Batch: 29099 Date Analyzed: 2006-08-16 Analyzed By: WB  
Prep Batch: 25438 QC Preparation: 2006-08-15 Prepared By: WB

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

**Method Blank (1)** QC Batch: 29104

QC Batch: 29104 Date Analyzed: 2006-08-16 Analyzed By: WB  
Prep Batch: 25429 QC Preparation: 2006-08-15 Prepared By: WB

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

**Duplicates (1)**

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

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

continued...

*duplicate continued...*

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

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

QC Batch: 28277  
Prep Batch: 24759

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

Analyzed By: MT  
Prepared By: MT

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

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

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

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

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

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

QC Batch: 28357  
Prep Batch: 24749

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

Analyzed By: TP  
Prepared By: TS

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

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

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

*continued...*

control spikes continued...

Param	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit	RPD	RPD Limit
Dissolved Sodium	48.6	mg/L	1	50.0	<0.261	101	85 - 111	4	20

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

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

QC Batch: 29104  
Prep Batch: 25429

Date Analyzed: 2006-08-16  
QC Preparation: 2006-08-15

Analyzed By: WB  
Prepared By: WB

Param	LCS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Chloride	11.9	mg/L	1	12.5	<0.0181	95	90 - 110
Sulfate	11.3	mg/L	1	12.5	<0.0485	90	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	11.6	mg/L	1	12.5	<0.0181	95	90 - 110	3	20
Sulfate	11.3	mg/L	1	12.5	<0.0485	90	90 - 110	0	20

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

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

QC Batch: 28277  
Prep Batch: 24759

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

Analyzed By: MT  
Prepared By: MT

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

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

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

continued...

<sup>3</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>4</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>5</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>6</sup>RPD is out of range because a matrix spike duplicate was not prepared.

matrix spikes continued...

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

**Matrix Spike (MS-1)** Spiked Sample: 96142

QC Batch: 28357  
Prep Batch: 24749

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

Analyzed By: TP  
Prepared By: TS

Param		MS Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	Rec. Limit
Dissolved Calcium	<sup>9</sup>	884	mg/L	1	50.0	863	42	68.4 - 138
Dissolved Potassium		110	mg/L	1	50.0	67.3	85	82 - 129
Dissolved Magnesium		496	mg/L	1	50.0	438	116	61.2 - 135
Dissolved Sodium	<sup>10</sup>	2200	mg/L	1	50.0	2180	40	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	<sup>11</sup>	884	mg/L	1	50.0	863	42	68.4 - 138	0	20
Dissolved Potassium		111	mg/L	1	50.0	67.3	87	82 - 129	1	20
Dissolved Magnesium		491	mg/L	1	50.0	438	106	61.2 - 135	1	20
Dissolved Sodium	<sup>12</sup>	2200	mg/L	1	50.0	2180	40	81.8 - 125	0	20

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

**Standard (ICV-1)**

QC Batch: 28277

Date Analyzed: 2006-07-24

Analyzed By: MT

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

**Standard (CCV-1)**

QC Batch: 28277

Date Analyzed: 2006-07-24

Analyzed By: MT

<sup>7</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>8</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>9</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>10</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>11</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

<sup>12</sup>Matrix spike recovery out of control limits due to matrix interference. Use LCS/LCSD to demonstrate analysis is under control.

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

**Standard (ICV-1)**

QC Batch: 28340

Date Analyzed: 2006-07-26

Analyzed By: LJ

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

**Standard (CCV-1)**

QC Batch: 28340

Date Analyzed: 2006-07-26

Analyzed By: LJ

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

**Standard (ICV-1)**

QC Batch: 28357

Date Analyzed: 2006-07-26

Analyzed By: TP

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

**Standard (CCV-1)**

QC Batch: 28357

Date Analyzed: 2006-07-26

Analyzed By: TP

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Dissolved Calcium		mg/L	50.0	48.7	97	90 - 110	2006-07-26
Dissolved Potassium		mg/L	50.0	47.4	95	90 - 110	2006-07-26
Dissolved Magnesium		mg/L	50.0	47.2	94	90 - 110	2006-07-26
Dissolved Sodium		mg/L	50.0	47.3	95	90 - 110	2006-07-26

**Standard (ICV-1)**

QC Batch: 29099

Date Analyzed: 2006-08-16

Analyzed By: WB

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1007	101	90 - 110	2006-08-16

**Standard (CCV-1)**

QC Batch: 29099

Date Analyzed: 2006-08-16

Analyzed By: WB

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1031	103	90 - 110	2006-08-16

**Standard (ICV-1)**

QC Batch: 29104

Date Analyzed: 2006-08-16

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	12.5	100	90 - 110	2006-08-16
Sulfate		mg/L	12.5	12.2	98	90 - 110	2006-08-16

**Standard (CCV-1)**

QC Batch: 29104

Date Analyzed: 2006-08-16

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	11.6	93	90 - 110	2006-08-16
Sulfate		mg/L	12.5	11.3	90	90 - 110	2006-08-16

<b>TraceAnalysis, Inc.</b> <small>9701 ADDICKS AVE, Ste B Lubbock, Texas 79424 Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296</small> <small>185 McCURRISON WAY, Suite H El Paso, Texas 79932 Tel (915) 585-3443 Fax (915) 585-4944 1 (888) 588-3443</small>		<b>CHAIN-OF-CUSTODY AND ANALYSIS REQUEST</b> LAB Order ID # <u>6072145</u>																																																										
Company Name: <u>RICE Operating Company</u> Address: <u>(Street, City, Zip)</u> <u>122 W Taylor Street - Hobbs, New Mexico 88240</u> Contact Person: <u>Kristin Farris - Pope, Project Scientist</u> Invoice to: <u>Kristin Farris - Pope, Project Scientist</u> Project #: <u>(If different from above)</u> Project Name: <u>BD Santa Rita Leak</u> Project Location: <u>Lea County - New Mexico</u> None Given Sample Location: <u>Rozanne Johnson (505) 631-3310</u> <u>rozanne@valomet.com</u>		<b>ANALYSIS REQUEST</b> (Circle or Specify Method No.) <table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>PAH 8270C</td><td></td></tr> <tr><td>TPH 418, 1/TX1005 / TX1005 Extended (C35)</td><td></td></tr> <tr><td>TCLP Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7</td><td></td></tr> <tr><td>TCLP Volatiles</td><td></td></tr> <tr><td>TCLP Semi Volatiles</td><td></td></tr> <tr><td>TCLP Pesticides</td><td></td></tr> <tr><td>RCI</td><td></td></tr> <tr><td>GC/MS Vol. 8260B/624</td><td></td></tr> <tr><td>GC/MS Semi. Vol. 8270C/625</td><td></td></tr> <tr><td>PCBs 8082/608</td><td></td></tr> <tr><td>Pesticides 8081A/608</td><td></td></tr> <tr><td>BOD, TSS, pH</td><td></td></tr> <tr><td>Moisture Content</td><td></td></tr> <tr><td>Cations (Ca, Mg, Na, K)</td><td>X</td></tr> <tr><td>Anions (Cl, SSSO4, CO3, HCO3)</td><td>X</td></tr> <tr><td>Total Dissolved Solids</td><td>X</td></tr> <tr><td>Turn Around Time if different from standard</td><td></td></tr> <tr><td>Hold</td><td></td></tr> </table>		PAH 8270C		TPH 418, 1/TX1005 / TX1005 Extended (C35)		TCLP Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7		TCLP Volatiles		TCLP Semi Volatiles		TCLP Pesticides		RCI		GC/MS Vol. 8260B/624		GC/MS Semi. Vol. 8270C/625		PCBs 8082/608		Pesticides 8081A/608		BOD, TSS, pH		Moisture Content		Cations (Ca, Mg, Na, K)	X	Anions (Cl, SSSO4, CO3, HCO3)	X	Total Dissolved Solids	X	Turn Around Time if different from standard		Hold																						
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Relinquished by: <u>Rozanne Johnson</u> Date: <u>7-20-06</u> Time: <u>8:00</u> Relinquished by: _____ Date: _____ Time: _____ Relinquished by: _____ Date: _____ Time: _____		<b>REMARKS:</b> Received by: _____ Date: _____ Time: _____ Received by: _____ Date: _____ Time: _____ Received at Laboratory by: <u>Morgan Johnson</u> Date: <u>7-21-06</u> Time: <u>1105</u>																																																										

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



# Cation-Anion Balance Sheet

DATE: 8/16/2006

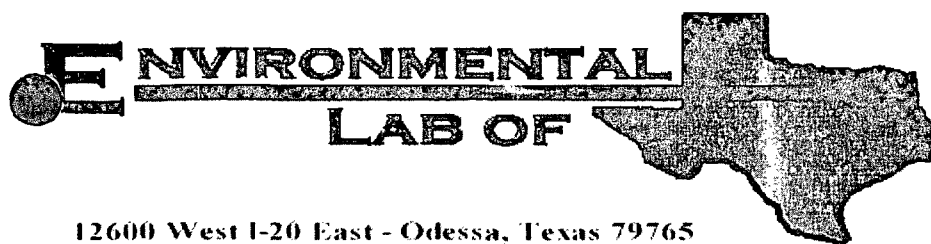
Sample #	Calcium ppm	Magnesium ppm	Sodium ppm	Potassium ppm	Alkalinity ppm	Sulfate ppm	Chloride ppm	Nitrate ppm	Fluoride ppm	TDS ppm	EC µMHOs/cm	Percentage Error
96142	863	438	2180	673	230	412	6180			14000		6.3
Sample #	Calcium in meq/L	Magnesium in meq/L	Sodium in meq/L	Potassium in meq/L	Alkalinity in meq/L	Sulfate in meq/L	Chloride in meq/L	Nitrate in meq/L	Fluoride in meq/L	Total Cations in meq/L	Total Anions in meq/L	
96142	43.06	36.04	94.83	1.72	4.60	8.58	174.34	0.00	0.00	175.68	187.52	

96142	EC/Cation	EC/Anion
-------	-----------	----------

TDS/EC	TDS/Cat	TDS/Anion
	0.80	0.75

needs to be 0.55-0.77

range 0 to 0



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: BD Santa Rita Leak

Project Number: None Given

Location: Lea County

Lab Order Number: 6D27010

Report Date: 05/04/06

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
05/04/06 15:31

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well #1	6D27010-01	Water	04/24/06 10:15	04/27/06 10:30

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
05/04/06 15:31

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (6D27010-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	ED62807	04/28/06	05/01/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		98.2 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %	80-120		"	"	"	"	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
05/04/06 15:31

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (6D27010-01) Water</b>									
<b>Total Alkalinity</b>	<b>219</b>	2.00	mg/L	1	EE60301	05/03/06	05/03/06	EPA 310.1M	
<b>Chloride</b>	<b>7100</b>	100	"	200	EE60116	05/01/06	05/01/06	EPA 300.0	
<b>Total Dissolved Solids</b>	<b>14300</b>	5.00	"	1	EE60115	04/27/06	04/28/06	EPA 160.1	
<b>Sulfate</b>	<b>675</b>	100	"	200	EE60116	05/01/06	05/01/06	EPA 300.0	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
05/04/06 15:31

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (6D27010-01) Water</b>									
<b>Calcium</b>	<b>924</b>	2.00	mg/L	200	ED62719	04/27/06	04/27/06	EPA 6010B	
<b>Magnesium</b>	<b>491</b>	0.200	"	"	"	"	"	"	
<b>Potassium</b>	<b>35.7</b>	2.50	"	50	"	"	"	"	
<b>Sodium</b>	<b>2580</b>	10.0	"	1000	"	"	"	"	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
05/04/06 15:31

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch ED62807 - EPA 5030C (GC)**

<b>Blank (ED62807-BLK1)</b>				Prepared: 04/28/06 Analyzed: 04/30/06					
Benzene	ND	0.00100	mg/L						
Toluene	ND	0.00100	"						
Ethylbenzene	ND	0.00100	"						
Xylene (p/m)	ND	0.00100	"						
Xylene (o)	ND	0.00100	"						
Surrogate: a,a,a-Trifluorotoluene	42.7		ug/l	40.0		107	80-120		
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120		

<b>LCS (ED62807-BS1)</b>				Prepared: 04/28/06 Analyzed: 04/30/06					
Benzene	0.0599	0.00100	mg/L	0.0500		120	80-120		
Toluene	0.0580	0.00100	"	0.0500		116	80-120		
Ethylbenzene	0.0551	0.00100	"	0.0500		110	80-120		
Xylene (p/m)	0.120	0.00100	"	0.100		120	80-120		
Xylene (o)	0.0596	0.00100	"	0.0500		119	80-120		
Surrogate: a,a,a-Trifluorotoluene	43.0		ug/l	40.0		108	80-120		
Surrogate: 4-Bromofluorobenzene	42.2		"	40.0		106	80-120		

<b>Calibration Check (ED62807-CCV1)</b>				Prepared: 04/28/06 Analyzed: 05/01/06					
Benzene	55.0		ug/l	50.0		110	80-120		
Toluene	53.0		"	50.0		106	80-120		
Ethylbenzene	55.9		"	50.0		112	80-120		
Xylene (p/m)	110		"	100		110	80-120		
Xylene (o)	55.9		"	50.0		112	80-120		
Surrogate: a,a,a-Trifluorotoluene	39.0		"	40.0		97.5	80-120		
Surrogate: 4-Bromofluorobenzene	39.1		"	40.0		97.8	80-120		

<b>Matrix Spike (ED62807-MS1)</b>				Source: 6D27008-01		Prepared: 04/28/06 Analyzed: 05/01/06			
Benzene	0.0576	0.00100	mg/L	0.0500	ND	115	80-120		
Toluene	0.0568	0.00100	"	0.0500	ND	114	80-120		
Ethylbenzene	0.0587	0.00100	"	0.0500	ND	117	80-120		
Xylene (p/m)	0.120	0.00100	"	0.100	ND	120	80-120		
Xylene (o)	0.0600	0.00100	"	0.0500	ND	120	80-120		
Surrogate: a,a,a-Trifluorotoluene	41.7		ug/l	40.0		104	80-120		
Surrogate: 4-Bromofluorobenzene	47.5		"	40.0		119	80-120		

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 5 of 10

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
05/04/06 15:31

**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
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**Batch ED62807 - EPA 5030C (GC)**

**Matrix Spike Dup (ED62807-MSD1)**

**Source: 6D27008-01**

Prepared: 04/28/06 Analyzed: 05/01/06

Benzene	0.0597	0.00100	mg/L	0.0500	ND	119	80-120	3.42	20	
Toluene	0.0579	0.00100	"	0.0500	ND	116	80-120	1.74	20	
Ethylbenzene	0.0585	0.00100	"	0.0500	ND	117	80-120	0.00	20	
Xylene (p/m)	0.120	0.00100	"	0.100	ND	120	80-120	0.00	20	
Xylene (o)	0.0598	0.00100	"	0.0500	ND	120	80-120	0.00	20	
Surrogate: a,a,a-Trifluorotoluene	43.5		ug/l	40.0		109	80-120			
Surrogate: 4-Bromofluorobenzene	46.4		"	40.0		116	80-120			



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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
05/04/06 15:31

**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
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**Batch EE60115 - General Preparation (WetChem)**

**Blank (EE60115-BLK1)**

Prepared: 04/27/06 Analyzed: 04/28/06

Total Dissolved Solids ND 5.00 mg/L

**Duplicate (EE60115-DUP1)**

Source: 6D27015-01

Prepared: 04/27/06 Analyzed: 04/28/06

Total Dissolved Solids 3020 5.00 mg/L 3040 0.660 5

**Batch EE60116 - General Preparation (WetChem)**

**Blank (EE60116-BLK1)**

Prepared & Analyzed: 05/01/06

Chloride ND 0.500 mg/L

Sulfate ND 0.500 "

**LCS (EE60116-BS1)**

Prepared & Analyzed: 05/01/06

Sulfate 9.47 0.500 mg/L 10.0 94.7 80-120

Chloride 9.71 0.500 " 10.0 97.1 80-120

**Calibration Check (EE60116-CCV1)**

Prepared & Analyzed: 05/01/06

Chloride 9.86 mg/L 10.0 98.6 80-120

Sulfate 8.11 " 10.0 81.1 80-120

**Duplicate (EE60116-DUP1)**

Source: 6D27008-01

Prepared & Analyzed: 05/01/06

Sulfate 80.0 2.50 mg/L 79.2 1.01 20

Chloride 49.3 2.50 " 49.0 0.610 20

**Batch EE60301 - General Preparation (WetChem)**

**Blank (EE60301-BLK1)**

Prepared & Analyzed: 05/03/06

Total Alkalinity ND 2.00 mg/L

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471  
**Reported:**  
05/04/06 15:31

**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
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**Batch EE60301 - General Preparation (WetChem)**

**LCS (EE60301-BS1)**

Prepared & Analyzed: 05/03/06

Bicarbonate Alkalinity	214		mg/L	200		107	85-115			
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**Duplicate (EE60301-DUP1)**

Source: 6D26006-01

Prepared & Analyzed: 05/03/06

Total Alkalinity	29.0	2.00	mg/L		28.0			3.51	20	
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**Reference (EE60301-SRM1)**

Prepared & Analyzed: 05/03/06

Total Alkalinity	96.0		mg/L	100		96.0	90-110			
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Rice Operating Co.  
122 W. Taylor  
Robbs NM, 88240

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
05/04/06 15:31

**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
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**Batch ED62719 - 6010B/No Digestion**

**Blank (ED62719-BLK1)**

Prepared & Analyzed: 04/27/06

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (ED62719-CCV1)**

Prepared & Analyzed: 04/27/06

Calcium	2.08		mg/L				85-115			
Magnesium	2.16		"				85-115			
Potassium	1.94		"				85-115			
Sodium	1.96		"				85-115			

**Duplicate (ED62719-DUP1)**

Source: 6D26006-01

Prepared & Analyzed: 04/27/06

Calcium	0.0366	0.0100	mg/L		0.0367			0.273	20	
Magnesium	ND	0.00100	"		ND				20	
Potassium	0.275	0.0500	"		0.275			0.00	20	
Sodium	13.0	0.100	"		12.1			7.17	20	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
05/04/06 15:31

### Notes and Definitions

DET Analyte DETECTED  
ND Analyte NOT DETECTED at or above the reporting limit  
NR Not Reported  
dry Sample results reported on a dry weight basis  
RPD Relative Percent Difference  
LCS Laboratory Control Spike  
MS Matrix Spike  
Dup Duplicate

Report Approved By:

*Raland K. Tuttle*

Date:

5/4/2006

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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If you have received this material in error, please notify us immediately at 432-563-1800.



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

at: Rice Op.  
 Date/Time: 4/24/00 10:30  
 Sample #: 6027010  
 Initials: CK

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	<u>20</u>	C
Shipping container/cooler in good condition?	<input checked="" type="checkbox"/>	No		
Body Seals intact on shipping container/cooler?	<input checked="" type="checkbox"/>	No	Not present	
Body Seals intact on sample bottles?	<input checked="" type="checkbox"/>	No	Not present	
Chain of custody present?	<input checked="" type="checkbox"/>	No		
Sample Instructions complete on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Chain of Custody signed when relinquished and received?	<input checked="" type="checkbox"/>	No		
Chain of custody agrees with sample label(s)	<input checked="" type="checkbox"/>	No		
Container labels legible and intact?	<input checked="" type="checkbox"/>	No		
Sample Matrix and properties same as on chain of custody?	<input checked="" type="checkbox"/>	No		
Samples in proper container/bottle?	<input checked="" type="checkbox"/>	No		
Samples properly preserved?	<input checked="" type="checkbox"/>	No		
Sample bottles intact?	<input checked="" type="checkbox"/>	No		
Observations documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Containers documented on Chain of Custody?	<input checked="" type="checkbox"/>	No		
Sufficient sample amount for indicated test?	<input checked="" type="checkbox"/>	No		
Samples received within sufficient hold time?	<input checked="" type="checkbox"/>	No		
GC samples have zero headspace?	<input checked="" type="checkbox"/>	No	Not Applicable	

Other observations:

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**Variance Documentation:**

Responsible Person: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

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Corrective Action Taken:

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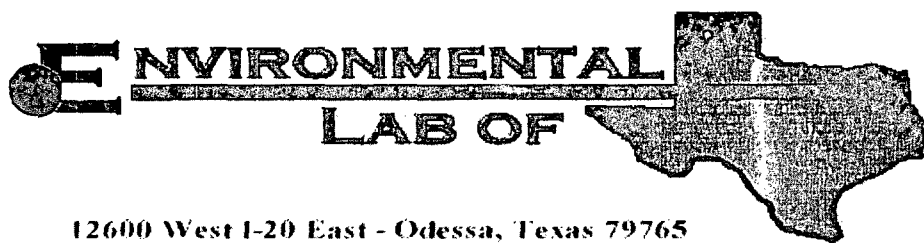
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12600 West I-20 East - Odessa, Texas 79765

## Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: BD Santa Rita Leak

Project Number: None Given

Location: Lea County

Lab Order Number: 6A25022

Report Date: 02/01/06

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
02/01/06 11:43

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Monitor Well #1	6A25022-01	Water	01/23/06 10:40	01/25/06 13:25



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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (6A25022-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EA62618	01/26/06	01/27/06	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		82.0 %	80-120		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.0 %	80-120		"	"	"	"	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

**Reported:**  
02/01/06 11:43

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Monitor Well #1 (6A25022-01) Water</b>									
<b>Total Alkalinity</b>	<b>210</b>	2.00	mg/L	1	EA62406	01/26/06	01/26/06	EPA 310.1M	
<b>Chloride</b>	<b>7450</b>	100	"	200	EA63004	01/30/06	01/30/06	EPA 300.0	
<b>Total Dissolved Solids</b>	<b>14300</b>	5.00	"	1	EA63003	01/26/06	01/27/06	EPA 160.1	
<b>Sulfate</b>	<b>723</b>	100	"	200	EA63004	01/30/06	01/30/06	EPA 300.0	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Monitor Well #1 (6A25022-01) Water**

Calcium	996	2.00	mg/L	200	EA62615	01/26/06	01/26/06	EPA 6010B	
Magnesium	535	0.200	"	"	"	"	"	"	
Potassium	46.1	0.500	"	10	"	"	"	"	
Sodium	3060	5.00	"	500	"	"	"	"	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EA62618 - EPA 5030C (GC)**

**Blank (EA62618-BLK1)**

Prepared: 01/26/06 Analyzed: 01/27/06

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	38.5		ug/l	40.0		96.2	80-120		
Surrogate: 4-Bromofluorobenzene	42.4		"	40.0		106	80-120		

**LCS (EA62618-BS1)**

Prepared: 01/26/06 Analyzed: 01/27/06

Benzene	0.0566	0.00100	mg/L	0.0500		113	80-120		
Toluene	0.0557	0.00100	"	0.0500		111	80-120		
Ethylbenzene	0.0547	0.00100	"	0.0500		109	80-120		
Xylene (p/m)	0.102	0.00100	"	0.100		102	80-120		
Xylene (o)	0.0538	0.00100	"	0.0500		108	80-120		
Surrogate: a,a,a-Trifluorotoluene	41.2		ug/l	40.0		103	80-120		
Surrogate: 4-Bromofluorobenzene	32.8		"	40.0		82.0	80-120		

**Calibration Check (EA62618-CCV1)**

Prepared: 01/26/06 Analyzed: 01/28/06

Benzene	51.3		ug/l	50.0		103	80-120		
Toluene	52.5		"	50.0		105	80-120		
Ethylbenzene	54.5		"	50.0		109	80-120		
Xylene (p/m)	101		"	100		101	80-120		
Xylene (o)	55.6		"	50.0		111	80-120		
Surrogate: a,a,a-Trifluorotoluene	34.3		"	40.0		85.8	80-120		
Surrogate: 4-Bromofluorobenzene	39.5		"	40.0		98.8	80-120		

**Matrix Spike (EA62618-MS1)**

Source: 6A24010-01

Prepared: 01/26/06 Analyzed: 01/27/06

Benzene	0.0559	0.00100	mg/L	0.0500	ND	112	80-120		
Toluene	0.0548	0.00100	"	0.0500	ND	110	80-120		
Ethylbenzene	0.0515	0.00100	"	0.0500	ND	103	80-120		
Xylene (p/m)	0.0835	0.00100	"	0.100	ND	83.5	80-120		
Xylene (o)	0.0512	0.00100	"	0.0500	ND	102	80-120		
Surrogate: a,a,a-Trifluorotoluene	37.5		ug/l	40.0		93.8	80-120		
Surrogate: 4-Bromofluorobenzene	34.3		"	40.0		85.8	80-120		

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

**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
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**Batch EA62618 - EPA 5030C (GC)**

**Matrix Spike Dup (EA62618-MSD1)**

Source: 6A24010-01

Prepared: 01/26/06 Analyzed: 01/28/06

Benzene	0.0482	0.00100	mg/L	0.0500	ND	96.4	80-120	15.0	20	
Toluene	0.0484	0.00100	"	0.0500	ND	96.8	80-120	12.8	20	
Ethylbenzene	0.0456	0.00100	"	0.0500	ND	91.2	80-120	12.2	20	
Xylene (p/m)	0.0841	0.00100	"	0.100	ND	84.1	80-120	0.716	20	
Xylene (o)	0.0448	0.00100	"	0.0500	ND	89.6	80-120	12.9	20	
Surrogate: <i>a,a,a</i> -Trifluorotoluene	33.0		ug/l	40.0		82.5	80-120			
Surrogate: <i>4</i> -Bromofluorobenzene	32.4		"	40.0		81.0	80-120			

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

**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
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**Batch EA62406 - General Preparation (WetChem)**

**Blank (EA62406-BLK1)**

Prepared & Analyzed: 01/26/06

Total Alkalinity ND 2.00 mg/L

**LCS (EA62406-BS1)**

Prepared & Analyzed: 01/26/06

Bicarbonate Alkalinity 220 mg/L 200 110 85-115

**Duplicate (EA62406-DUP1)**

Source: 6A19005-01

Prepared & Analyzed: 01/26/06

Total Alkalinity 258 2.00 mg/L 256 0.778 20

**Reference (EA62406-SRM1)**

Prepared & Analyzed: 01/26/06

Total Alkalinity 97.0 mg/L 100 97.0 90-110

**Batch EA63003 - General Preparation (WetChem)**

**Blank (EA63003-BLK1)**

Prepared: 01/26/06 Analyzed: 01/27/06

Total Dissolved Solids ND 5.00 mg/L

**Duplicate (EA63003-DUP1)**

Source: 6A25018-01

Prepared: 01/26/06 Analyzed: 01/27/06

Total Dissolved Solids 2020 5.00 mg/L 2080 2.93 5

**Batch EA63004 - General Preparation (WetChem)**

**Blank (EA63004-BLK1)**

Prepared & Analyzed: 01/30/06

Sulfate ND 0.500 mg/L

Chloride ND 0.500 "

**LCS (EA63004-BS1)**

Prepared & Analyzed: 01/30/06

Sulfate 9.61 0.500 mg/L 10.0 96.1 80-120

Chloride 8.40 0.500 " 10.0 84.0 80-120

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

**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 EA63004 - General Preparation (WetChem)**

**Calibration Check (EA63004-CCV1)**

Prepared & Analyzed: 01/30/06

Sulfate	9.82		mg/L	10.0		98.2	80-120			
Chloride	8.64		"	10.0		86.4	80-120			

**Duplicate (EA63004-DUP1)**

Source: 6A25018-01

Prepared & Analyzed: 01/30/06

Sulfate	84.4	25.0	mg/L		88.2			4.40	20	
Chloride	879	25.0	"		886			0.793	20	

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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

**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
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**Batch EA62615 - 6010B/No Digestion**

**Blank (EA62615-BLK1)**

Prepared & Analyzed: 01/26/06

Calcium	ND	0.0100	mg/L							
Magnesium	ND	0.00100	"							
Potassium	ND	0.0500	"							
Sodium	ND	0.0100	"							

**Calibration Check (EA62615-CCV1)**

Prepared & Analyzed: 01/26/06

Calcium	2.12		mg/L	2.00		106	85-115			
Magnesium	1.99		"	2.00		99.5	85-115			
Potassium	1.88		"	2.00		94.0	85-115			
Sodium	1.94		"	2.00		97.0	85-115			

**Duplicate (EA62615-DUP1)**

Source: 6A19005-01

Prepared & Analyzed: 01/26/06

Calcium	224	0.500	mg/L		222			0.897	20	
Magnesium	115	0.0500	"		120			4.26	20	
Potassium	14.6	0.500	"		15.2			4.03	20	
Sodium	306	0.500	"		313			2.26	20	



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

Project: BD Santa Rita Leak  
Project Number: None Given  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
02/01/06 11:43

### 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:

2/1/2006

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.

This material is intended only for the use of the individual (s) or entity to whom it is addressed, and may contain information that is privileged and confidential.

If you have received this material in error, please notify us immediately at 432-563-1800.



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

Client: Rice Op.

Date/Time: 1/25/06 13:26

Order #: 6A25022

Initials: CR

**Sample Receipt Checklist**

Temperature of container/cooler?	Yes	No	-2.5 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:

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**Variance Documentation:**

Contact Person: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
 Regarding: \_\_\_\_\_

Corrective Action Taken:

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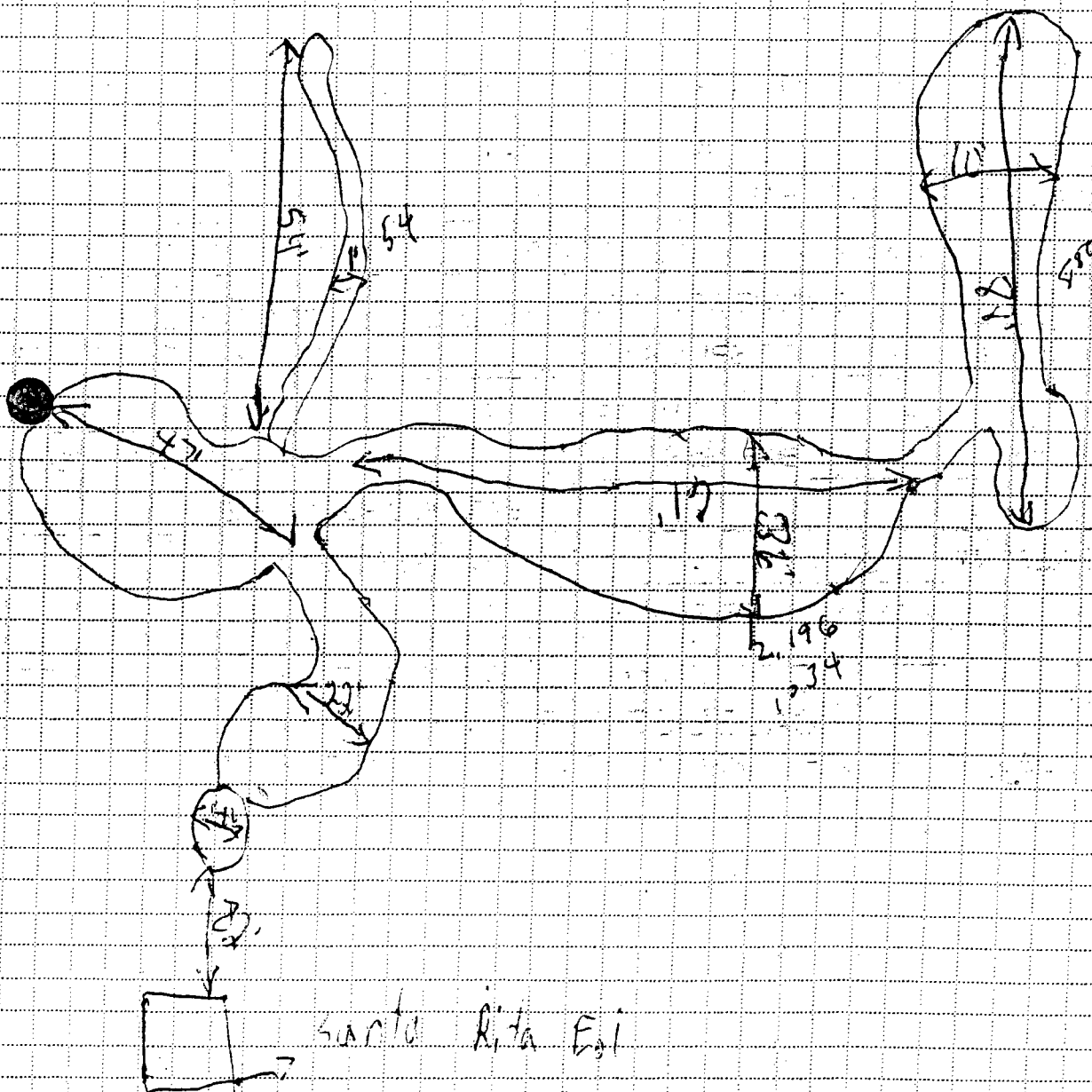


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THIS THE FIRST SPILL AT THIS LOCATION? yes

PASTURE ✓ ROADWAY \_\_\_\_\_ OTHER \_\_\_\_\_

NORTH



REPORT PREPARED BY

Louis Fedico

DATE 11-22-63

# FIELD TESTS FOR INITIAL DELINEATION

TEST POINT NO. <i>Background</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O

TEST POINT NO. <i>Origin of Leak</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O
5' bgs		2343		
6' bgs		2761		
3'				

TEST POINT NO. <i>1</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O
Surface		5570		
1' bgs		3480		
2' bgs		7157		

TEST POINT NO. <i>2</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O
Surface		2746		
1' bgs		1834		
2' bgs		1128		

TEST POINT NO. <i>3</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O
Surface		2176		
1' bgs		2657		
2' bgs		1778		

TEST POINT NO.				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O

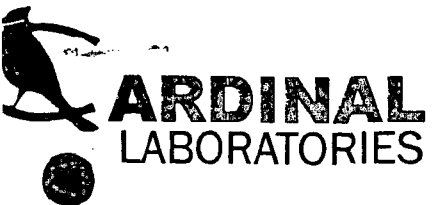
*Vertical delineation with H-oc*

TEST POINT NO. <i>Estimated Source</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O
6' bgs		3130		
7' bgs		2793		
10' bgs		2684		
12' bgs		2764		

TEST POINT NO. <i>5' East of Source</i>				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O
5' bgs		7284		
6' bgs		2581		
8' bgs		2992		
10' bgs		2968		
12' bgs		2816		

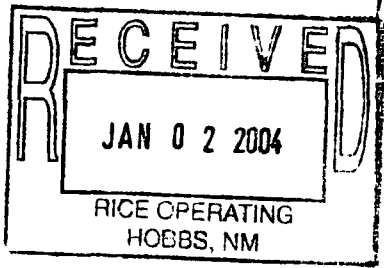
TEST POINT NO.				
DEPTH	TPH	Cr	Soil	H <sub>2</sub> O

*Shirley Boyd arrived at 8:50, and we split samples every sample of both wells.*



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

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



Receiving Date: 12/23/03  
Reporting Date: 12/23/03  
Project Number: NOT GIVEN  
Project Name: SANTA RITA EOL LEAK SITE  
Project Location: BD

Analysis Date: 12/23/03  
Sampling Date: 12/19/03  
Sample Type: SOIL  
Sample Condition: COOL & INTACT  
Sample Received By: AH  
Analyzed By: HM

LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/Kg)
H8288-1	12' BGS @ SOURCE	2495
H8288-2	12' BGS @ 5' E OF SOURCE	2623
Quality Control		940
True Value QC		1000
% Recovery		94.0
Relative Percent Difference		7.4

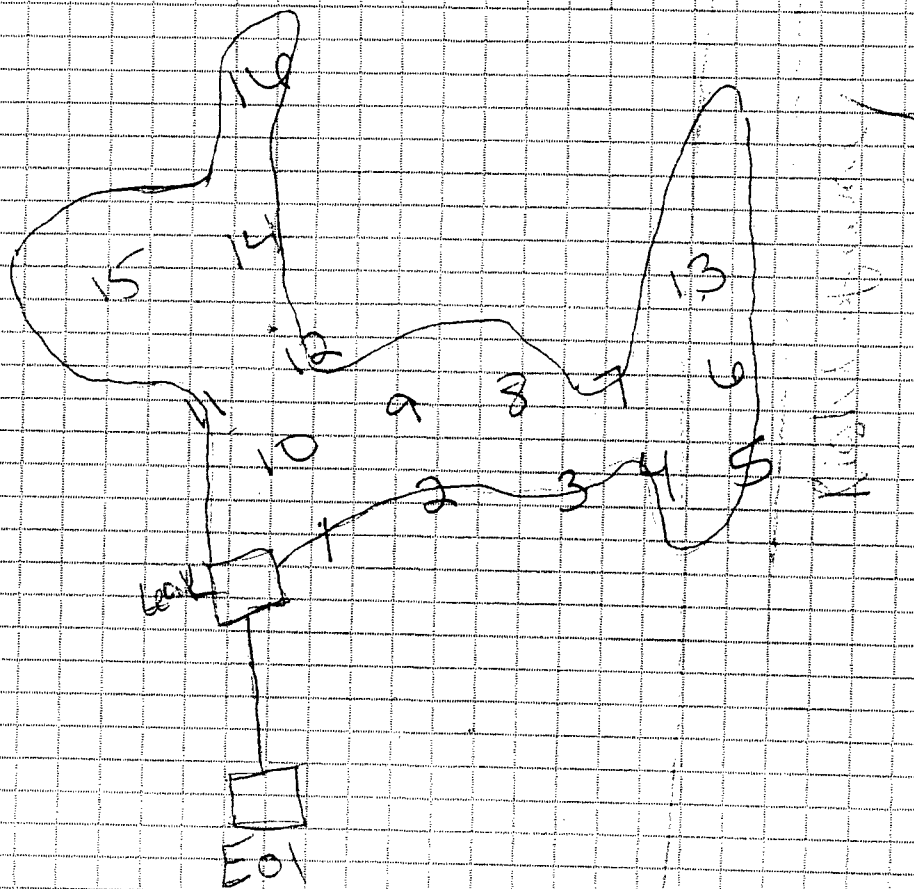
METHOD: Standard Methods      4500-Cl<sup>-</sup>B  
Note: Analyses performed on 1:4 w:v aqueous extracts.

Amy Hill  
Chemist

12/23/03  
Date

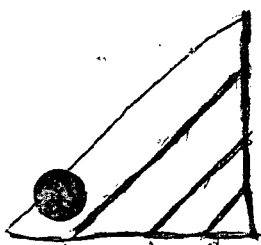
NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, 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.





Johnson  
Sample points  
Hand Auger  
8/9/05





Santa Rita

J. Johnson

ppm Chlorides 8/9/05

Snd 5'  $\frac{30.7}{13.3}$  2.31

$\frac{.03}{10}$  69

Snd 1'  $\frac{30.0}{14.1}$  2.13

$\frac{.03}{10}$  64

Snd 2'  $\frac{30.3}{13.4}$  2.23

$\frac{.03}{10}$  67

Snd 3'  $\frac{30.3}{14.6}$  2.07

$\frac{.02}{10}$  41

Snd 4'  $\frac{31.4}{12.2}$  2.57

$\frac{.03}{10}$  77

SP #1  
5'  $\frac{30.0}{13.5}$  2.22

$\frac{.03}{10}$  66

1'  $\frac{31.1}{12.2}$  2.55

$\frac{.03}{10}$  76

2'  $\frac{30.1}{12.5}$  2.41

$\frac{.04}{10}$  93

3'  $\frac{30.4}{11.2}$  2.71

$\frac{.04}{10}$  108

4'  $\frac{31.3}{12.7}$  2.46

$\frac{.03}{10}$  78

$$S \quad SP\#2$$

$$\frac{30.1}{13.3} \quad 2.26$$

$$\frac{.02}{10} \quad 45$$

$$1' \quad \frac{31.2}{10.8} \quad 3.16$$

$$\frac{.04}{10} \quad 126$$

$$2' \quad \frac{33.2}{10.8} \quad 3.07$$

$$\frac{.03}{10} \quad 92$$

$$3' \quad \frac{31.6}{13.5} \quad 2.34$$

$$\frac{.02}{10} \quad 47$$

$$4' \quad \frac{32.2}{12.7} \quad 2.53$$

$$\frac{.03}{10} \cdot .003 = 75$$

$$S \quad SP\#4$$

$$\frac{30.1}{12.3} \quad 2.45$$

$$\frac{.04}{10} \cdot .004 = 97$$

$$1' \quad \frac{30.9}{14.3} \quad 2.16$$

$$\frac{.03}{10} \cdot .003 = 64$$

$$2' \quad \frac{30.6}{11.5} \quad 2.66$$

$$\frac{.04}{10} \cdot .004 = 104$$

$$3' \quad \frac{31.9}{12.4} \quad 2.57$$

$$\frac{.03}{10} \cdot .003 = 77$$

$$4' \quad \frac{31.1}{14.2} \quad 2.19$$

$$\frac{.03}{10} \cdot .003 = 65$$

SP# 6

$$5' \frac{34.2}{11.1} 3.03$$

$$\frac{.04}{10}, .004 = 123$$

$$1' \frac{31.3}{12.5} 2.50$$

$$\frac{.02}{10}, .002 = 419$$

$$2' \frac{31.8}{11.5} 2.74$$

$$\frac{.02}{10}, .002 = 55$$

$$3' \frac{31.7}{11.5} 2.75$$

$$\frac{.02}{10}, .002 = 54$$

$$4' \frac{32.5}{12.7} 2.55$$

$$\frac{.03}{10}, .003 = 74$$

SP# 5

Super 5

$$5' \frac{30.6}{13.3} 2.30$$

$$\frac{.37}{10} 851$$

$$1' \frac{31.4}{12.6} 2.49$$

$$\frac{.02}{10}, .002 = 419$$

$$2' \frac{32.3}{11.0} 2.93$$

$$\frac{.02}{10}, .002 = 58$$

$$3' \frac{34.4}{10.6} 3.24$$

$$\frac{.04}{10}, .004 = 129$$

$$4' \frac{32.0}{10.7} 2.99$$

$$\frac{.03}{10}, .003 = 89$$



SP #7

$$S \quad \frac{32.0}{12.6} \quad 2.53$$

$$\frac{.04}{10} \cdot 1004 = 101$$

$$1' \quad \frac{33.0}{10.3} \quad 3.20$$

$$\frac{.05}{10} \cdot 1005 = 159$$

$$2' \quad \frac{32.4}{10.2} \quad 3.19$$

$$\frac{.04}{10} \cdot 1004 = 127$$

$$3' \quad \frac{33.0}{12.9} \quad 2.55$$

$$\frac{.04}{10} \cdot 1004 = 101$$

$$4' \quad \frac{32.7}{10.8} \quad 3.02$$

$$\frac{.03}{10} \cdot 1003 = 90$$

SP #8

$$S \quad \frac{33.6}{11.7} \quad 2.87$$

$$\frac{.04}{10} \cdot 1004 = 114$$

$$1' \quad \frac{30.5}{13.6} \quad 2.24$$

$$\frac{.02}{10} \cdot 1002 = 441$$

$$2' \quad \frac{31.3}{10.7} \quad 2.92$$

$$\frac{.04}{10} \cdot 1004 = 116$$

$$3' \quad \frac{32.8}{11.0} \quad 2.98$$

$$\frac{.04}{10} \cdot 1004 = 119$$

$$4' \quad \frac{31.0}{13.7} \quad 2.24$$

$$\frac{.03}{10} \cdot 1003 = 67$$

$$S' \frac{30.6}{10.4} 2.94$$

$$\frac{.04}{10} .004 = 117$$

$$1' \frac{31.4}{11.1} 2.82$$

$$\frac{.05}{10} .005 = 140$$

$$2' \frac{30.9}{10.2} 3.02$$

$$\frac{.03}{10} .003 = 90$$

$$3' \frac{31.1}{13.7} 2.27$$

$$\frac{.04}{10} .004 = 90$$

$$4' \frac{33.9}{10.1} 3.35$$

$$\frac{.05}{10} .005 = 167$$

$$S' \frac{34.5}{10.5} 3.28$$

$$\frac{.04}{10} .004 = 131$$

$$1' \frac{31.6}{12.0} 2.63$$

$$\frac{.04}{10} .004 = 105$$

$$2' \frac{33.1}{13.9} 2.38$$

$$\frac{.04}{10} .004 = 95$$

$$3' \frac{32.8}{12.8} 2.54$$

$$\frac{.03}{10} .003 = 76$$

$$4' \frac{32.7}{13.0} 2.51$$

$$\frac{.02}{10} .002 = 50$$

SP #11

$$5 \frac{31.0}{11.1} 2.79$$

$$\frac{.03}{10} .003 = 83$$

$$1' \frac{32.6}{12.9} 2.52$$

$$\frac{.02}{10} .002 = 50$$

$$2' \frac{32.4}{13.0} 2.19$$

$$\frac{.03}{10} .003 = 74$$

$$3' \frac{32.5}{12.4} 2.42$$

$$\frac{.04}{10} .004 = 104$$

$$4' \frac{31.7}{11.1} 2.35$$

$$\frac{.06}{10} .006 = 170$$

SP #12

$$5 \frac{31.6}{13.0} 2.43$$

$$\frac{.03}{10} .003 = 72$$

$$1' \frac{32.7}{13.3} 2.45$$

$$\frac{.03}{10} .003 = 73$$

$$2' \frac{33.6}{12.4} 2.70$$

$$\frac{.03}{10} .003 = 80$$

$$3' \frac{31.3}{12.8} 2.44$$

$$\frac{.02}{10} .002 = 48$$

$$4' \frac{33.6}{10.3} 3.24$$

$$\frac{.03}{10} .003 = 97$$

SP #13

Snd 5  $\frac{32.3}{12.8}$  2.52

$$\frac{.03}{10} \cdot 1003 = 75$$

Snd 1'  $\frac{33.2}{10.0}$  3.32

$$\frac{.02}{10} \cdot 1002 = 66$$

Snd 2'  $\frac{33.4}{11.0}$  3.03

$$\frac{.02}{10} \cdot 1002 = 60$$

CL 3'  $\frac{33.9}{11.2}$  3.02

$$\frac{.02}{10} \cdot 1002 = 60$$

CL 4' Hand

SP #14

Snd 5  $\frac{36.2}{11.9}$  2.53

$$\frac{.02}{10} \cdot 1002 = 50$$

Snd 1'  $\frac{30.9}{13.6}$  2.27

$$\frac{.03}{10} \cdot 1003 = 68$$

Snd 2'  $\frac{31.2}{15.6}$  2.00

$$\frac{.04}{10} \cdot 1004 = 79$$

CL 3'  $\frac{32.1}{11.9}$  2.69

$$\frac{.04}{10} \cdot 1004 = 107$$

CL 4' Hand

## **APPENDIX D**

# **QUALITY PROCEDURES**



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**Rice Operating Company**

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**Quality Procedure**

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**Procedure for Obtaining  
Soil Samples for Transportation to a Laboratory**

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**1.0 Purpose**

This procedure outlines the methods to be employed when obtaining soil samples to be taken to a laboratory for analysis.

**2.0 Scope**

This procedure is to be used when collecting soil samples intended for ultimate transfer to a testing laboratory.

**3.0 Preliminary**

- 3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the soil. The shipment should include a Certificate of Compliance from the manufacturer of the collection bottle or vial and a Serial Number for the lot of containers. Retain this Certificate for future documentation purposes.
- 3.2 If collecting TPH, BTEX, RCRA 8 metals, cation /anions or O&G, the sample jar may be a clear 4 oz. container with Teflon lid. If collecting PAH's, use an amber 4 oz. container.

**4.0 Chain of Custody**

- 4.1 Prepare a Sample Plan. The plan will list the number, location and designation of each planned sample and the individual tests to be performed on the sample. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.
- 4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.
- 4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label.) Affix the labels to the jars.

---

**5.0 Sampling Procedure**

- 5.1. Do not touch the soil with your bare hands. Use new latex gloves with each sample to help minimize any cross-contamination.
- 5.2. Go to the sampling point with the sample container. If not analyzing for ions or metals, use a trowel to obtain the soil.
- 5.3. Pack the soil tightly into the container leaving the top slightly domed. Screw the lid down tightly. Enter the time of collection onto the sample collection jar label.
- 5.4. Place the sample directly on ice for transport to the laboratory if required.
- 5.5. Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

**6.0 Documentation**

- 6.1 The testing laboratory shall provide the following minimum information:
  - a. Project and sample name.
  - b. Signed copy of the original Chain of Custody Form including the time the sample was received by the lab.
  - c. Results of the requested analyses
  - d. Test Methods employed
  - e. Quality Control methods and results

---

**Rice Operating Company**

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---

**QUALITY PROCEDURE**

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**Sampling and Testing Protocol  
Chloride Titration Using .282 Normal  
Silver Nitrate Solution**

---

**1.0 Purpose**

This procedure is to be used to determine the concentration of chloride in soil.

**2.0 Scope**

This procedure is to be used as the standard field measurement for soil chloride concentrations.

**3.0 Sample Collection and Preparation**

- 3.1 Collect at least 80 grams of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample for soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).
- 3.2 The soil sample(s) shall be immediately inserted into a one-quart or larger polyethylene freezer bag. Care should be taken to insure that no cross-contamination occurs between the soil sample and the collection tools or sample processing equipment.
- 3.3 The sealed sample bag should be massaged to break up any clods.

**4.0 Sample Preparation**

- 4.1 Tare a clean glass vial having a minimum 40 ml capacity. Add at least 10 grams of the soil sample and record the weight.
- 4.2 Add at least 10 grams of reverse osmosis water to the soil sample and shake for 20 seconds.
- 4.3 Allow the sample to set for a period of 5 minutes or until the separation of soil and water.
- 4.4 Carefully pour the free liquid extract from the sample through a paper filter into a clean plastic cup if necessary.

### 5.0 Titration Procedure

- 5.1 Using a graduated pipette, remove 10 ml extract and dispense into a clean plastic cup.
- 5.2 Add 2-3 drops potassium chromate ( $K_2CrO_4$ ) to mixture.
- 5.3 If the sample contains any sulfides (hydrogen or iron sulfides are common to oilfield soil samples) add 2-3 drops of hydrogen peroxide ( $H_2O_2$ ) to mixture.
- 5.4 Using a 1 ml pipette, carefully add .282 normal silver nitrate (one drop at a time) to the sample while constantly agitating it. Stop adding silver nitrate when the solution begins to change from yellow to red. Be consistent with endpoint recognition.
- 5.5 Record the ml of silver nitrate used.

### 6.0 Calculation

To obtain the chloride concentration, insert measured data into the following formula:

$$\frac{.282 \times 35,450 \times \text{ml AgNO}_3}{\text{ml water extract}} \times \frac{\text{grams of water in mixture}}{\text{grams of soil in mixture}}$$

Using Step 5.0, determine the chloride concentration of the RO water used to mix with the soil sample. Record this concentration and subtract it from the formula results to find the net chloride in the soil sample.

Record all results on the delineation form.

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## **Rice Operating Company**

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### **Quality Procedure Development of Cased Water-Monitoring Wells**

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#### **1.0 Purpose**

This procedure outlines the methods to be employed to develop cased monitoring wells.

#### **2.0 Scope**

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

#### **3.0 Sample Collection and Preparation**

- 3.1 Prior to development, the static water level and height of the water column within the well casing will be measured with the use of an electric D.C. probe or a steel engineer's tape and water sensitive paste.
- 3.2 All measurements will be recorded within a field log notebook.
- 3.3 All equipment used to measure the static water level will be decontaminated after each use by means of Liquinox, a phosphate free laboratory detergent, and water to reduce the possibility of cross-contamination. The volume of water in each well casing will be calculated.

#### **4.0 Purging**

- 4.1 Wells will be purged by using a 2" decontaminated submersible pump or dedicated one liter Teflon bailer. Wells should be purged until the pH and conductivity are stabilized and the turbidity has been reduced to the greatest extent possible.
- 4.2 If a submersible is used the pump will be decontaminated prior to use by scrubbing the outside surface of tubing and wiring with a Liquinox water mixture, pumping a Liquinox-water mixture through the pump, and a final flush with fresh water.

#### **5.0 Water Disposal**

- 5.1 All purge and decontamination water will be temporarily stored within a portable tank to be later disposed of in an appropriate manner.

#### **6.0 Records**

- 6.1 Rice Operating Company will record the amount of water removed from the well during development procedures. The purge volume will be reported to the appropriate regulatory authority when filing the closure report.

## Rice Operating Company

### Quality Procedure

#### Procedure for Obtaining Water Samples (Cased Wells) Using One Liter Bailer

#### 1.0 Purpose

This procedure outlines the methods to be employed in obtaining water samples from cased monitoring wells.

#### 2.0 Scope

This procedure shall be used for developed, cased water monitoring wells. It is not to be used for standing water samples such as ponds or streams.

#### 3.0 Preliminary

3.1 Obtain sterile sampling containers from the testing laboratory designated to conduct analyses of the water. The shipment should include a Certificate of Compliance from the manufacturer of the collection bottle or vial and a Serial Number for the lot of containers. Retain this Certificate for future documentation purposes.

3.2 The following table shall be used to select the appropriate sampling container, preservative method and holding times for the various elements and compounds to be analyzed.

Compound to be Analyzed	Sample Container Size	Sample Container Description	Cap Requirements	Preservative	Maximum Hold Time
BTEX	40 ml	VOA Container	Teflon Lined	HCl	7 days
TPH	1 liter	clear glass	Teflon Lined	HCl	28 days
PAH	1 liter	amber glass	Teflon Lined	Ice	7 days
Cation/Anion	1 liter	clear glass	Teflon Lined	None	48 Hrs
Metals	1 liter	HD polyethylene	Any Plastic	Ice/HNO <sub>3</sub>	28 Days
TDS	300 ml	clear glass	Any Plastic	Ice	7 Days

#### **4.0 Chain of Custody**

- 4.1 Prepare a Sample Plan. The plan will list the well identification and the individual tests to be performed at that location. The sampler will check the list against the available inventory of appropriate sample collection bottles to insure against shortage.
- 4.2 Transfer the data to the Laboratory Chain of Custody Form. Complete all sections of the form except those that relate to the time of delivery of the samples to the laboratory.
- 4.3 Pre-label the sample collection jars. Include all requested information except time of collection. (Use a fine point Sharpie to insure that the ink remains on the label). Affix the labels to the jars.

#### **5.0 Bailing Procedure**

- 5.1 Identify the well from the sites schematics. Place pre-labeled jar(s) next to the well. Remove the plastic cap from the well bore by first lifting the metal lever and then unscrewing the entire assembly.
- 5.2 Using a dedicated one liter Teflon bailer, purge a minimum of three well volumes. Place the water in storage container for transport to a ROC disposal facility.
- 5.3 Take care to insure that the bailing device and string do not become cross-contaminated. A clean pair of rubber gloves should be used when handling either the retrieval string or bailer. The retrieval string should not be allowed to come into contact with the ground.

#### **6.0 Sampling Procedure**

- 6.1 Once the well has been bailed in accordance with 5.2 of this procedure, a sample may be decanted into the appropriate sample collection jar directly from the bailer. The collection jar should be filled to the brim. Once the jar is sealed, turn the jar over to detect any bubbles that may be present. Add additional water to remove all bubbles from the sample container.
- 6.2 Note the time of collection on the sample jar with a fine Sharpie.

6.3 Place the sample directly on ice for transport to the laboratory. The preceding table shows the maximum hold times between collection and testing for the various analyses.

6.4 Complete the Chain of Custody form to include the collection times for each sample. Deliver all samples to the laboratory.

## 7.0 Documentation

7.1 The testing laboratory shall provide the following minimum information:

- A. Project and sample name.
- B. Signed copy of the original Chain of Custody Form including the time the sample was received by the lab.
- C. Results of the requested analyses
- D. Test Methods employed
- E. Quality Control methods and results

## Calculation for Determining the Minimum Bailing Volume for Monitor Wells

$$\text{Formula } V = (\pi r^2 h)$$

2" well  $[V/2.31 = \text{gal}] \times 3 = \text{Purge Volume}$

V=Volume

$\pi = \text{pi}$

r=inside radius of the well bore

h=maximum height of well bore in water table

Example:

$\pi$	$r^2$	h(in)	V(cu.in)	V(gal)	X 3 Volumes	Actual
3.1416	1	180	565.488	2.448	7.34 gal	>10 gal



## Rice Operating Company

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### QUALITY PROCEDURE

#### Sampling and Testing Protocol for VOC in Soil

---

#### 1.0 Purpose

This procedure is to be used to determine the concentrations of Volatile Organic Compounds in soils.

#### 2.0 Scope

This procedure is to be used as the standard field measurement for soil VOC concentrations. It is not to be used as a substitute for full spectrographic speciation of organic compounds.

#### 3.0 Procedure

##### 3.1 Sample Collection and Preparation

3.1.1 Collect at least 500 g. of soil from the sample collection point. Take care to insure that the sample is representative of the general background to include visible concentrations of hydrocarbons and soil types. If necessary, prepare a composite sample of soils obtained at several points in the sample area. Take care to insure that no loose vegetation, rocks or liquids are included in the sample(s).

3.1.2 The soil sample(s) shall be immediately inserted into a one-quart or larger polyethylene freezer bag and sealed. When sealed, the bag should contain a nearly equal space between the soil sample and trapped air. Record the sample name and the time that the sample was collected on the Field Analytical Report Form.

3.1.3 The sealed samples shall be allowed to set for a minimum of five minutes at a temperature of between 10-15 Celsius, (59-77°F). The sample temperatures may be adjusted by cooling the sample in ice, or by heating the sample within a generally controlled environment such as the inside of a vehicle. The samples should not be placed directly on heated surfaces or placed in direct heat sources such as lamps or heater vents.

3.1.4 The sealed sample bag should be massaged to break up any clods, and to provide the soil sample with as much exposed surface area as practically possible.

### 3.2 Sampling Procedure

3.2.1 The instrument to be used in conducting VOC concentration testing shall be an Environmental Instruments 13471 OVM / Datalogger or a similar PID-type instrument. (Device will be identified on VOC Field Test Report Form.) Prior to use, the instrument shall be zeroed-out in accordance with the appropriate maintenance and calibration procedure outlined in the instrument operation manual. The PID device will be calibrated each day it's used.

3.2.2 Carefully open one end of the collection bag and insert the probe tip into the bag taking care that the probe tip not touch the soil sample or the sidewalls of the bag.

3.2.3 Set the instrument to retain the highest result reading value. Record the reading onto the Field Test Report Form.

3.2.4 If the instrument provides a reading exceeding 100 ppm, proceed to conduct BTEX Speciation in accordance with QP-02 and QP-06. If the reading is 100 ppm or less, NMOCD BTEX guideline has been met and no further testing for BTEX is necessary. File the Field Test Report Form in the project file.

### 4.0 Clean-up

After testing, the soil samples shall be returned to the sampling location, and the bags collected for off-site disposal. **IN NO CASE SHALL THE SAME BAG BE USED TWICE. EACH SAMPLE CONTAINER MUST BE DISCARDED AFTER EACH USE.**

# **APPENDIX E**

## **C-141 FORM**

District I  
P.O. Box 1980, Hobbs, NM 88241-1980  
District II  
811 South First, Artesia, NM 88210  
District III  
1000 Rio Brazos, Aztec, NM 87410  
District IV  
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico  
Energy, Minerals & Natural Resources Department  
**OIL CONSERVATION DIVISION**  
2040 South Pacheco  
Santa Fe, NM 87505  
**OPERATOR'S MONTHLY REPORT**

Form C-141  
Originated 2/13/97

Submit 2 copies to  
Appropriate District  
Office in accordance  
with Rule 116 on  
back side of form

**Release Notification and Corrective Action  
OPERATOR**

☒ Initial Report    ☐ Final Report

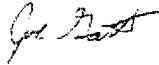
Name Rice Operating Company	Contact Joe Gatts
Address 122 West Taylor                      Hobbs, NM 88240	Telephone No. 505-393-9174
Facility Name B-D	Facility Type SWD Disposal Line

Surface Owner Irvin Boyd	Mineral Owner	Lease No.
-----------------------------	---------------	-----------

**LOCATION OF RELEASE**

Unit Letter A	Section 27	Township 22s	Range 37E	Feet from the	North/South line	Feet from the	East/West Line	County LEA
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**NATURE OF RELEASE**

Type of Release Produced Water	Volume of Release 55 bbls	Volume Recovered 40 bbls
Source of Release Pipeline	Date and Hour of Occurrence Unknown	Date and Hour of Discovery 11/22/03 11:22 am.
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Buddy Hill and Donna ext. 115 voicemail	
By Whom? John Rampone	Date and Hour 11/22/03 2:00 p.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	
If a Watercourse was Impacted, Describe Fully. (Attach Additional Sheets If Necessary)		
Describe Cause of Problem and Remedial Action Taken. (Attach Additional Sheets If Necessary) 2" PVC compression coupling came apart. Replaced coupling and 10 ft. joint of PVC.		
Describe Area Affected and Cleanup Action Taken. (Attach Additional Sheets If Necessary). The release consisted of 55 bbls, which affected 11,211 square feet. 40 bbls were recovered. ROC will remediate according to the Generic spill and leak plan or submit RBCA plan to NMOCD for approval.		
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to ground water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.		
Signature: 	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Joe Gatts	Approved by District Supervisor:	
Title: Environmental Technician	Approval Date:	Expiration Date:
Date: 12/1/03                      Phone: 505-393-9174	Conditions of Approval:	Attached <input type="checkbox"/>



CERTIFIED MAIL  
RETURN RECEIPT NO. 7099 3400 0017 1737 1636

December 7, 2006

RECEIVED

DEC 14 2006

Environmental Bureau  
Oil Conservation Division

Mr. Wayne Price  
New Mexico Energy, Minerals, & Natural Resources  
Oil Conservation Division, Environmental Bureau  
1220 S. St. Francis Drive  
Santa Fe, New Mexico 87504

**RE: Stage 1 and 2 Abatement Plan (AP-58)  
BD Santa Rita EOL Release Site  
T22S-R37E-Section 27, Unit Letter A**

Dear Mr. Price

On behalf of Rice Operating Company (ROC), enclosed are the proposed Stage 1 and 2 Abatement Plan and Notice of Publication for the above-referenced site.

After approved by the Division, ROC will give written notice of the Stage 1 and 2 abatement plan to the following persons:

- (a) surface owners of record within one (1) mile of the perimeter of the site, as shown on the attached map,
- (b) the Lea County commissioner,
- (c) those persons, as identified by the Director, who have requested notification;
- (d) the New Mexico Trustee for Natural Resources, and any other local, state or federal governmental agency affected, as identified by the Director.

Upon your review, ROC will issue the approved public notice for publication in the Albuquerque Journal and the Hobbs News Sun pursuant to OCD Rule 19.G.(2). A copy of these publications and notice to owners and all interested parties will be provided.

If you have any questions please call me at 432-638-8740 or Kristin Farris Pope at 505-393-9174.

Sincerely,

A handwritten signature in black ink that reads "Gilbert Van Deventer".

Gilbert Van Deventer  
Trident Environmental



cc: Kristin Pope, Rice Operating Company  
Carolyn Haynes, Rice Operating Company

## **NOTICE OF PUBLICATION**

**State of New Mexico  
Energy, Minerals and Natural Resources Department  
Oil Conservation Division**

Notice is hereby given that pursuant to New Mexico Oil Conservation Division Regulations, the following Stage 1 and 2 Abatement Plan Proposal has been submitted to the Director of the Oil Conservation Division, 1220 S. St. Francis Dr., Santa Fe, New Mexico 87505, Telephone (505) 476-3440:

Rice Operating Company, Carolyn Doran Haynes, Engineering Manager, Telephone (505) 393-9174, 122 West Taylor, Hobbs, New Mexico 88240, has submitted a Stage 1 and 2 Abatement Plan Proposal (AP-58) for a release from the pipeline junction at the BD Santa Rita EOL, located in Section 27, Township 22 south, Range 37 east, Lea County, New Mexico, approximately 4 miles southeast of Eunice, New Mexico. Rice Operating Company operates a saltwater disposal pipeline at the site. Soil impacts and groundwater samples at the site exhibit elevated chloride concentrations. The Stage 1 and 2 Abatement Plan Proposal presents the following site soil and groundwater investigation activities: (1) Define regional ground water flow direction, potential sources of chloride in ground water and ambient ground water chemistry, (2) further delineation of the vertical and lateral extent of soil and groundwater impact, (3) install an evapotranspiration barrier in the upper vadose zone to eliminate further threat to groundwater impact, and (4) install a point of use groundwater treatment system.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. The Stage 1 and 2 Abatement Plan Revision Proposal may be viewed at the above address or at the Oil Conservation Division District Office, 1625 N. French Drive, Hobbs, New Mexico 88240, Telephone (505) 393-6161 between 8:00 a.m. and 4:00 p.m., Monday through Friday. Prior to ruling on any proposed Stage 1 and 2 Abatement Plan, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which written comments may be submitted to him.

**Hansen, Edward J., EMNRD**

**From:** Gil Van Deventer [gilbertvandeventer@cox.net]  
**Sent:** Monday, December 11, 2006 10:51 AM  
**To:** Hansen, Edward J., EMNRD; Price, Wayne, EMNRD  
**Cc:** Scott Curtis; Caperton, Patricia, EMNRD; Carolyn Haynes; Kristin Pope  
**Subject:** BD Santa Rita EOL Release Site (AP-58) - Stage 1&2 Abatement Plan

Wayne

RE: BD Santa Rita EOL Release Site (AP-58)  
 T22S-R37E-Section 27, Unit Letter A

On behalf of Rice Operating Company I am submitting the Stage 1 & 2 Abatement Plan (AP-58) and Notice of Publication to you for the above-referenced site. These documents will be sent Priority Mail to you today in both hard copy and on a compact disk in Adobe Reader (pdf) format. The Executive Summary for the above-referenced ICP is copied at the end of this email notification.

Upon your review, ROC will issue the approved public notice for publication in the Albuquerque Journal and the Hobbs News Sun pursuant to OCD Rule 19.G.(2). A copy of these publications and notice to owners and all interested parties will be provided.

After approved by the Division, ROC will give written notice of the Stage 1 and 2 abatement plan to the following persons:

- (a) surface owners of record within one (1) mile of the perimeter of the site, as shown on the attached map,
- (b) the Lea County commissioner,
- (c) those persons, as identified by the Director, who have requested notification;
- (d) the New Mexico Trustee for Natural Resources, and any other local, state or federal governmental agency affected, as identified by the Director.

We appreciate the opportunity to work with you on this project. Please feel free to call me at 432-638-8740 or Kristin Farris Pope at 505-393-9174, if you have any questions.

Thanks,  
 Gil

Gilbert J. Van Deventer, PG, REM  
 Trident Environmental  
[www.trident-environmental.com](http://www.trident-environmental.com)  
 Work/Mobile: 432-638-8740  
 Fax: 413-403-9968  
 Home: 432-682-0727

12/15/2006

## 1.0 EXECUTIVE SUMMARY

The Santa Rita EOL Release site is operated by Rice Operating Company (ROC) and is located in Township 22 South, Range 37 East, Section 27, unit letter A approximately 4.5 miles southeast of Eunice, NM. This Stage 1 and 2 Abatement Plan incorporates the preliminary findings from previous investigations and recommendations for additional assessment activities.

The discovery of a brine water release from a 2-inch PVC compression coupling occurred on November 22, 2003. Initial characterization of soil impacts were conducted at the site on November 26, 2003 using a backhoe. Vadose zone samples taken from trenches indicated a maximum chloride concentration of 3,284 mg/kg at a depth of 5-feet bgs directly adjacent to the release point. On January 6, 2004, ROC disclosed this site to OCD as potential groundwater impact and the site was placed on a prioritized list of similar sites. After landowner access was granted, soil samples were collected at 16 locations to depths of 3 to 4 feet below ground surface (bgs) with a hand auger to determine the horizontal extent of the impacted soils on August 9, 2005. On August 30, 2005, a drilling rig was mobilized approximately 5-feet east of the release point for vertical delineation of the vadose zone. Based on a field-tested chloride concentration of 2,313 ppm at 50 feet bgs immediately above the water table, impact to groundwater was suspected; therefore the soil boring was completed as a monitoring well (MW-1). The depth to ground water at the site is approximately 51 feet bgs. Since September 2, 2005, the monitoring well has been sampled quarterly for analysis of major ions and benzene, toluene, ethylbenzene, and xylenes (BTEX). The chloride and total dissolved solids (TDS) concentrations in ground water at the on-site monitoring well are 2,100 milligrams per liter (mg/L) and 4,560 mg/L, respectively, based on analysis of samples obtained during the most recent sampling event on October 11, 2006. BTEX concentrations in groundwater have been below the method detection limit of 0.001 mg/L during each sampling event.

We propose the work elements described in detail in Section 7.0 to delineate the extent and magnitude of regulated constituents of concern (chlorides and TDS) in the vadose zone. Although existing data show that BTEX constituents are not present in the vadose zone or ground water, this proposal includes testing for these constituents. The purpose of these work elements is to assist ROC in selecting the soil and/or ground water remedy that is commensurate with any contribution from the Santa Rita EOL Release site to the regional ground water quality. The proposed work elements are summarized below:

1. Define regional ground water flow direction, potential sources of chloride in ground water and ambient ground water chemistry
2. Install additional soil borings and monitoring wells for evaluation of constituents of concern in the vadose zone and ground water.
3. Install a minimum 2-foot thick clay layer over chloride-impacted soils that exceed a field tested chloride concentration of 1,000 mg/kg threshold. The clay layer will be laid to a grade that will direct any infiltrated precipitation away from the spill area.
4. Stockpiled soils with chloride concentrations less than 1,000 mg/kg will be placed above the clay layer such that a slight mound is constructed to direct excess precipitation from the spill area. If necessary, topsoil



will be imported to complete the upper evapotranspiration layer.

5. Native grass seed will be broadcast for re-vegetation, and the site will be monitored for plant growth.
6. Groundwater pumping to recover the highly impacted fluid may be employed. This fluid would be used for routine line maintenance operations. If applicable, a point-of-use (cattle, wildlife, etc. watering) treatment system may be installed with reject fluid used for line maintenance or disposed into the BD SWD System.

When implementing any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

ROC is the service provider (agent) for the Blinebry-Drinkard (BD) saltwater disposal (SWD) System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner Authorization for Expenditure (AFE) approval and work begins as funds are received. In general, project funding is not forthcoming until OCD approves the work plan.

From: "Gil Van Deventer" <gilbertvandeventer@cox.net>

To: "Hansen, Edward J., EMNRD" <edwardj.hansen@state.nm.us>;  
"Wayne Price" <wayne.price@state.nm.us>

Cc: "Scott Curtis" <scurtis@riceswd.com>; "Pat Caperton"  
<patricia.caperton@state.nm.us>; "Carolyn Haynes"  
<chaynes@riceswd.com>; "Kristin Pope" <kpope@riceswd.com>

Subject: BD Santa Rita EOL Release Site (AP-58) - Stage 1&2 Abatement Plan

Date: Monday, December 11, 2006 11:50 AM

Wayne

RE: BD Santa Rita EOL Release Site (AP-58)  
T22S-R37E-Section 27, Unit Letter A

On behalf of Rice Operating Company I am submitting the Stage 1 & 2 Abatement Plan (AP-58) and Notice of Publication to you for the above-referenced site. These documents will be sent Priority Mail to you today in both hard copy and on a compact disk in Adobe Reader (pdf) format. The Executive Summary for the above-referenced ICP is copied at the end of this email notification.

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- (d) the New Mexico Trustee for Natural Resources, and any other local, state or federal governmental agency affected, as identified by the Director.

We appreciate the opportunity to work with you on this project. Please feel free to call me at 432-638-8740 or Kristin Farris Pope at 505-393-9174, if you have any questions.

Thanks,

Gil

Gilbert J. Van Deventer, PG, REM  
Trident Environmental  
www.trident-environmental.com  
Work/Mobile: 432-638-8740  
Fax: 413-403-9968  
Home: 432-682-0727

---

## 1.0 EXECUTIVE SUMMARY

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The discovery of a brine water release from a 2-inch PVC compression coupling occurred on November 22, 2003. Initial characterization of soil impacts were conducted at the site on November 26, 2003 using a backhoe. Vadose zone samples taken from trenches indicated a maximum chloride concentration of 3,284 mg/kg at a depth of 5-feet bgs directly adjacent to the release point. On January 6, 2004, ROC disclosed this site to OCD as potential groundwater impact and the site was placed on a prioritized list of similar sites. After landowner access was granted, soil samples were collected at 16 locations to depths of 3 to 4 feet below ground surface (bgs) with a hand auger to determine the horizontal extent of the impacted soils on August 9, 2005. On August 30, 2005, a drilling rig was mobilized approximately 5-feet east of the release point for vertical delineation of the vadose zone. Based on a field-tested chloride concentration of 2,313 ppm at 50 feet bgs immediately above the water table, impact to groundwater was suspected; therefore the soil boring was completed as a monitoring well (MW-1). The depth to ground water at the site is approximately 51 feet bgs. Since September 2, 2005, the monitoring well has been sampled quarterly for analysis of major ions and benzene, toluene, ethylbenzene, and xylenes (BTEX). The chloride and total dissolved solids (TDS) concentrations in ground water at the on-site monitoring well are 2,100 milligrams per liter (mg/L) and 4,560 mg/L, respectively, based on analysis of samples obtained during the most recent sampling event on October 11, 2006. BTEX concentrations in groundwater have been below the method detection limit of 0.001 mg/L during each sampling event.

We propose the work elements described in detail in Section 7.0 to delineate the extent and magnitude of regulated constituents of concern (chlorides and TDS) in the vadose zone. Although existing data show that BTEX constituents are not present in the vadose zone or ground water, this proposal includes testing for these constituents. The purpose of these work elements is to assist ROC in selecting the soil and/or ground water remedy that is commensurate with any contribution from the Santa Rita EOL Release site to the regional ground water quality. The proposed work elements are summarized below:

1. Define regional ground water flow direction, potential sources of chloride in ground water and ambient ground water chemistry
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5. Native grass seed will be broadcast for re-vegetation, and the site will be monitored for plant growth.
6. Groundwater pumping to recover the highly impacted fluid may be employed. This fluid would be used for routine line maintenance operations. If applicable, a point-of-use (cattle, wildlife, etc. watering) treatment system may be installed with reject fluid used for line maintenance or disposed into the BD SWD System.

When implementing any proposed remedy or investigative work, ROC will confirm that there is a reasonable relationship between the benefits created by the proposed remedy or assessment and the economic and social costs.

ROC is the service provider (agent) for the Blinebry-Drinkard (BD) saltwater disposal (SWD) System and has no ownership of any portion of the pipeline, well, or facility. The System is owned by a consortium of oil producers, System Partners, who provide all operating capital on a percentage ownership/usage basis. Environmental projects of this magnitude require System Partner Authorization for Expenditure (AFE) approval and work begins as funds are received. In general, project funding is not forthcoming until OCD approves the work plan.

# **RICE** *Operating Company*

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

## **CERTIFIED MAIL**

**RETURN RECEIPT NO. 7000 1530 0005 9895 4824**

October 3, 2005

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

**RE: NOTIFICATION OF GROUNDWATER IMPACT**  
**BD Santa Rita Leak**  
**Unit 'A', Sec. 27, T22S, R37E**  
*Ap - 58*

Mr. Anderson:

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 BD Santa Rita Leak site experienced an accidental discharge on November 22, 2003 due to the separation of a compression coupling on a 2-inch PVC pipeline. This discharge occurred on the pipeline 82 ft north of the BD Santa Rita EOL (end-of-line) junction box. A C-141 form (initial) was submitted to the Hobbs District 1 office on December 1, 2003. Soil samples were collected for chloride delineation on November 26 and December 19, 2003 using a backhoe. ROC concluded that further characterization was warranted. On January 16, 2004, ROC disclosed this site to OCD as potential groundwater impact and the site was placed on a prioritized list of similar sites.

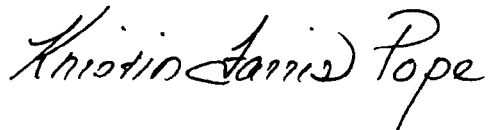
A delineation soil bore was initiated near the pipeline break on August 30, 2005 where groundwater was encountered at approximately 51 feet below ground surface and a 2-inch monitoring well was installed to a depth of approximately 61 feet as chloride impact was indicated by field tests. After appropriate development, the well was sampled pursuant to OCD guidelines by ROC on September 2, 2005. Environmental Lab of Texas

performed the analysis. Notably, Chloride, Total Dissolved Solids, and Sulfate exceed New Mexico Water Quality Control Commission standards. Hydrocarbon constituents (BTEX) were not detected. A third party will begin sampling the well on a quarterly basis beginning in November 2005. ROC has assigned this project to R.T. Hicks Consultants of Albuquerque with Gilbert Van Deventer as project manager. OCD may expect the submission of a Investigation & Characterization Plan (ICP) for this site soon.

ROC is the service provider (operator) 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.


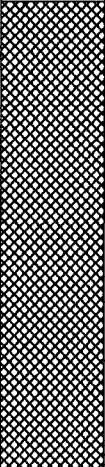

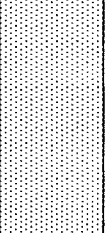
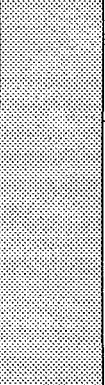
Kristin Farris Pope  
Project Scientist

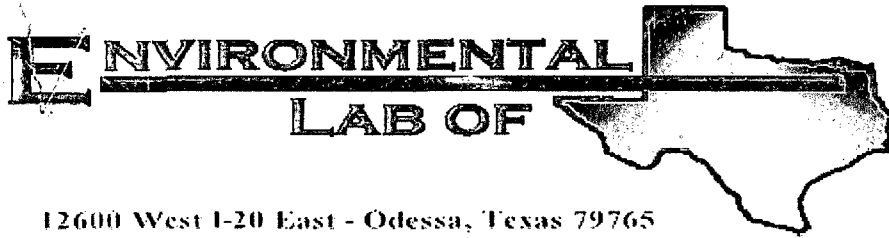
enclosures: water analysis, well log, map

cc: LBG, CDH, GVD, file, Mr. Chris Williams  
NMOCD, District 1 Office  
1625 N. French Drive  
Hobbs, NM 88240

# LOG OF BORING

K. Farris Pope

Logger: Gil Van Deventer; Jennifer Johnson			RICE Operating Company		Well ID:	
Driller: Eades Drilling						
Drilling Method: Air Rotary			Project Name:			
Start Date: 8/30/2005			Santa Rita leak			
End Date: 8/30/2005			Location:		MW-1	
Notes: Approx. 82 ft north of Santa Rita EOL junction box site TD = 61 ft      Groundwater = 54.04 ft (TOC)			BD SWD System			
			unit 'A', Sec. 27, T22S, R37E			
			Lea County, NM			
Depth (feet)	cuttings composite chloride	PID	Description	Lithology	Notes	Well Construction
0.0			0 - 2 ft SANDY LOAM light brown, medium-grained			
2.0						
4.0			0 - 6 ft SILTY CLAYEY SAND light brown			
6.0	121	1.3				
8.0	1479	3.3	6 - 25 ft SANDY CALICHE			
10.0						
12.0	1780	1.2				
14.0						
16.0						
18.0	1120	0.5				
20.0						
22.0	1719	0.1	25 - 35 ft CALCAREOUS FINE SAND with intermittent hard streaks			
24.0						
26.0						
28.0	1483	0.1				
30.0						
32.0	1368	0.1				
34.0			35 - 45 ft SILTY FINE SAND red			
36.0						
38.0	2028	0.1				
40.0						
42.0	2696	0.1				
44.0						
46.0			45 - 61 ft FINE SAND red		45 - 50 ft sample lab = 3570 ppm Cl <sup>-</sup>  water at ~ 51 ft BGS	
48.0	2313	0.1				
50.0						
52.0						
54.0						
56.0						
58.0						
60.0						



12600 West I-20 East - Odessa, Texas 79765

COPY

## Analytical Report

**Prepared for:**

Kristin Farris-Pope

Rice Operating Co.

122 W. Taylor

Hobbs, NM 88240

Project: BD Santa Rita Leak

Project Number: 802

Location: South of Eunice

Lab Order Number: 5I08011

Report Date: 09/15/05



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

Project: BD Santa Rita Leak  
Project Number: 802  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
09/15/05 12:50

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-1	5108011-01	Water	09/02/05 13:38	09/08/05 14:15

Rice Operating Co.  
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Hobbs NM, 88240

Project: BD Santa Rita Leak  
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Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
09/15/05 12:50

**Organics by GC**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (S108011-01) Water</b>									
Benzene	ND	0.00100	mg/L	1	EI51213	09/12/05	09/13/05	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
<i>Surrogate: a,a,a-Trifluorotoluene</i>		96.4 %	80-120	"	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.1 %	80-120	"	"	"	"	"	

Rice Operating Co.  
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Project: BD Santa Rita Leak  
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Project Manager: Kristin Farris-Pope

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Reported:  
09/15/05 12:50

**General Chemistry Parameters by EPA / Standard Methods**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (SI08011-01) Water</b>									
<b>Total Alkalinity</b>	<b>152</b>	2.00	mg/L	1	EI51203	09/12/05	09/12/05	EPA 310.2M	
<b>Chloride</b>	<b>4480</b>	50.0	"	100	EI51313	09/13/05	09/13/05	EPA 300.0	
<b>Total Dissolved Solids</b>	<b>7600</b>	5.00	"	1	EI50902	09/08/05	09/08/05	EPA 160.1	
<b>Sulfate</b>	<b>1380</b>	50.0	"	100	EI51313	09/13/05	09/13/05	EPA 300.0	

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Reported:  
09/15/05 12:50

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>MW-1 (SI08011-01) Water</b>									
<b>Calcium</b>	<b>697</b>	2.00	mg/L	200	EI51309	09/12/05	09/12/05	EPA 6010B	
<b>Magnesium</b>	<b>384</b>	0.200	"	"	"	"	"	"	
<b>Potassium</b>	<b>34.2</b>	0.500	"	10	"	"	"	"	
<b>Sodium</b>	<b>1640</b>	5.00	"	500	"	"	"	"	

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Reported:  
09/15/05 12:50

**Organics by GC - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI51213 - EPA 5030C (GC)**

**Blank (EI51213-BLK1)**

Prepared: 09/12/05 Analyzed: 09/13/05

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	85.1		ug/l	100		85.1	80-120		
Surrogate: 4-Bromofluorobenzene	80.9		"	100		80.9	80-120		

**LCS (EI51213-BS1)**

Prepared: 09/12/05 Analyzed: 09/13/05

Benzene	94.7		ug/l	100		94.7	80-120		
Toluene	96.0		"	100		96.0	80-120		
Ethylbenzene	107		"	100		107	80-120		
Xylene (p/m)	210		"	200		105	80-120		
Xylene (o)	109		"	100		109	80-120		
Surrogate: a,a,a-Trifluorotoluene	87.2		"	100		87.2	80-120		
Surrogate: 4-Bromofluorobenzene	82.9		"	100		82.9	80-120		

**Calibration Check (EI51213-CCV1)**

Prepared: 09/12/05 Analyzed: 09/13/05

Benzene	91.5		ug/l	100		91.5	80-120		
Toluene	93.5		"	100		93.5	80-120		
Ethylbenzene	106		"	100		106	80-120		
Xylene (p/m)	200		"	200		100	80-120		
Xylene (o)	109		"	100		109	80-120		
Surrogate: a,a,a-Trifluorotoluene	100		"	100		100	0-200		
Surrogate: 4-Bromofluorobenzene	99.5		"	100		99.5	0-200		

**Matrix Spike (EI51213-MS1)**

Source: 5108015-01

Prepared: 09/12/05 Analyzed: 09/13/05

Benzene	92.7		ug/l	100	ND	92.7	80-120		
Toluene	94.9		"	100	ND	94.9	80-120		
Ethylbenzene	110		"	100	ND	110	80-120		
Xylene (p/m)	211		"	200	ND	106	80-120		
Xylene (o)	113		"	100	ND	113	80-120		
Surrogate: a,a,a-Trifluorotoluene	101		"	100		101	80-120		
Surrogate: 4-Bromofluorobenzene	104		"	100		104	80-120		

Environmental Lab of Texas

The results in this report apply to the samples analyzed in accordance with the samples received in the laboratory. This analytical report must be reproduced in its entirety, with written approval of Environmental Lab of Texas.

Page 5 of 10

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

Project: BD Santa Rita Leak  
Project Number: 802  
Project Manager: Kristin Farris-Pope

Fax: (505) 397-1471

Reported:  
09/15/05 12:50

**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
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**Batch EI51213 - EPA 5030C (GC)**

Matrix Spike Dup (EI51213-MSD1)		Source: 5108015-01		Prepared: 09/12/05		Analyzed: 09/13/05				
Benzene	97.0		ug/l	100	ND	97.0	80-120	4.53	20	
Toluene	99.4		"	100	ND	99.4	80-120	4.63	20	
Ethylbenzene	117		"	100	ND	117	80-120	6.17	20	
Xylene (p/m)	220		"	200	ND	110	80-120	3.70	20	
Xylene (o)	118		"	100	ND	118	80-120	4.33	20	
Surrogate: a,a,a-Trifluorotoluene	104		"	100		104	80-120			
Surrogate: 4-Bromofluorobenzene	107		"	100		107	80-120			

Rice Operating Co.  
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Reported:  
09/15/05 12:50

**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
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**Batch EI50902 - Filtration Preparation**

**Blank (EI50902-BLK1)**

Prepared & Analyzed: 09/08/05

Total Dissolved Solids ND 5.00 mg/L

**Duplicate (EI50902-DUP1)**

Source: SI08011-01

Prepared & Analyzed: 09/08/05

Total Dissolved Solids 7650 5.00 mg/L 7600 0.656 5

**Batch EI51203 - General Preparation (WetChem)**

**Blank (EI51203-BLK1)**

Prepared & Analyzed: 09/12/05

Total Alkalinity ND 2.00 mg/L

**Duplicate (EI51203-DUP1)**

Source: SI06002-01

Prepared & Analyzed: 09/12/05

Total Alkalinity 191 2.00 mg/L 192 0.522 20

**Reference (EI51203-SRM1)**

Prepared & Analyzed: 09/12/05

Bicarbonate Alkalinity 229 mg/L 200 114 80-120

**Batch EI51313 - General Preparation (WetChem)**

**Blank (EI51313-BLK1)**

Prepared & Analyzed: 09/13/05

Sulfate ND 0.500 mg/L

Chloride ND 0.500 "

**LCS (EI51313-BS1)**

Prepared & Analyzed: 09/13/05

Chloride 8.51 mg/L 10.0 85.1 80-120

Sulfate 9.08 " 10.0 90.8 80-120

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Reported:  
09/15/05 12:50

**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
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**Batch EI51313 - General Preparation (WetChem)**

**Calibration Check (EI51313-CCV1)**

Prepared & Analyzed: 09/13/05

Sulfate	9.38		mg/L	10.0		93.8	80-120			
Chloride	8.81		"	10.0		88.1	80-120			

**Duplicate (EI51313-DUP1)**

Source: 5I08011-01

Prepared & Analyzed: 09/13/05

Chloride	4430	50.0	mg/L		4480			1.12	20	
Sulfate	1220	50.0	"		1380			12.3	20	



Rice Operating Co. 122 W. Taylor Hobbs NM, 88240	Project: BD Santa Rita Leak Project Number: 802 Project Manager: Kristin Farris-Pope	Fax: (505) 397-1471  Reported: 09/15/05 12:50
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**Total Metals by EPA / Standard Methods - Quality Control**  
**Environmental Lab of Texas**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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**Batch EI51309 - 6010B/No Digestion**

**Blank (EI51309-BLK1)**

Prepared & Analyzed: 09/12/05

Calcium	ND	0.0100	mg/L						
Magnesium	ND	0.00100	"						
Potassium	ND	0.0500	"						
Sodium	ND	0.0100	"						

**Calibration Check (EI51309-CCV1)**

Prepared & Analyzed: 09/12/05

Calcium	2.21		mg/L	2.00		110	85-115		
Magnesium	2.22		"	2.00		111	85-115		
Potassium	1.85		"	2.00		92.5	85-115		
Sodium	2.13		"	2.00		106	85-115		

**Duplicate (EI51309-DUP1)**

Source: 5I08011-01

Prepared & Analyzed: 09/12/05

Calcium	673	2.00	mg/L		697		3.50	20	
Magnesium	373	0.200	"		384		2.91	20	
Potassium	33.3	0.500	"		34.2		2.67	20	
Sodium	1410	5.00	"		1640		15.1	20	

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

Project: BD Santa Rita Leak  
Project Number: 802  
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Fax: (505) 397-1471

Reported:  
09/15/05 12:50

### 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:

9/15/2005

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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12600 West 1-20 East  
Odessa, Texas 79786

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

# CHAIN OF CUSTODY RECORD AND ANALYSIS REQUEST

Project Name: BD Santa Rita leak

Project #: 802

**Project Location:** south of Eunice

Fax No: 505-397-1471

**Fax No: 505-397-1471**

Sampler Signature: Michael Franko

[illegible]

# Environmental Lab or Texas

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

Client: Rice Op.

Date/Time: 9/8/05 2:15

Order #: 5108011

Initials: CR

### Sample Receipt Checklist

Temperature of container/cooler?	Yes	No	1.5 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:

\* VOA time @ 1344 and 1 LHDPE time @ 1338

### Variance Documentation:

Contact Person: \_\_\_\_\_ Date/Time: \_\_\_\_\_ Contacted by: \_\_\_\_\_  
Regarding: \_\_\_\_\_

Corrective Action Taken:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# BD Santa Rita leak site

unit 'A', sec. 27, T22S, R37E

1 : 25,000 scale

