

1R - 428-71

# REPORTS

DATE:

5-23-08

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# RICE Operating Company

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

**CERTIFIED MAIL**  
**RETURN RECEIPT NO. 7007 2560 0003 0323 6871**

RECEIVED  
2008 MAY 27 PM 3 51

May 23, 2008

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

**RE: NOTIFICATION OF GROUNDWATER IMPACT**  
**Hobbs jct. E-4 vent, #1R428-71**  
**Unit E, Sec. 4, T19S, R38E**

Mr. Price:

As part of the OCD-approved (7/18/2007) Investigation and Characterization Plan (ICP), R.T. Hicks Consultants (Hicks) supervised a backhoe investigation (August-September 2007) and an initial soil boring investigation (2/18/2008) at the subject site and found:

- The initial ground water sampling event detected 2.9 mg/L benzene and background concentrations of chloride (78 mg/L).
- Samples from the vadose zone beneath the former junction box showed evidence of chloride and hydrocarbons to a depth of 15 feet, albeit relatively low concentrations.
- Samples from the vadose zone from MW-1 (about 40-feet from the former junction box) detected hydrocarbons from 15 feet to ground water, but relatively low concentrations of chloride.
- Samples from the vadose zone at SB-1 mirrored the results at MW-1
- Produced water possibly released from the ROC junction box would have contained mostly brine with only small amounts of hydrocarbons.

The monitoring well was developed and sampled pursuant to OCD guidelines by Arc Environmental (Arc) of Lovington. Laboratory analyses of two sampling events confirm the Water Quality Control Commission numerical standards for Benzene, Toluene, Ethyl Benzene,

and total Xylenes (BTEX) are exceeded at the monitoring well. Arc will continue to sample the well on a quarterly basis.

Please do not accept this submission as a formal disclosure of potential or confirmed ground water impact due to the activities of Rice Operating Company (ROC) at this site. While ground water impairment does exist at this location and ROC believes that transmission of this finding to OCD is appropriate, we do not believe that the evidence collected thus far suggests that the ROC pipeline is the source of hydrocarbons in ground water.

After review of the data and additional investigation, Hicks will submit a Corrective Action Plan to OCD. In the submission, we will provide an opinion of the source of hydrocarbons in ground water as well as supporting evidence.

ROC is the service provider (agent) for the Hobbs Salt Water Disposal System and has no ownership of any portion of the pipelines, wells, or facilities. The Hobbs 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. The Hobbs System has been abandoned.

Should you have any questions or concerns regarding this site, please do not hesitate to contact ROC.

RICE OPERATING COMPANY

A handwritten signature in cursive script that reads "Kristin Farris Pope".

Kristin Farris Pope  
Project Scientist

enclosures: 2 water analyses, soil boring log, well log, survey map, satellite map

cc: SC, MB, Hicks, file,

Mr. Chris Williams  
NMOCD, District 1 Office  
1625 N. French Drive  
Hobbs, NM 88240



Hobbs jct. E-4

Hobbs M-4 vent

Hobbs jct. N-4

West Standlind Road

South Cochran Street  
South Hannah Road

West Main Street

West Texas

South Grimes Street



Google

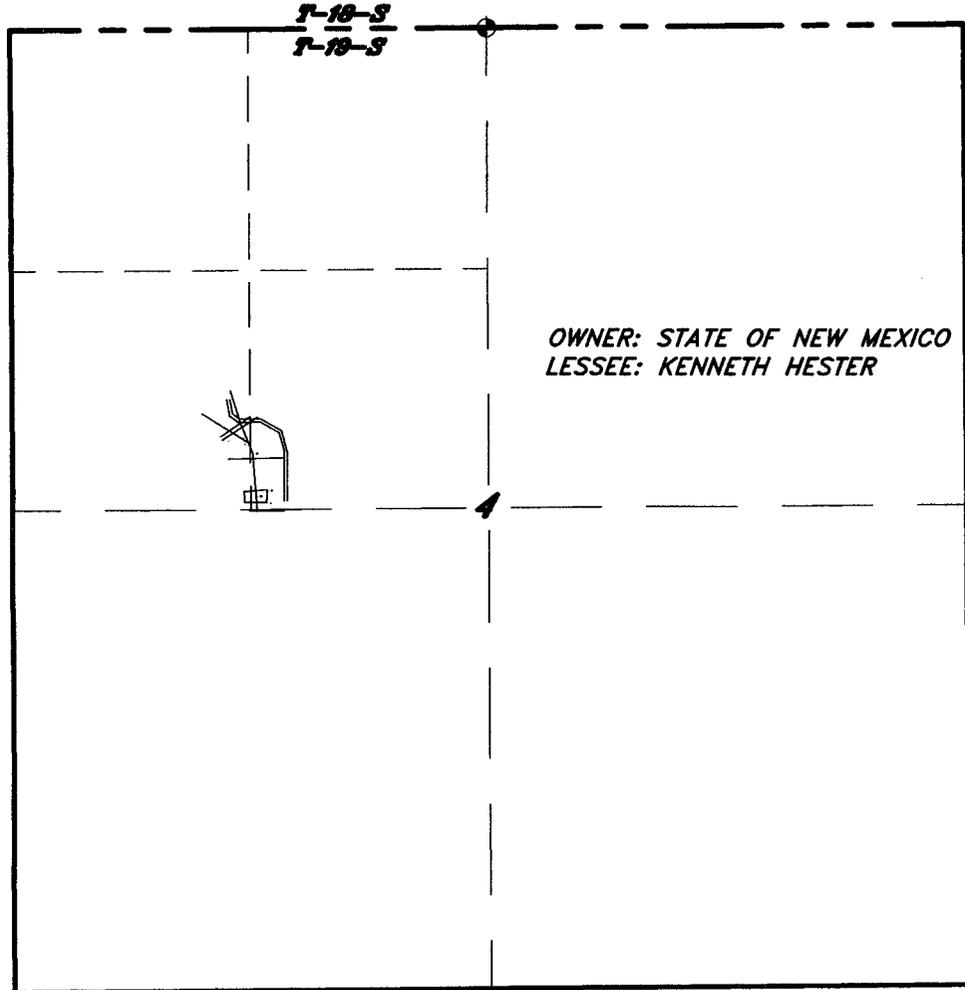
© 2008 Tele Atlas  
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Image © 2008 DigitalGlobe

Pointer 32°41'03.06" N 103°09'08.89" W elev 3606 ft Streaming 100%

Eye alt 10107 ft

SECTION 4, TOWNSHIP 19 SOUTH, RANGE 38 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



NOTE:  
ELEVATIONS ARE ON BLACK MARK  
ON NORTH SIDE OF PVC CASING.

NEW MEXICO STATE PLANE COORDINATES (NAD83)

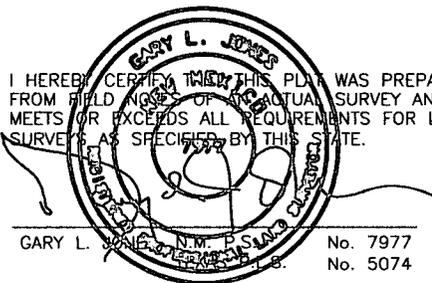
WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEV. PVC	ELEV. GRND	ELEV. CON.
MW #1	616889.790	902998.970	32°41'25.334"	103°09'28.049"	3615.50'	3611.90'	3612.05'

1000 0 1000 2000 FEET



SCALE: 1" = 1000'

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



GARY L. JONES, N.M.P.S. No. 7977  
No. 5074

**RICE OPERATING COMPANY**

REF: HOBBS JCT E-4

MONITOR WELL LOCATED IN

SECTION 4, TOWNSHIP 19 SOUTH, RANGE 38 EAST,

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

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

W.O. Number: 19349

Drawn By: J. M. SMALL

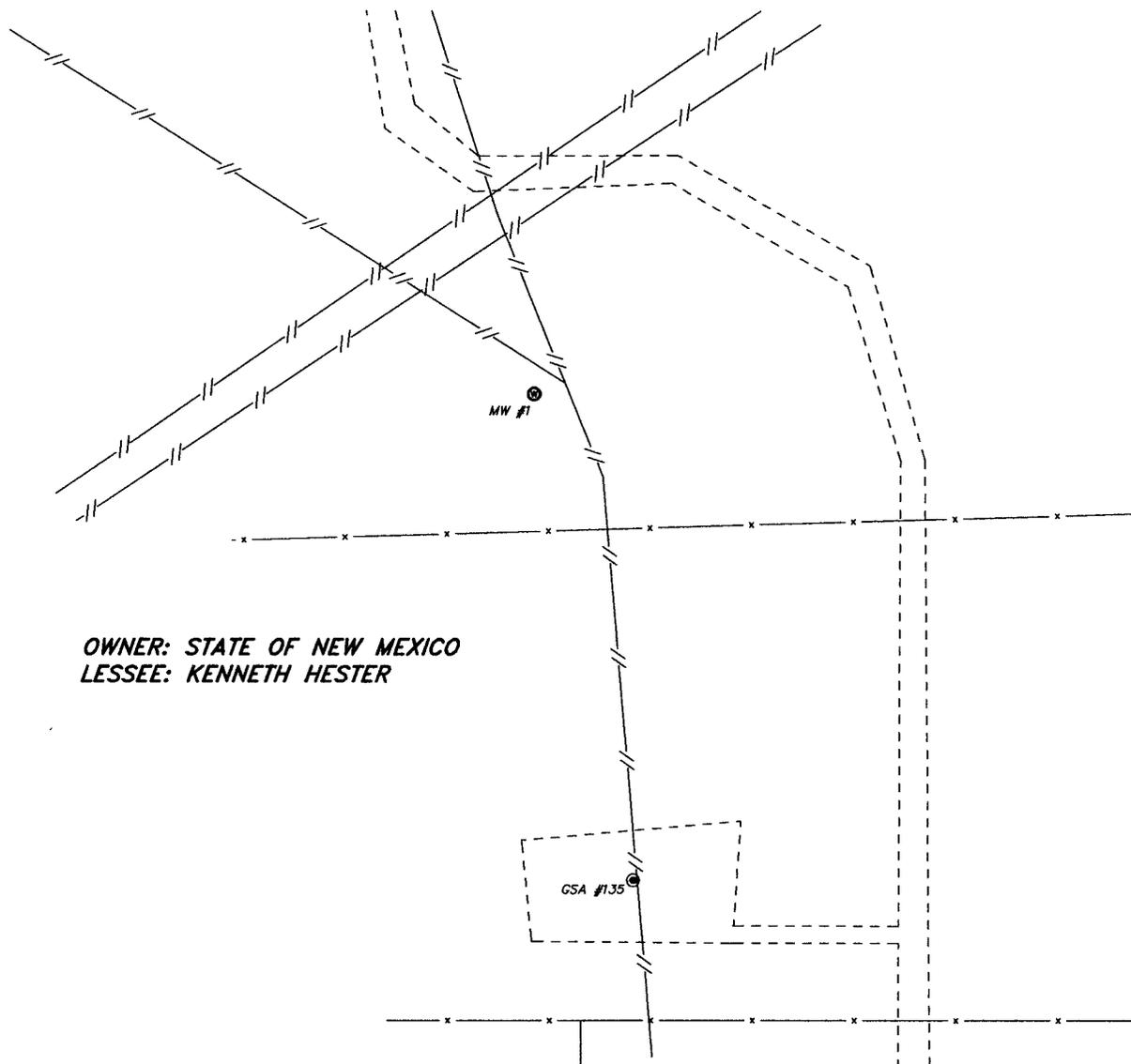
Date: 03-06-2008

Disk: JMS 19349MW

Survey Date: 03-05-2008

Sheet 1 of 2 Sheets

SECTION 4, TOWNSHIP 19 SOUTH, RANGE 38 EAST, N.M.P.M.,  
LEA COUNTY, NEW MEXICO.



OWNER: STATE OF NEW MEXICO  
LESSEE: KENNETH HESTER

NOTE:  
ELEVATIONS ARE ON BLACK MARK  
ON NORTH SIDE OF PVC CASING.

NEW MEXICO STATE PLANE COORDINATES (NAD83)

WELL	NORTHING	EASTING	LATITUDE	LONGITUDE	ELEV. PVC	ELEV. GRND	ELEV. CON.
MW #1	616889.790	902998.970	32°41'25.334"	103°09'28.049"	3615.50'	3611.90'	3612.05'



SCALE: 1" = 100'

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

GARY L. JONES, N.M. No. 7977  
REGISTERED SURVEYOR No. 5074

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

**RICE OPERATING COMPANY**

REF: HOBBS JCT E-4

MONITOR WELL LOCATED IN  
SECTION 4, TOWNSHIP 19 SOUTH, RANGE 38 EAST,  
N.M.P.M., LEA COUNTY, NEW MEXICO.

W.O. Number: 19349 Drawn By: J. M. SMALL

Date: 03-06-2008 Disk: JMS 19349MW

Survey Date: 03-05-2008 Sheet 2 of 2 Sheets

## LITHOLOGIC LOG (SOIL BORING)

**R T Hicks  
Consultants Ltd**

P O Box 7624  
Midland, TX 79708  
(432) 528-3878

MONITOR WELL NO.: SB-1  
SITE ID: Hobbs SWD E-4 Vent  
SURFACE ELEVATION: 3,612 (USGS Map)  
CONTRACTOR: Harrison & Cooper, Inc.  
DRILLING METHOD: Air-Rotary  
INSTALLATION DATE: 2/18/08  
WELL PLACEMENT: 6 ft north of frmr jct. box  
COMMENTS: Lat. 32° 41' 26.0" North, Long. 103° 9' 27.8" West (Hand-Held GPS)

TOTAL DEPTH: 37 Ft  
CLIENT: Rice Operating Company  
COUNTY: Lea County  
STATE: New Mexico  
LOCATION: T-19-S, R-38-E, Sec. 4 (E)  
FIELD REP.: Dale Littlejohn  
FILE NAME: \Hobbs SWD\E-4 Lithlogs

	Lithology	SAMPLE DATA (PPM)					DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE SORTING, ROUNDING, CONSOL., DIST. DEATURES
		TYPE	DEPTH	% REC	PID	Cl (Fld)		
BENTONITE	+ + + + +						5	CALICHE Gray to white, soft, with some silt.
	+ + + + +						10	CALICHE Gray (discolored) with some silt (5%) and sand (5%).
	+ + + + +	spoon	10-12	10%	761	169	15	
	+ + + + +	spoon	15-17	20%	1,317	155	20	
	+ + + + +	spoon	20-22	10%	1,540	260		
	x x x x						25	QUARTZITE Reddish brown, fine crystalline, hard drilling. SAND Dark brown, medium grain, well-sorted, sub-angular, strong hydrocarbon odor but no discoloration.
	x x x x	spoon	25-27	90%	1,611	298	30	Lab Data: <u>Chloride</u> <u>BTEX</u> <u>Benz</u> <u>Naphthalene</u> (mg/kg)    43.1    98.2    3.82    2.14
	x x x x	spoon	30-32	90%	621	239		QUARTZITE Reddish brown, fine crystalline, hard drilling. SAND Brown, medium grain, well-sorted, sub-angular, strong hydrocarbon odor but no discoloration.
	x x x x						35	
	x x x x	spoon	35-37	70%	666	195		Lab Data: <u>Chloride</u> <u>BTEX</u> <u>Benz</u> <u>Naphthalene</u> (mg/kg)    ND    23    0.61    1.04
TD = 37 Feet								Saturated Formation at 36 to 37 feet.

# R T Hicks Consultants Ltd

P O Box 7624  
Midland, TX 79708  
(432) 528-3878

## LITHOLOGIC LOG (MONITORING WELL)

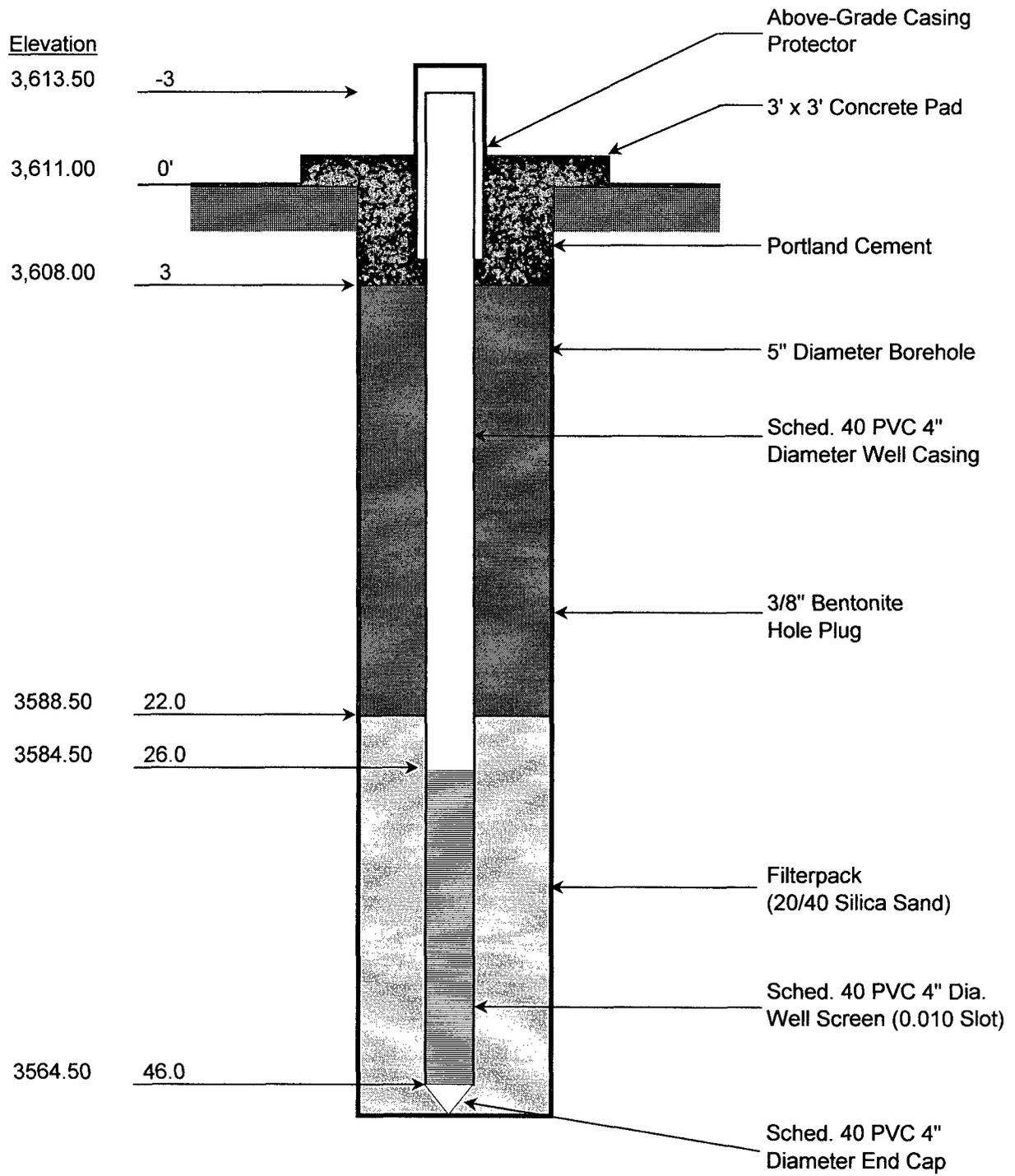
MONITOR WELL NO.: MW-1  
SITE ID: Hobbs SWD E-4 Vent  
SURFACE ELEVATION: 3,611 (USGS MAP)  
CONTRACTOR: Harrison & Cooper, Inc.  
DRILLING METHOD: Air-Rotary  
INSTALLATION DATE: 2/18/08  
WELL PLACEMENT: 35 ft south of frmr jct. box  
COMMENTS: Lat. 32° 41' 25.4" North, Long. 103° 9' 28.0" West (Hand-Held GPS)

TOTAL DEPTH: 50 Ft  
CLIENT: Rice Operating Company  
COUNTY: Lea County  
STATE: New Mexico  
LOCATION: T-19-S, R-38-E, Sec. 4 (E)  
FIELD REP.: Dale Littlejohn  
FILE NAME: \Hobbs SWDIE-4 Lithlogs

Lithology	SAMPLE DATA (PPM)					DEPTH	LITHOLOGIC DESCRIPTION: LITHOLOGY, COLOR, GRAIN SIZE SORTING, ROUNDING, CONSOL., DIST. FEATURES
	TYPE	DEPTH	% REC	PID	Cl (Fld)		
  	spoon	5-7	20%	390	325	5	SILT brown, thin layer over caliche.
	spoon	10-11	10%	425	280	10	CALICHE AND SILT Gray to white, soft, becoming siltier below 3 feet.
	spoon	15-17	50%	1,807	313	15	
	spoon	20-22	80%	1,311	322	20	
 	spoon	25-27	100%	1,673	280	25	SAND Brown, fine to medium grain, well-sorted, sub-angular, becoming more rounded with depth.
	spoon	30-32	100%	1,751	209	30	Lab Data: <u>Chloride</u> <u>BTEX</u> <u>Benz</u> <u>Naphthalene</u> (mg/kg)    173            32.6            0.07            1.61
						35	
						40	
						45	SANDSTONE Grayish brown, well-sorted, medium grain, rounded, hard drilling.
						50	

TD = 50 Feet

## MONITORING WELL CONSTRUCTION DIAGRAM



**R T Hicks  
Consultants Ltd**

SITE: Hobbs SWD E-4 Vent	
DATE: 2/18/2008	REV. NO.: 1
AUTHOR: DTL	TECH: DTL
DRILLER: H & C, Inc	FILE: E-4 Lithlogs

**Monitoring Well  
No. MW-1**

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

Receiving Date: 03/10/08  
Reporting Date: 03/14/08  
Project Number: NOT GIVEN  
Project Name: HOBBS JUNCTION E-4  
Project Location: T19S-R38E-SEC4 E-LEA COUNTY, NM

Sampling Date: 03/07/08  
Sample Type: WATER  
Sample Condition: COOL & INTACT  
Sample Received By: ML  
Analyzed By: HM/KS

LAB NUMBER	SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity (uS/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:		03/13/08	03/13/08	03/13/08	03/13/08	03/11/08	03/11/08
H14415-1	MONITOR WELL #1	104	94.5	45.2	2.16	1,150	520
Quality Control		NR	50.6	50.8	3.12	1,424	NR
True Value QC		NR	50.0	50.0	3.00	1,413	NR
% Recovery		NR	101	102	104	101	NR
Relative Percent Difference		NR	2.8	< 0.1	2.6	1.1	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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LAB NUMBER	SAMPLE ID	Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:		03/13/08	03/13/08	03/11/08	03/11/08	03/11/08	03/12/08
H14415-1	MONITOR WELL #1	76	23.5	0	634	7.23	710
Quality Control		500	25.6	NR	988	7.05	NR
True Value QC		500	25.0	NR	1000	7.00	NR
% Recovery		100	102	NR	98.8	101	NR
Relative Percent Difference		2.0	4.7	NR	1.2	< 0.1	NR

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

*03/14/08*  
Date







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

 Receiving Date: 05/05/08  
 Reporting Date: 05/09/08  
 Project Number: NOT GIVEN  
 Project Name: HOBBS JUNCTION E-4  
 Project Location: T19S-R38E-SEC4 E-LEA COUNTY, NM

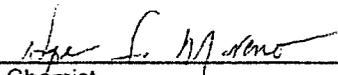
 Sampling Date: 05/02/08  
 Sample Type: WATER  
 Sample Condition: COOL & INTACT  
 Sample Received By: NF  
 Analyzed By: HM/KS

LAB NUMBER SAMPLE ID	Na (mg/L)	Ca (mg/L)	Mg (mg/L)	K (mg/L)	Conductivity ( $\mu$ S/cm)	T-Alkalinity (mgCaCO <sub>3</sub> /L)
ANALYSIS DATE:	05/09/08	05/09/08	05/09/08	05/07/08	05/07/08	05/07/08
H14750-1 MONITOR WELL #1	113	96	44	1.78	1,140	552
Quality Control	NR	52.9	48.6	2.57	1,410	NR
True Value QC	NR	50.0	50.0	3.00	1,413	NR
% Recovery	NR	106	97.2	85.7	99.8	NR
Relative Percent Difference	NR	3.1	7.7	4.0	0.1	NR

METHODS:	SM3500-Ca-D	3500-Mg E	8049	120.1	310.1
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LAB NUMBER SAMPLE ID	Cl <sup>-</sup> (mg/L)	SO <sub>4</sub> (mg/L)	CO <sub>3</sub> (mg/L)	HCO <sub>3</sub> (mg/L)	pH (s.u.)	TDS (mg/L)
ANALYSIS DATE:	05/07/08	05/08/08	05/07/08	05/07/08	05/07/08	05/06/08
H14750-1 MONITOR WELL #1	80	< 10	0	673	7.28	740
Quality Control	500	44.9	NR	1000	7.05	NR
True Value QC	500	40.0	NR	1000	7.00	NR
% Recovery	100	112	NR	100	101	NR
Relative Percent Difference	4.1	3.1	NR	2.4	< 0.1	NR

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

 05-12-08  
 Date

