AP - 98

STAGE 1 & 2 REPORTS

DATE: 10-4-12

L. Peter Galusky, Jr. Ph.D., P.G.
Texerra LLC

20055 Laredo Lane Monument, CO 80132
Tel: 719-339-6791 E-mail: lpg@texerra.com

October 4th, 2012

Mr. Edward Hansen
New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau
1220 S. St. Francis Drive
Santa Fe, New Mexico 87504

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

OCT 15 2012

RECEIVED

Re: **Remediation Termination Request**
Rice Operating Company – Hobbs Jct. E-4
UL E, Sec 4, T19S, R38E
OCD Case No. AP-98

Sent via Certified Mail w/ Return Receipt No. 7011 0110 0002 5197 1327

Mr. Hansen:

This letter summarizes the results of groundwater monitoring over the past several years for Rice Operating Company's Hobbs Jct. E-4 project. Site locations are given in Figure 1 and monitor well locations in Figure 2.

Data that have been collected for this site since 2007 support the following observations:

- Oil product has been found floating on the near-source and up-gradient wells (MW-1 and MW-2, respectively) for the past 13 +/- months. Therefore, these wells have not been sampled over this period. Initial sampling of these wells yielded low concentrations of chloride but elevated concentrations of BTEX.

- Groundwater chloride concentrations have been low (< 150 mg/L) for monitor wells (MW-3, MW-4 and MW-5) encompassing the study area (Figure 3).

- The calculated direction of groundwater flow is toward the southeast (Figure 4), based upon water table depth measurements taken from MW-3, MW-4 and MW-5. (Two monitor wells, MW-1 and MW-2, were not used for groundwater gradient determination as these contained over a foot of petroleum product, as noted below). This is consistent with the normal regional groundwater gradient, which parallels the ground surface topography.

- Dissolved petroleum hydrocarbons as BTEX (the sum of benzene, toluene, ethyl benzene and xylene) have been above laboratory limits of detection in the east side-gradient well (MW-4) since October of 2008 (Figure 5). BTEX has been essentially insignificant in the down-gradient monitor well (MW-3). Benzene has been detected in the west side-gradient well (MW-5) above laboratory limits of detection since October of 2009.

The fact that oil product is found in the up-gradient monitor well (MW-2) and dissolved petroleum hydrocarbons as BTEX has been found in the side gradient well (MW-4 and MW-5) indicates that there is an up-gradient source of residual petroleum hydrocarbons, and that historical operations at this former junction box location are likely not the cause of either the oil product observed in MW-2 or MW-1 or of the dissolved-phase BTEX observed in the other monitor wells. Further, the relatively low (less than 150 mg/L) concentrations of groundwater chlorides observed in the down-gradient (MW-3) and side-gradient monitor wells (MW-4 and MW-5) indicate that this former junction box is also not a significant potential source of groundwater chloride contamination. It also be noted that the former junction box was removed in 2007 and that the surface was restored to natural conditions in 2009 (Figure 6). **Given that this former junction box is not the cause of present or potential future impact to groundwater quality, we respectfully request that OCD grant remediation termination or similar regulatory closure status to this project.**

ROC is the service provider (agent) for the Hobbs 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 Parties, who provide all operating capital on a percentage ownership/usage basis.

Please do not hesitate to contact either Rice Operating Company or myself if you have any questions or need additional information.

Thank you for your consideration.

Sincerely,

L. Peter Galusky, Jr. Ph.D.
Principal

Copy: Rice Operating Company

Figure 1 – Hobbs Jct. E-4 location and driving directions.

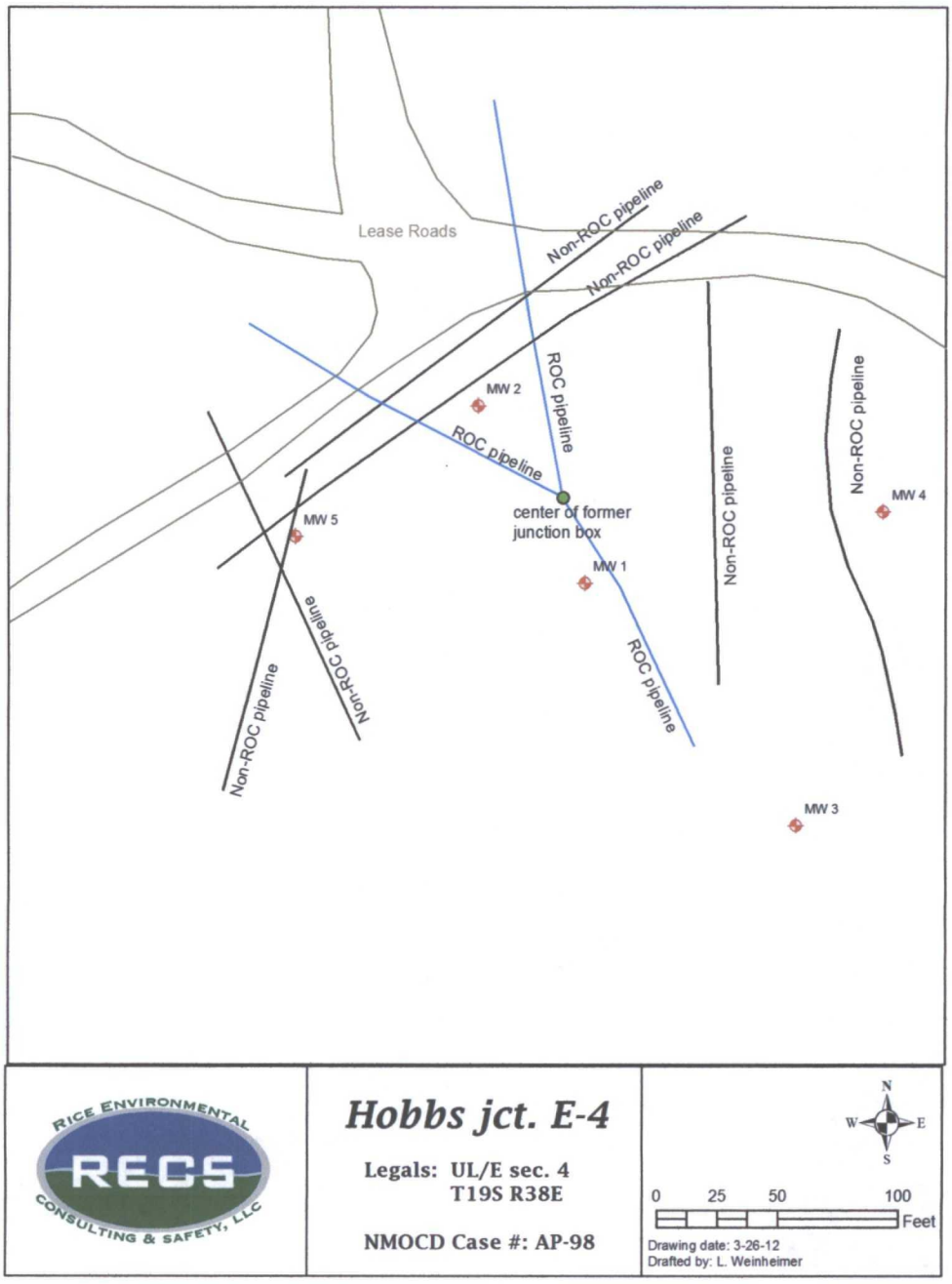


Figure 2 – Hobbs Jct. E-4 monitor well locations.

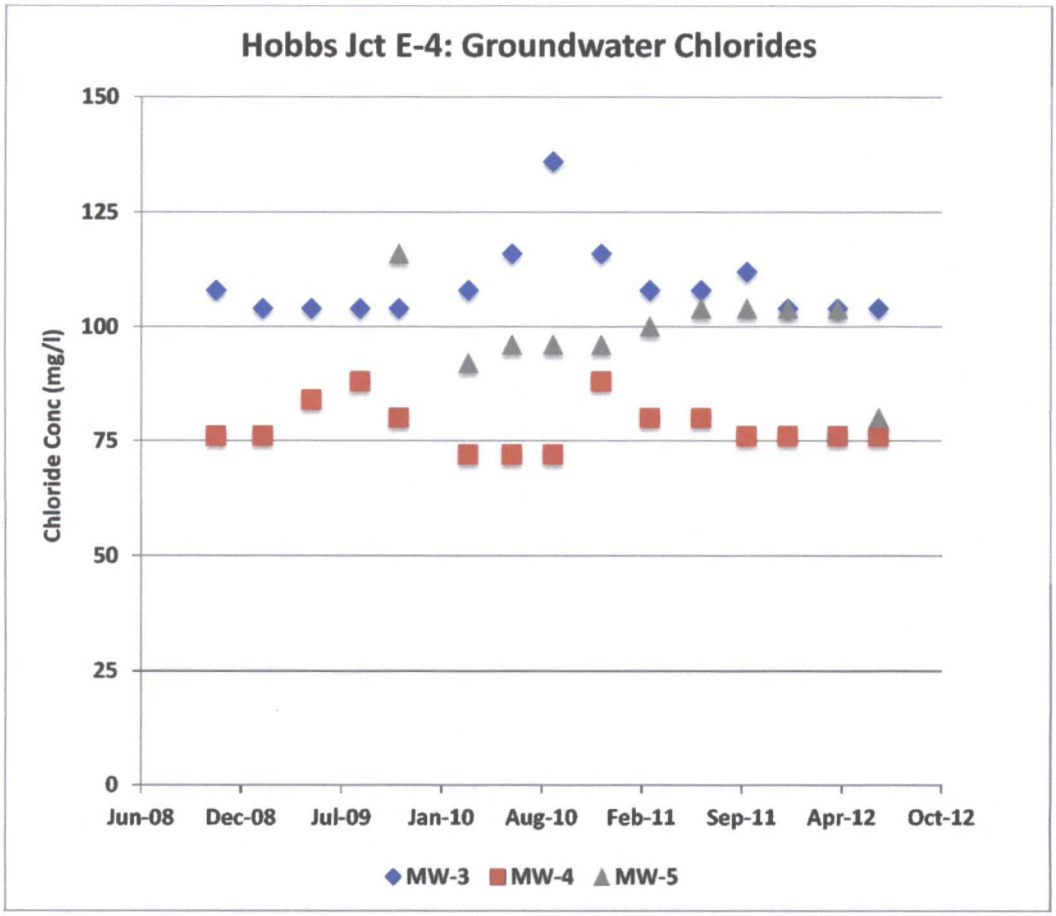


Figure 3 – Groundwater chloride concentrations from quarterly samples.

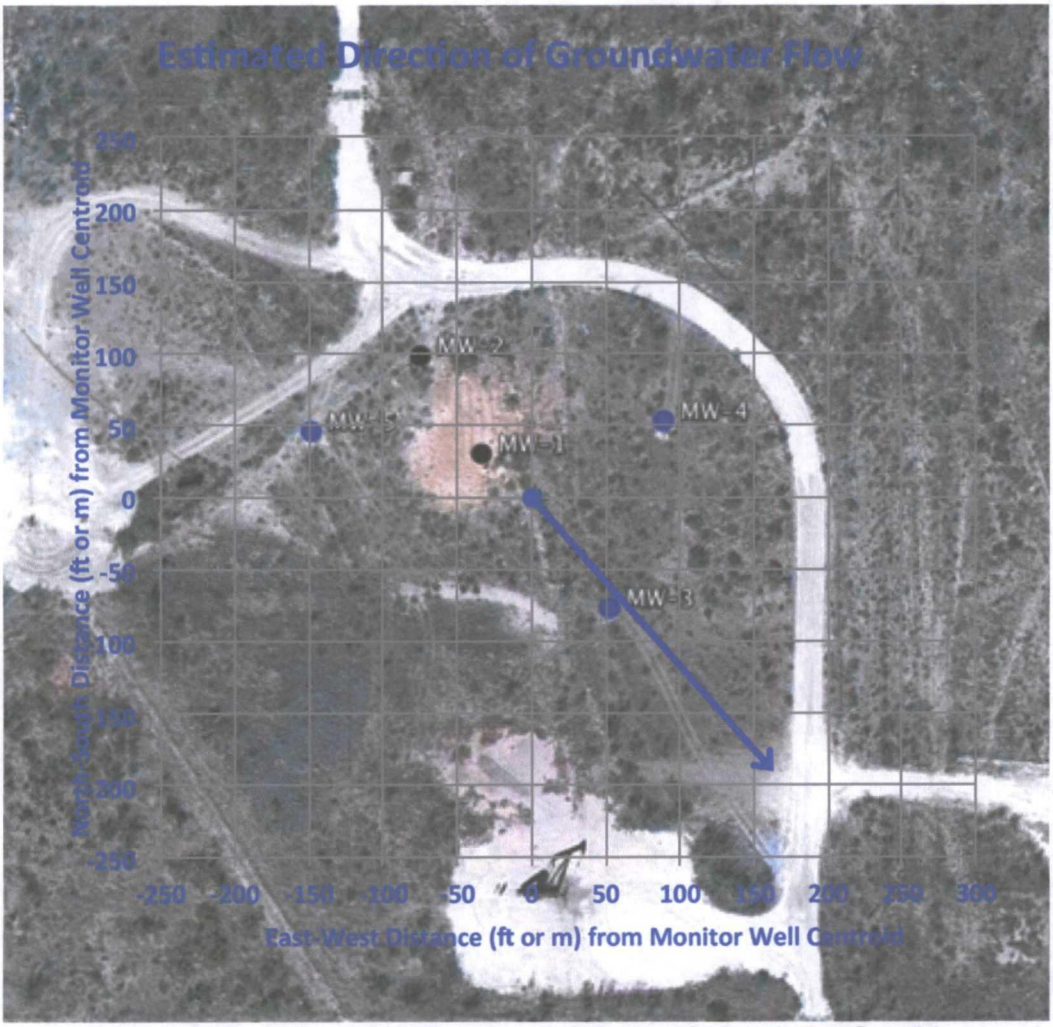


Figure 4 – Hobbs Jct. E-4 estimated (calculated) direction of groundwater flow (**blue arrow**). Google Earth image date 11/14/2011. Based on the average of four groundwater depths measured quarterly during 2011.

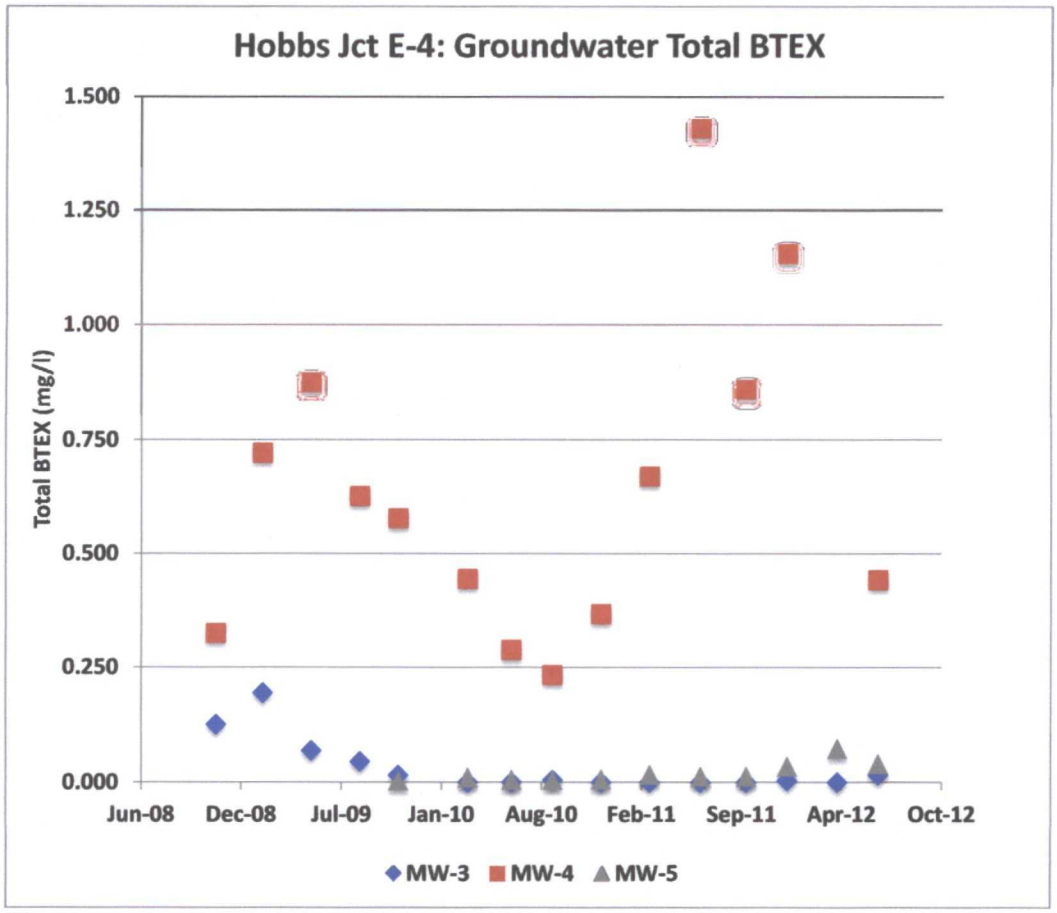


Figure 5 – Groundwater BTEX concentrations from quarterly samples.

Figure 6 – a (above) reseeding restored surface in 2009; **b** (below) view across former junction box location in August 2012.

APPENDIX – Laboratory Analysis Report (most recent sampling event)

… six pages follow.

CARDINAL Laboratories

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

September 20, 2012

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: HOBBS JUNCTION E-4

Enclosed are the results of analyses for samples received by the laboratory on 09/13/12 13:46.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	09/13/2012	Sampling Date:	09/10/2012
Reported:	09/20/2012	Sampling Type:	Water
Project Name:	HOBBS JUNCTION E-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R38E-SEC4 E-LEA CTY.,NM		

Sample ID: MONITOR WELL #3 (H202216-01)

BTEX 8021B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/19/2012	ND	0.021	104	0.0200	5.65	
Toluene*	<0.001	0.001	09/19/2012	ND	0.022	112	0.0200	5.52	
Ethylbenzene*	<0.001	0.001	09/19/2012	ND	0.022	112	0.0200	5.60	
Total Xylenes*	<0.003	0.003	09/19/2012	ND	0.069	115	0.0600	5.76	

Surrogate: 4-Bromofluorobenzene (PID) *99.0 %* *89.5-126*

Chloride, SM4500Cl-B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**108**	4.00	09/17/2012	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**268**	10.0	09/19/2012	ND	22.4	112	20.0	4.38	

TDS 160.1 mg/L Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**952**	5.00	09/15/2012	ND	233	97.1	240	1.75	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	09/13/2012	Sampling Date:	09/10/2012
Reported:	09/20/2012	Sampling Type:	Water
Project Name:	HOBBS JUNCTION E-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R38E-SEC4 E-LEA CTY.,NM		

Sample ID: MONITOR WELL #4 (H202216-02)

BTEX 8021B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.002**	0.001	09/19/2012	ND	0.021	104	0.0200	5.65	
Toluene*	**0.001**	0.001	09/19/2012	ND	0.022	112	0.0200	5.52	
Ethylbenzene*	**0.033**	0.001	09/19/2012	ND	0.022	112	0.0200	5.60	
Total Xylenes*	**0.007**	0.003	09/19/2012	ND	0.069	115	0.0600	5.76	

Surrogate: 4-Bromofluorobenzene (PID *109 %* *89.5-126*

Chloride, SM4500Cl-B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**76.0**	4.00	09/17/2012	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	<10.0	10.0	09/19/2012	ND	22.4	112	20.0	4.38	

TDS 160.1 mg/L Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**778**	5.00	09/15/2012	ND	233	97.1	240	1.75	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company
Hack Conder
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	09/13/2012	Sampling Date:	09/10/2012
Reported:	09/20/2012	Sampling Type:	Water
Project Name:	HOBBS JUNCTION E-4	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T19S-R38E-SEC4 E-LEA CTY.,NM		

Sample ID: MONITOR WELL #5 (H202216-03)

BTEX 8021B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	**0.004**	0.001	09/19/2012	ND	0.021	104	0.0200	5.65	
Toluene*	**0.005**	0.001	09/19/2012	ND	0.022	112	0.0200	5.52	
Ethylbenzene*	**0.004**	0.001	09/19/2012	ND	0.022	112	0.0200	5.60	
Total Xylenes*	**0.003**	0.003	09/19/2012	ND	0.069	115	0.0600	5.76	

Surrogate: 4-Bromofluorobenzene (PID *105 %* *89.5-126*

Chloride, SM4500Cl-B mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**104**	4.00	09/17/2012	ND	100	100	100	3.92	

Sulfate 375.4 mg/L Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**154**	10.0	09/19/2012	ND	22.4	112	20.0	4.38	

TDS 160.1 mg/L Analyzed By: HM

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**947**	5.00	09/15/2012	ND	233	97.1	240	1.75	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Celey D. Keene, Lab Director/Quality Manager

101 East Marland - Hobbs, New Mexico 88240
Tel (575) 393-2326
Fax (575) 393-2476

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # ____________

Company Name: RICE Operating Company

BILL TO Company: RICE Operating Company PO#:

Project Manager: Hack Conder

Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240

Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240

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

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

Project #: Project Name: Hobbs Junction E-4

Project Location: T19S-R38E-Sec4 E ~ Lea County - New Mexico

Sampler Signature: Rozanne Johnson (575)631-9310 rozanne@valornet.com

LAB # (LAB USE ONLY): H202216

LAB #	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCL (2 40ml VOA)	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2012)	TIME
1	Monitor Well #3	G	3	X					2				1		9-10	10:30
2	Monitor Well #4	G	3	X					2				1		9-10	11:30
3	Monitor Well #5	G	3	X					2				1		9-10	12:45

ANALYSIS REQUEST (Circle or Specify Method No.)

FIELD CODE	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
Monitor Well #3		X																	X	X	X	
Monitor Well #4		X																	X	X	X	
Monitor Well #5		X																	X	X	X	

Relinquished by: Rozanne Johnson Date: 9-13-2012 Time: 13:45

Received by: Date: Time:

Relinquished by: Date: Time:

Received By: (Laboratory Staff) Jodi Henson Date: 9-13-2012 Time: 13:46

Phone Results ☐ Yes ☐ No

Fax Results ☐ Yes ☐ No Additional Fax Number:

REMARKS:

Email Results: hconder@riceswd.com
lweinheimer@rice-ecs.com
kjones@riceswd.com
rozanne@valornet.com

Delivered By: (Circle One) Sampler - UPS - Bus - Other:

Sample Condition: Cool Yes ☑ No ☐ Intact Yes ☑ No ☐

CHECKED BY: (Initials) JH

#26

Arc Environmental
P. O. Box 1772
Lovington, New Mexico 88260
(575) 631-9310
Rozanne Johnson ~ rozanne@valornet.com

March 23, 2012

Mr. Hack Conder
RICE Operating Company
112 West Taylor
Hobbs, New Mexico 88240

Re: Hobbs Junction E-4

Mr. Conder,

As requested the following is a general description of the RICE Hobbs Junction E-4 location:

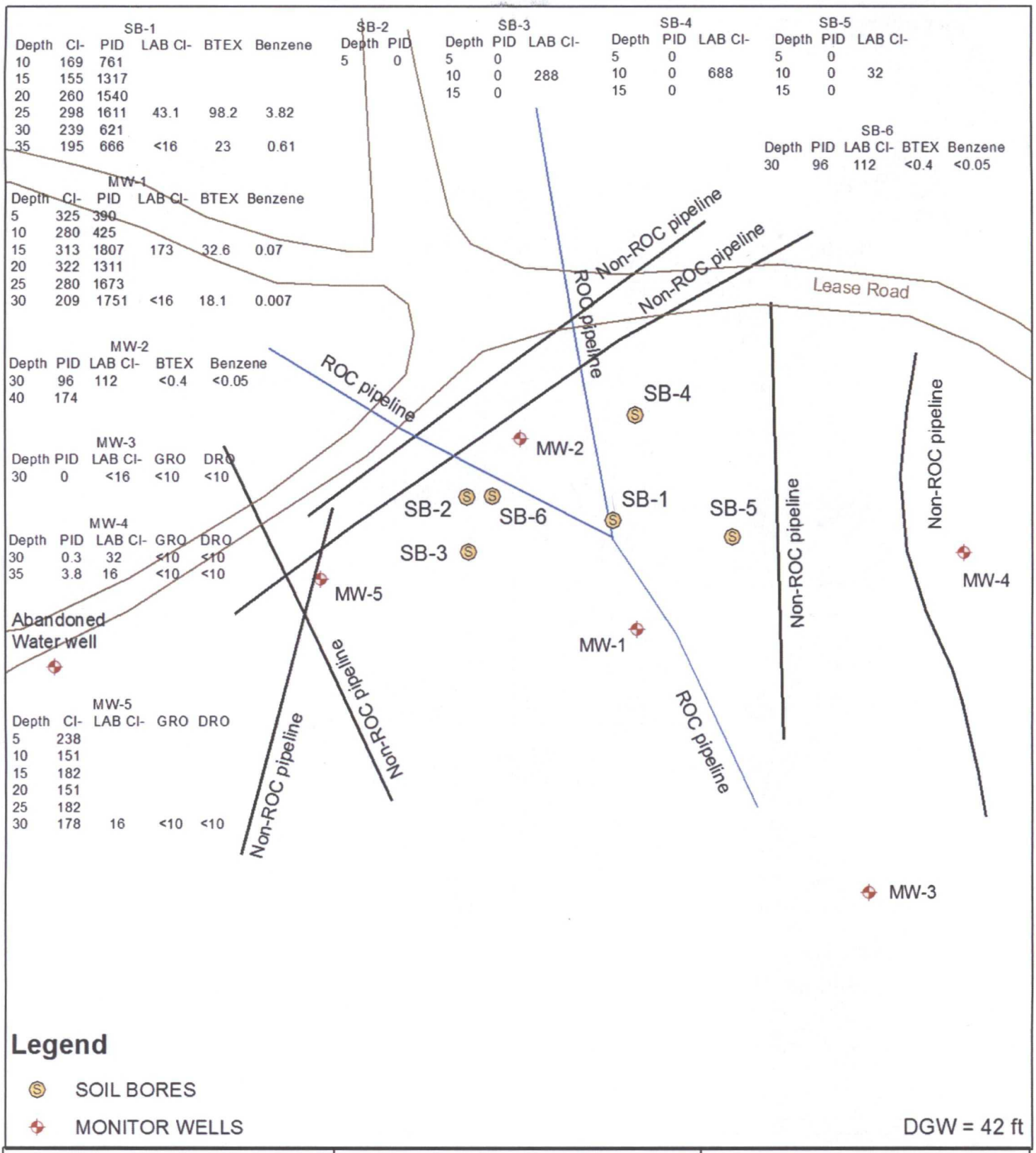
- Two wells, Monitor Well #1 (the source well) and Monitor Well #2 (the up gradient well) at the above mentioned site contain a non-aqueous liquid, which has been identified through sampling to be consistent with crude oil. Routine purging of Monitor Well #1 with a PSH recovery bailer to remove free product has been in progress since October 2008. A PSH recovery sock has been placed in Monitor Well #2 as an additional effort to remove the free product at the site. Both wells continue to have free product present with Monitor Wells #3, #4 and #5 all testing positive for BTEX. There are several pipelines in the area and several sites up gradient, which could be contributing to the presence of the free product.

Sincerely,
Arc Environmental

Rozanne Johnson
Rozanne Johnson

Electronic Copy: Hack Conder
Katie Jones

Soil Bore Installation



Legend

- SOIL BORES
- MONITOR WELLS

DGW = 42 ft

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

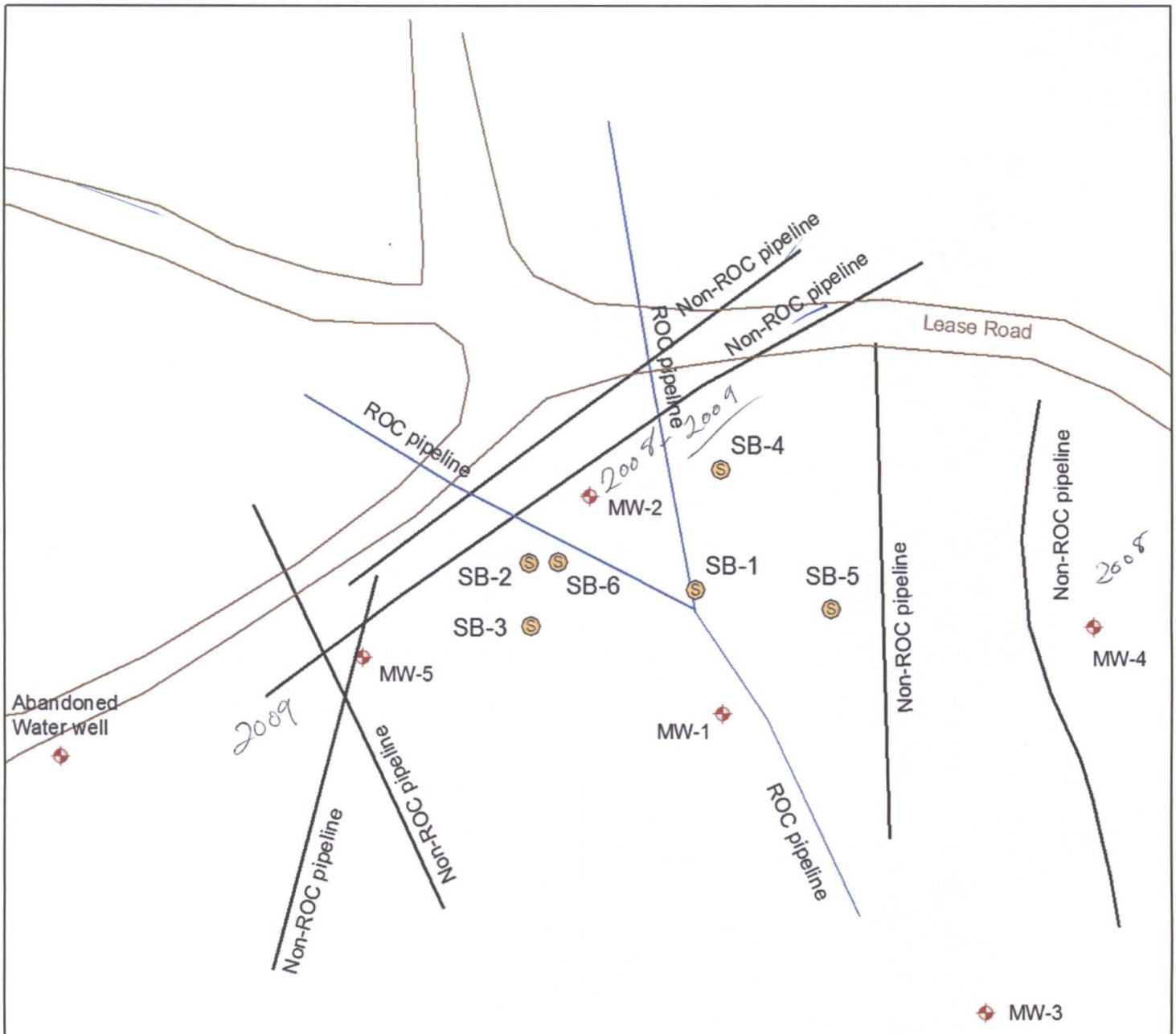
Hobbs jct. E-4

Legals: UL/E sec. 4
T19S R38E
NMOCD Case #: AP-98

N W E S

0 20 40 80 Feet

Drawing date: 10/3/12
Drafted by: L. Weinheimer



Legend

- SOIL BORES
- MONITOR WELLS

DGW = 42 ft

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

Hobbs jct. E-4

Legals: UL/E sec. 4
T19S R38E
NMOCD Case #: AP-98

N W E S

0 20 40 80 Feet

Drawing date: 10/3/12
Drafted by: L. Weinheimer

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

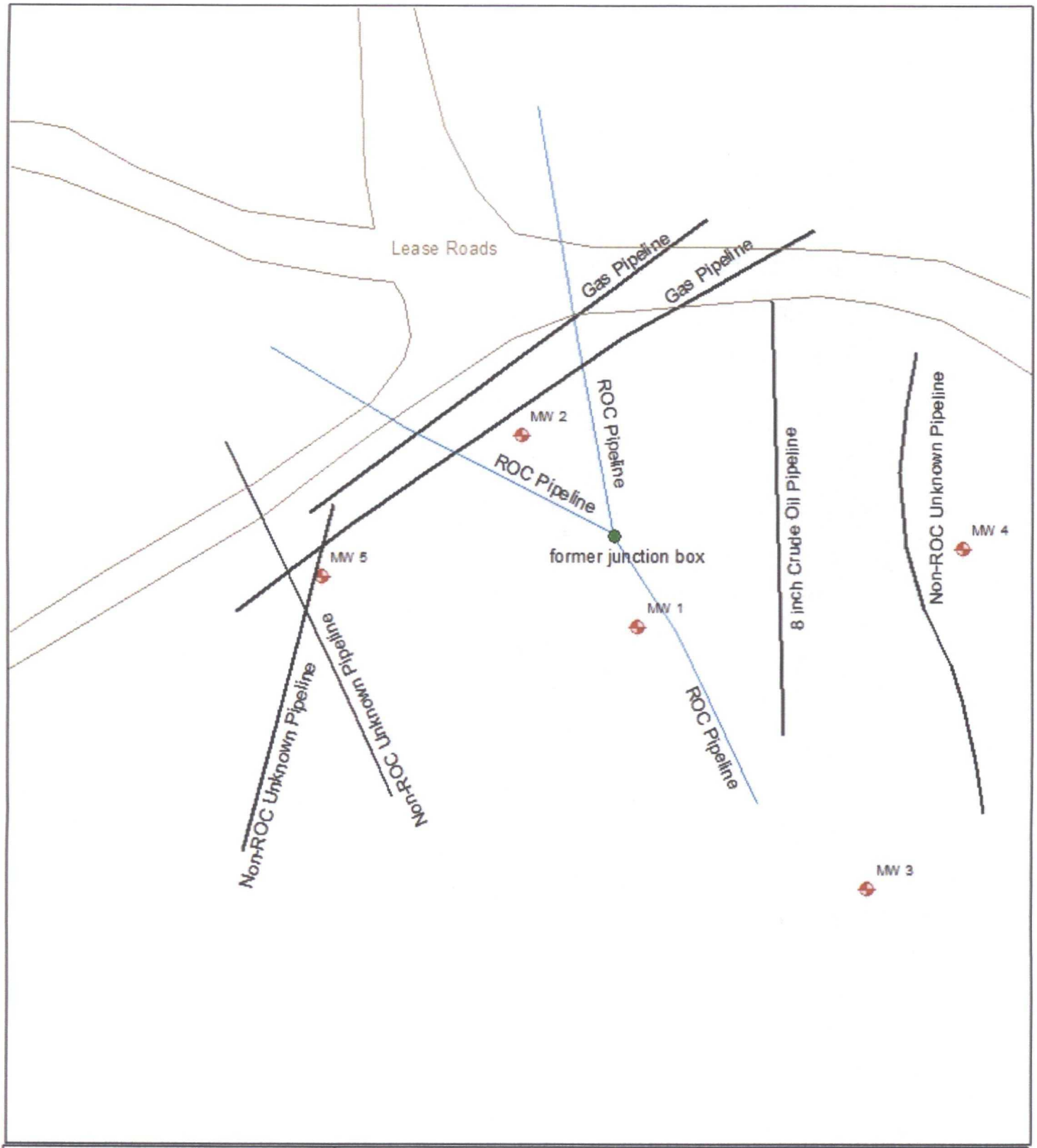
Hobbs jct. E-4

Legals: UL/E sec. 4
T19S R38E
NMOCD Case #: AP-98

N
W E
S

0 100 200 400
Feet

Drawing date: 1/8/13
Drafted by: L. Weinheimer



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

Hobbs Jct. E-4

Unit E, Section 4, T19S, R38E

NMOCD Case #: AP-98

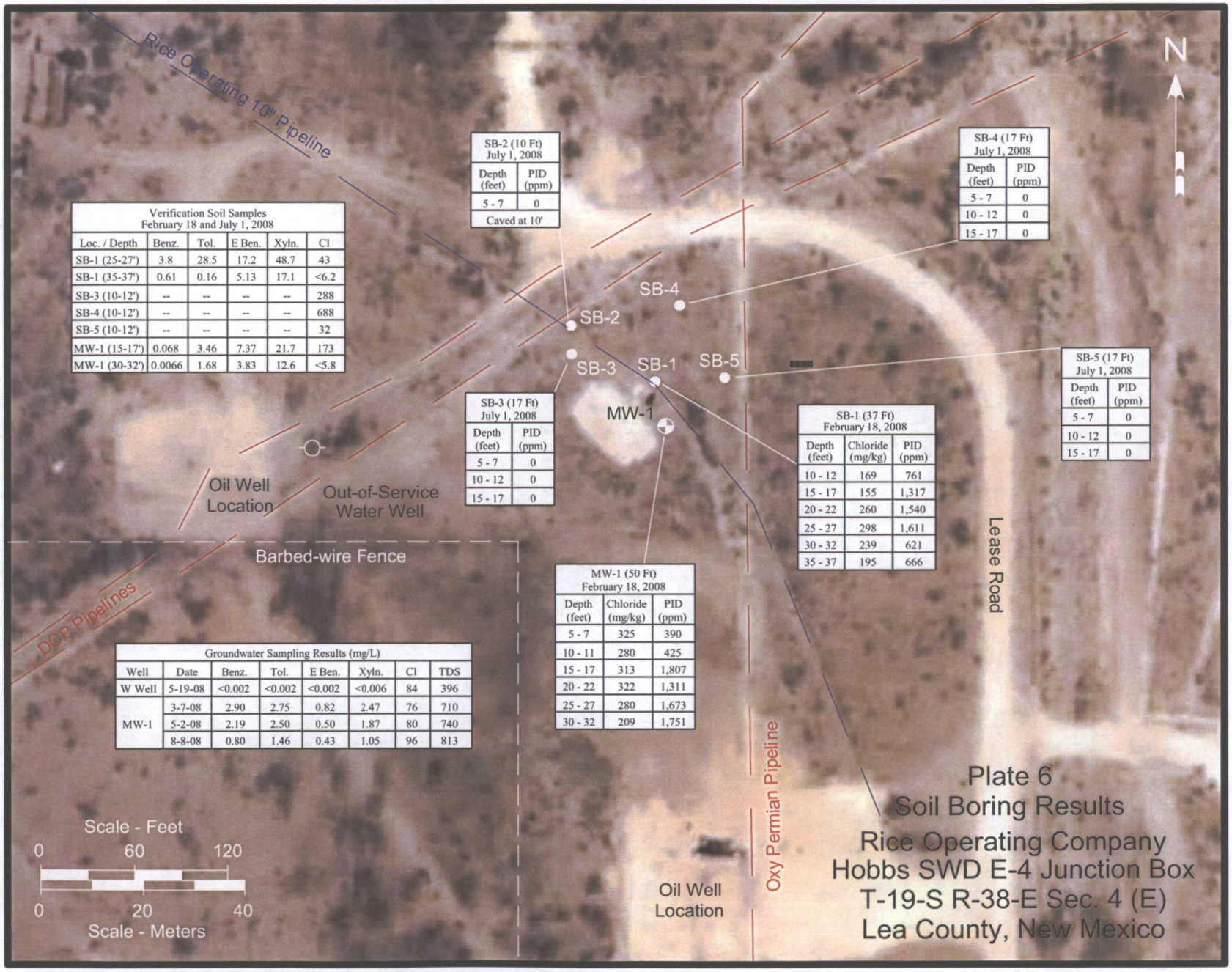
N
W E
S

0 25 50 100

Feet

Drawing date: 3-26-12

Drafted by: L. Weinheimer


Rice Operating 10" Pipeline
N
SB-2 (10 Ft)
July 1, 2008
Depth (feet) | PID (ppm)
5 - 7 | 0
Caved at 10'
SB-4 (17 Ft)
July 1, 2008
Depth (feet) | PID (ppm)
5 - 7 | 0
10 - 12 | 0
15 - 17 | 0
Verification Soil Samples
February 18 and July 1, 2008
Loc. / Depth | Benz. | Tol. | E Ben. | Xyln. | Cl
SB-1 (25-27') | 3.8 | 28.5 | 17.2 | 48.7 | 43
SB-1 (35-37') | 0.61 | 0.16 | 5.13 | 17.1 | <6.2
SB-3 (10-12') | -- | -- | -- | -- | 288
SB-4 (10-12') | -- | -- | -- | -- | 688
SB-5 (10-12') | -- | -- | -- | -- | 32
MW-1 (15-17') | 0.068 | 3.46 | 7.37 | 21.7 | 173
MW-1 (30-32') | 0.0066 | 1.68 | 3.83 | 12.6 | <5.8
SB-4
SB-2
SB-3
SB-1
SB-5
MW-1
SB-5 (17 Ft)
July 1, 2008
Depth (feet) | PID (ppm)
5 - 7 | 0
10 - 12 | 0
15 - 17 | 0
SB-3 (17 Ft)
July 1, 2008
Depth (feet) | PID (ppm)
5 - 7 | 0
10 - 12 | 0
15 - 17 | 0
SB-1 (37 Ft)
February 18, 2008
Depth (feet) | Chloride (mg/kg) | PID (ppm)
10 - 12 | 169 | 761
15 - 17 | 155 | 1,317
20 - 22 | 260 | 1,540
25 - 27 | 298 | 1,611
30 - 32 | 239 | 621
35 - 37 | 195 | 666
Oil Well Location
Out-of-Service Water Well
Barbed-wire Fence
Lease Road
DCP Pipelines
MW-1 (50 Ft)
February 18, 2008
Depth (feet) | Chloride (mg/kg) | PID (ppm)
5 - 7 | 325 | 390
10 - 11 | 280 | 425
15 - 17 | 313 | 1,807
20 - 22 | 322 | 1,311
25 - 27 | 280 | 1,673
30 - 32 | 209 | 1,751
Groundwater Sampling Results (mg/L)
Well | Date | Benz. | Tol. | E Ben. | Xyln. | Cl | TDS
W Well | 5-19-08 | <0.002 | <0.002 | <0.002 | <0.006 | 84 | 396
MW-1 | 3-7-08 | 2.90 | 2.75 | 0.82 | 2.47 | 76 | 710
MW-1 | 5-2-08 | 2.19 | 2.50 | 0.50 | 1.87 | 80 | 740
MW-1 | 8-8-08 | 0.80 | 1.46 | 0.43 | 1.05 | 96 | 813
Scale - Feet
0 60 120
0 20 40
Scale - Meters
Oil Well Location
Oxy Permian Pipeline
Plate 6
Soil Boring Results
Rice Operating Company
Hobbs SWD E-4 Junction Box
T-19-S R-38-E Sec. 4 (E)
Lea County, New Mexico

Hansen, Edward J., EMNRD

From: Katie Jones <kjones@riceswd.com>
Sent: Wednesday, February 13, 2013 9:56 AM
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Laura Pena; L Peter Galusky
Subject: ROC - Hobbs Jct. E-4 (AP-98) Termination Request Addendum
Attachments: Hobbs Jct. E-4 (AP-98)Termination Request 10.4.12.pdf; ROC - Hobbs Jct. E-4 (AP-98) Surrounding Pipelines.jpg; ROC - Hobbs Jct. E-4 (AP-98) - Up-gradient MWs.jpg

Mr. Hansen,

The following is an Addendum to the attached Termination Request for the Hobbs Jct. E-4 (AP-98) site, as discussed during the November monthly meeting between ROC and NMOCD. The Termination Request was submitted to the NMOCD on October 4, 2012.

Attached is a plat showing pipelines surrounding the Hobbs Jct. E-4. Also attached is a plat that shows the location of at least 14 monitoring wells located up-gradient (northwest), north, and northeast of the Hobbs Jct. E-4 site. These monitoring wells and the oil found floating on the Hobbs Jct. E-4 up-gradient well (MW-2) and the BTEX observed in the side-gradient wells (MW-4 and MW-5) suggests there is an up-gradient source contributing to the degradation of groundwater quality, and that the former junction box is not the cause.

Additionally, the low concentrations of chloride initially observed in MW-1 and observed in the down gradient (MW-3) and side-gradient monitor wells (MW-4 and MW-5) indicate that this former junction box is also not a significant potential source of groundwater chloride contamination.

Based on this additional data showing the up-gradient area, ROC request that OCD grant remediation termination or similar regulatory closure status to this project.

If you have any questions or require any additional information, please contact Hack Conder at (575)393-9174.

Thank you,

Katie Jones
Environmental Project Manager
RICE *Operating Company*

Hansen, Edward J., EMNRD

From: Katie Jones <kjones@riceswd.com>
Sent: Wednesday, March 27, 2013 3:24 PM
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Laura Pena; L Peter Galusky
Subject: ROC - Hobbs Jct. E-4 (AP-98) Termination Request Addendum
Attachments: ROC - Hobbs Jct. E-4 (AP-98) Termination Request.pdf; ROC - Hobbs Jct. E-4 (AP-98) Product Description.pdf; ROC - Hobbs Jct. E-4 (AP-98) SB Installation.jpg; ROC - Hobbs Jct. E-4 (AP-98) Up-gradient MWs.jpg; ROC - Hobbs Jct. E-4 (AP-98) Windmill Lab.pdf; ROC - Hobbs Jct. E-4 (AP-98) Surrounding Pipelines.jpg

Mr. Hansen,

The following is an Addendum to the Hobbs Jct. E-4 (AP-98) Termination Request submitted to the NMOCD on October 4th, 2012 and Addendum submitted to OCD on February 13th, 2013.

Termination Request, Page 2, paragraph 2 and Termination Request Addendum Email: text in blue lettering, below, will be added to the paragraph.

"The fact that oil product is found in the up-gradient monitor well (MW-2) and dissolved petroleum hydrocarbons as BTEX has been found in the side gradient well (MW-4 and MW-5) indicates that there is an up-gradient source of residual petroleum hydrocarbons, and that historical operations at this former junction box location are likely not the cause of either the oil product observed in MW-2 or MW-1 or of the dissolved-phase BTEX observed in the other monitor wells. The substance found on the near-source well (MW-1) and the up-gradient well (MW-2) is described as a non-aqueous liquid, which has been identified through sampling to be consistent with light end condensate fluid. A detailed description of this, by a third party, is attached. Further, the relatively low (less than 150 mg/L) concentrations of groundwater chlorides observed in the down-gradient (MW-3) and side-gradient monitor wells (MW-4 and MW-5) indicate that this former junction box is also not a significant potential source of groundwater chloride contamination. It also be noted that the former junction box was removed in 2007 and that the surface was restored to natural conditions in 2009 (Figure 6).

Review of the soil chloride and hydrocarbon concentrations prove these constituents are not present at concentrations high enough to result in a hydrocarbon substance (in the form of LNAPL or BTEX) to be found on the monitoring wells located at this site or up-gradient of this site. Field PID readings resulted in low concentrations (<3.8 ppm) in SB-2, SB-3, SB-4, SB-5, MW-3, and MW-4. SB-6 and MW-2 resulted in slightly higher field PID readings, but laboratory analysis of BTEX resulted in concentrations below detectable limits. Laboratory analysis of TPH on the 30 ft sample from MW-5 resulted in concentrations below detectable limits. BTEX was observed on SB-1 and MW-1 but the concentrations decreased with depth, resulting in a total BTEX concentration of 23 mg/kg at 35 ft in SB-1 and 18.1 mg/kg at 30 ft in MW-1. Soil chloride concentrations decreased with depth and were found to be below 250 mg/kg at depth. Slightly higher concentrations were observed at shallower depths (10 ft bgs). A plat summarizing this data is attached.

Based on the low concentrations observed in the soil, ROC believed the light end condensate fluid was contributed to the groundwater from a non-ROC up-gradients site. At least 14 monitoring wells were found to be located up-gradient (northwest), north, and northeast of the Hobbs Jct. E-4 site. A search of the NMOCD database for these wells, showed as many as 30 monitoring wells are located within that area and a LNAPL recovery and soil vapor extraction (SVE) system utilizing LNAPL recovery pumps and vacuum blow units are present at that site. These monitoring wells and the light end condensate floating on the Hobbs Jct. E-4 up-gradient well (MW-2) and the BTEX observed in the side-gradient wells (MW-4 and MW-5) suggests there is an up-gradient source contributing to the degradation of groundwater quality, and that the former junction box is not the cause.

A groundwater sample was collected from the abandoned windmill located directly west of the Hobbs Jct. E-4 site. Laboratory analysis of that sample resulted in a chloride concentration of 460 mg/L and BTEX concentrations below detectable limits. These results further prove that the area surrounding the Hobbs Jct. E-4 site has been impacted by a non-ROC, up-gradient source. Also, attached is a plat showing non- ROC pipelines surrounding the Hobbs Jct. E-4 site.

Based on this additional data showing the up-gradient area, the description of the light end condensate, and the search of the NMOCD database, ROC request that OCD grant remediation termination or similar regulatory closure status to this project."

If you have any questions or require any additional information, please contact Hack Conder at (575)393-9174.

Thank you.

Katie Jones
Environmental Project Manager
RICE *Operating Company*

From: Katie Jones
Sent: Wednesday, February 13, 2013 9:56 AM
To: 'Hansen, Edward J., EMNRD'
Cc: Hack Conder; Laura Pena; 'L Peter Galusky'
Subject: ROC - Hobbs Jct. E-4 (AP-98) Termination Request Addendum

Mr. Hansen,

The following is an Addendum to the attached Termination Request for the Hobbs Jct. E-4 (AP-98) site, as discussed during the November monthly meeting between ROC and NMOCD. The Termination Request was submitted to the NMOCD on October 4, 2012.

Attached is a plat showing pipelines surrounding the Hobbs Jct. E-4. Also attached is a plat that shows the location of at least 14 monitoring wells located up-gradient (northwest), north, and northeast of the Hobbs Jct. E-4 site. These monitoring wells and the oil found floating on the Hobbs Jct. E-4 up-gradient well (MW-2) and the BTEX observed in the side-gradient wells (MW-4 and MW-5) suggests there is an up-gradient source contributing to the degradation of groundwater quality, and that the former junction box is not the cause.

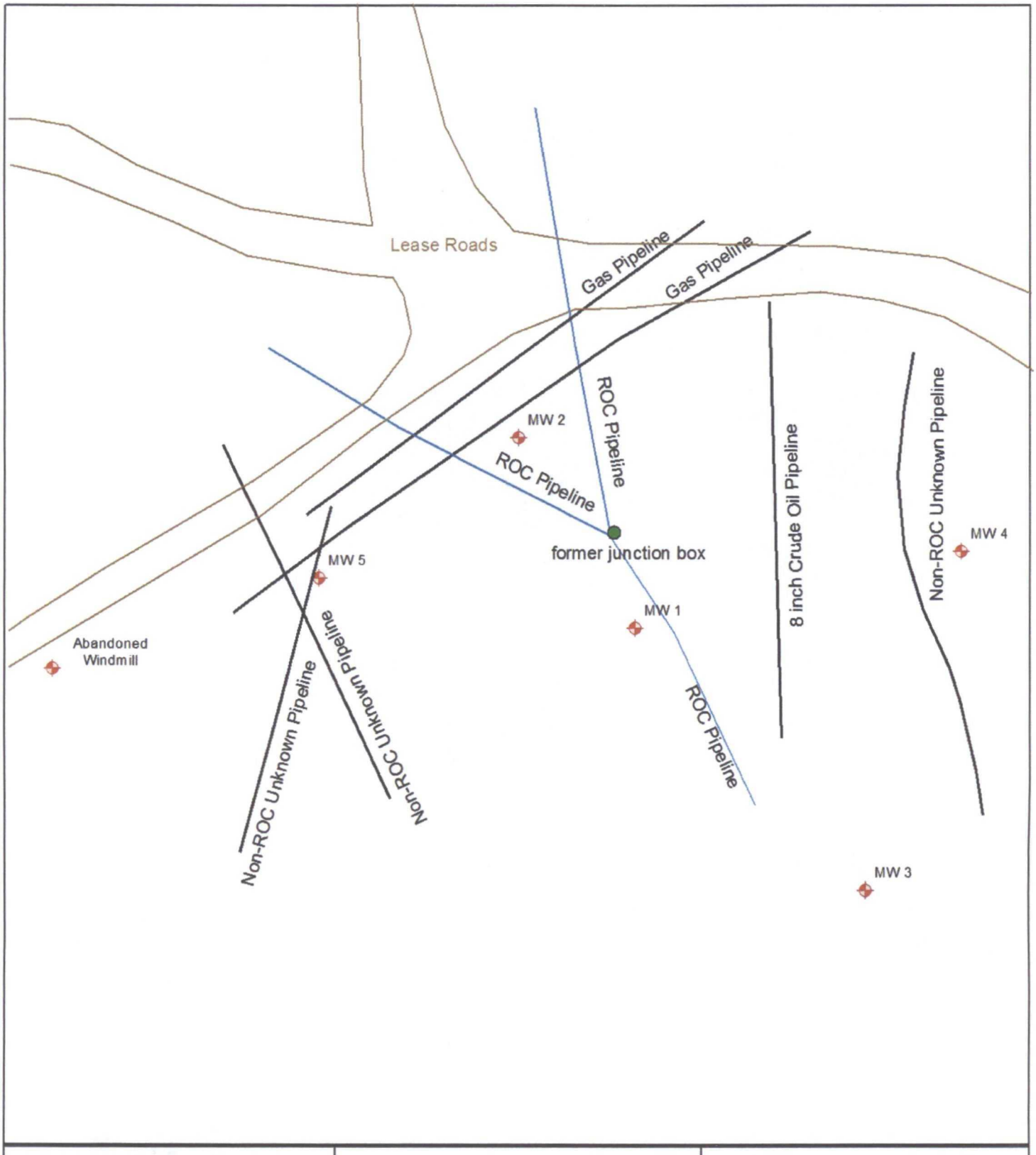
Additionally, the low concentrations of chloride initially observed in MW-1 and observed in the down gradient (MW-3) and side-gradient monitor wells (MW-4 and MW-5) indicate that this former junction box is also not a significant potential source of groundwater chloride contamination.

Based on this additional data showing the up-gradient area, ROC request that OCD grant remediation termination or similar regulatory closure status to this project.

If you have any questions or require any additional information, please contact Hack Conder at (575)393-9174.

Thank you,

Katie Jones
Environmental Project Manager
RICE *Operating Company*



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

Hobbs Jct. E-4

Unit E, Section 4, T19S, R38E

NMOCD Case #: AP-98

N
W E
S

0 25 50 100 Feet

Drawing date: 3/27/13
Drafted by: L. Weinheimer

RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

Hobbs jct. E-4

Legals: UL/E sec. 4
T19S R38E
NMOCD Case #: AP-98

N
W E
S

0 100 200 400
Feet

Drawing date: 1/8/13
Drafted by: L. Weinheimer

CARDINAL Laboratories

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

March 15, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: WINDMILL (HOBBS JCT. E-4)

Enclosed are the results of analyses for samples received by the laboratory on 03/12/13 11:25.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-11-3. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list on accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accreditated through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: WINDMILL (HOBBS JCT. E-4) Project Number: NONE GIVEN Project Manager: Hack Conder Fax To: (575) 397-1471	Reported: 15-Mar-13 15:59

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WINDMILL	H300611-01	Water	11-Mar-13 14:50	12-Mar-13 11:25

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: WINDMILL (HOBBS JCT. E-4) Project Number: NONE GIVEN Project Manager: Hack Conder Fax To: (575) 397-1471	Reported: 15-Mar-13 15:59

WINDMILL

H300611-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
Cardinal Laboratories									
Inorganic Compounds									
Alkalinity, Bicarbonate	**376**	5.00	mg/L	1	3030703	AP	15-Mar-13	310.1	
Alkalinity, Carbonate	ND	0.00	mg/L	1	3030703	AP	15-Mar-13	310.1	
Chloride*	**460**	4.00	mg/L	1	3031206	DW	12-Mar-13	4500-Cl-B	
Sulfate*	**66.0**	25.0	mg/L	2.5	3031405	AP	15-Mar-13	375.4	
TDS*	**1100**	5.00	mg/L	1	3031207	AP	13-Mar-13	160.1	
Alkalinity, Total*	**308**	4.00	mg/L	1	3030703	AP	15-Mar-13	310.1	
Volatile Organic Compounds by EPA Method 8021									
Benzene*	ND	0.001	mg/L	1	3031208	AP	13-Mar-13	8021B	
Toluene*	ND	0.001	mg/L	1	3031208	AP	13-Mar-13	8021B	
Ethylbenzene*	ND	0.001	mg/L	1	3031208	AP	13-Mar-13	8021B	
Total Xylenes*	ND	0.003	mg/L	1	3031208	AP	13-Mar-13	8021B	
Total BTEX	ND	0.006	mg/L	1	3031208	AP	13-Mar-13	8021B	
Surrogate: 4-Bromofluorobenzene (PID)		*117 %*	*89.5-126*		*3031208*	AP	*13-Mar-13*	*8021B*	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: WINDMILL (HOBBS JCT. E-4) Project Number: NONE GIVEN Project Manager: Hack Conder Fax To: (575) 397-1471	Reported: 15-Mar-13 15:59

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3030703 - General Prep - Wet Chem										
Blank (3030703-BLK1)				Prepared & Analyzed: 07-Mar-13						
Alkalinity, Carbonate	ND	0.00	mg/L							
Alkalinity, Bicarbonate	ND	5.00	mg/L							
Alkalinity, Total	ND	4.00	mg/L							
LCS (3030703-BS1)				Prepared & Analyzed: 07-Mar-13						
Alkalinity, Carbonate	ND	0.00	mg/L				80-120			
Alkalinity, Bicarbonate	151	5.00	mg/L				80-120			
Alkalinity, Total	124	4.00	mg/L	100		124	80-120			
LCS Dup (3030703-BSD1)				Prepared & Analyzed: 07-Mar-13						
Alkalinity, Carbonate	ND	0.00	mg/L				80-120		20	
Alkalinity, Bicarbonate	141	5.00	mg/L				80-120	6.85	20	
Alkalinity, Total	116	4.00	mg/L	100		116	80-120	6.67	20	
Batch 3031206 - General Prep - Wet Chem										
Blank (3031206-BLK1)				Prepared & Analyzed: 12-Mar-13						
Chloride	ND	4.00	mg/L							
LCS (3031206-BS1)				Prepared & Analyzed: 12-Mar-13						
Chloride	108	4.00	mg/L	100		108	80-120			
LCS Dup (3031206-BSD1)				Prepared & Analyzed: 12-Mar-13						
Chloride	108	4.00	mg/L	100		108	80-120	0.00	20	
Batch 3031207 - Filtration										
Blank (3031207-BLK1)				Prepared & Analyzed: 11-Mar-13						
TDS	ND	5.00	mg/L							

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: WINDMILL (HOBBS JCT. E-4) Project Number: NONE GIVEN Project Manager: Hack Conder Fax To: (575) 397-1471	Reported: 15-Mar-13 15:59

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3031207 - Filtration										
LCS (3031207-BS1)				Prepared & Analyzed: 11-Mar-13						
TDS	214		mg/L	240		89.2	80-120			
Duplicate (3031207-DUP1)	**Source: H300595-01**			Prepared & Analyzed: 11-Mar-13						
TDS	494	5.00	mg/L		454			8.44	20	
Batch 3031405 - General Prep - Wet Chem										
Blank (3031405-BLK1)				Prepared: 14-Mar-13 Analyzed: 15-Mar-13						
Sulfate	ND	10.0	mg/L							
LCS (3031405-BS1)				Prepared: 14-Mar-13 Analyzed: 15-Mar-13						
Sulfate	22.9	10.0	mg/L	20.0		115	80-120			
LCS Dup (3031405-BSD1)				Prepared: 14-Mar-13 Analyzed: 15-Mar-13						
Sulfate	21.7	10.0	mg/L	20.0		108	80-120	5.51	20	

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

Rice Operating Company 112 W. Taylor Hobbs NM, 88240	Project: WINDMILL (HOBBS JCT. E-4) Project Number: NONE GIVEN Project Manager: Hack Conder Fax To: (575) 397-1471	Reported: 15-Mar-13 15:59

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3031208 - Volatiles										
Blank (3031208-BLK1)				Prepared: 12-Mar-13 Analyzed: 13-Mar-13						
Benzene	ND	0.001	mg/L							
Toluene	ND	0.001	mg/L							
Ethylbenzene	ND	0.001	mg/L							
Total Xylenes	ND	0.003	mg/L							
Total BTEX	ND	0.006	mg/L							
Surrogate: 4-Bromofluorobenzene (PID)	*0.0583*		mg/L	*0.0500*		*117*	*89.5-126*			
LCS (3031208-BS1)				Prepared: 12-Mar-13 Analyzed: 13-Mar-13						
Benzene	0.050	0.001	mg/L	0.0500		101	80.7-116			
Toluene	0.051	0.001	mg/L	0.0500		102	89.7-121			
Ethylbenzene	0.049	0.001	mg/L	0.0500		97.3	91.4-124			
Total Xylenes	0.150	0.003	mg/L	0.150		100	93.4-130			
Surrogate: 4-Bromofluorobenzene (PID)	*0.0553*		mg/L	*0.0500*		*111*	*89.5-126*			
LCS Dup (3031208-BSD1)				Prepared: 12-Mar-13 Analyzed: 13-Mar-13						
Benzene	0.050	0.001	mg/L	0.0500		100	80.7-116	0.531	16.4	
Toluene	0.050	0.001	mg/L	0.0500		101	89.7-121	0.863	16.6	
Ethylbenzene	0.048	0.001	mg/L	0.0500		96.1	91.4-124	1.26	16.1	
Total Xylenes	0.148	0.003	mg/L	0.150		98.9	93.4-130	1.44	15.8	
Surrogate: 4-Bromofluorobenzene (PID)	*0.0552*		mg/L	*0.0500*		*110*	*89.5-126*			

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C
	Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

101 East Marland - Hobbs, New Mexico 88240
Tel (575) 393-2326
Fax (575) 393-2476

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

Company Name: RICE Operating Company	BILL TO Company: RICE Operating Company — PO#
Project Manager: Hack Conder	Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240
Address: (Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240	Phone#: (575) 393-9174 — Fax#: (575)397-1471
Phone #: (575) 393-9174	Fax #: (575) 397-1471
Project #:	Project Name: Windmill (Hobbs Jct. E-4)
Project Location: T19S R38E Sec4E ~ Lea County New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310 rozanne@valornet.com

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY) 1300611	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO_3	$NaHSO_4$	H_2SO_4	ICE (1-1Liter HDPE)	NONE	SAMPLING: DATE (2013)	TIME
1	Windmill	G	3	X								1		3-11	14:50

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005 / TX1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
	X																X	X	X		

Relinquished by: Rozanne Johnson	Date: 03-12-2013	Time: 11:24	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Jodi Henson
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool: Yes ✓ / No; Intact: Yes ✓ / No	CHECKED BY: (Initials)	

Phone Results: Yes / No
Fax Results: Yes / No Additional Fax Number:

REMARKS:

Email Results to: hconder@riceswd.com
lweinheimer@rice-ecs.com
kjones@riceswd.com
rozanne@valornet.com

#26

Hansen, Edward J., EMNRD

From: Katie Jones <kjones@riceswd.com>
Sent: Friday, April 05, 2013 1:45 PM
To: Hansen, Edward J., EMNRD
Cc: Hack Conder; Laura Pena; L Peter Galusky
Subject: Hobbs Jct. E-4 (AP-98) Product Measurement

Mr. Hansen,

Below are the product thickness measurements for the near-source well, MW-1, and up-gradient well, MW-2, located at Hobbs Jct. E-4 (AP-98). The maximum thickness observed in MW-2 was 1.56 ft on June 24, 2011, and the maximum thickness observed in MW-1 was 2.32 ft on September 23, 2011. Currently, product thickness in MW-2 is 0.03 ft and 0.01 ft in MW-1.

Date	MW-1 Product Thickness (ft)	MW-2 Product Thickness (ft)
5/2/2008	0.02	
8/8/2008	0.09	
10/29/2008	0.29	0.22
1/30/2009	1.31	0.08
5/7/2009	1.62	0.11
8/12/2009	1.48	0.67
10/28/2009	1.75	0.93
3/16/2010	1.49	1.06
6/11/2010	1.19	1.13
9/1/2010	1.01	0.67
12/7/2010	1.59	0.91
3/14/2011	1.53	1.18
6/24/2011	2.13	1.56
9/23/2011	2.32	1.45
12/14/2011	1.51	1.14
3/23/2012	1.55	1.27
6/13/2013	1.64	1.25
9/10/2012	0.01	0.01
11/28/2012	0.02	0.15
3/11/2013	0.01	0.03

If you have any questions or require any additional information, please contact Hack Conder at (575)661-6432.

Thank you.

Katie Jones
Environmental Project Manager
RICE *Operating Company*