1R - 426-29

REPORTS

DATE:

4-12-13

Rice Environmental Consulting & Safety
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CERTIFIED MAIL
RETURN RECEIPT NO. 7007 2560 0000 4569 8456

April 12th, 2013

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

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: **Corrective Action Plan (CAP) Report and Termination Request**
Rice Operating Company – BD SWD System
BD G-16 vent (1R426-29): UL/G sec. 16 T22S R37E

Mr. Hansen:

RICE Operating Company (ROC) has retained Rice Environmental Consulting and Safety (RECS) to address potential environmental concerns at the above-referenced site in the BD Salt Water Disposal (SWD) system. ROC is the service provider (agent) for the 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 Parties, who provide all operating capital on a percentage ownership/usage basis.

Background and Previous Work

The site is located approximately 3 miles south of Eunice, New Mexico at UL/G sec. 16 T22S R37E as shown on the Site Location Map (Figure 1). Groundwater at this site is located approximately 96 +/- feet below ground surface (bgs).

In 2002, ROC initiated work on the former BD G-16 vent. The site was delineated using a backhoe and soil samples were screened at regular intervals for both hydrocarbons and chlorides. The excavation reached dimensions of 16 x 16 x 16 feet bgs where composite samples were taken for laboratory verification. Laboratory tests of the site showed gasoline range organics (GRO) that were non-detect and diesel range organics (DRO) that were non-detect, with the exception of the remediated backfill which was 11.0 mg/kg. Laboratory chloride readings at the site were 3,240 mg/kg for the bottom composite, 3,640 mg/kg on the sidewall composite, and the remediated backfill had a reading of 144 mg/kg. At 16 feet bgs, a 1 ft thick clay layer was installed to inhibit further chloride migration. The soils were blended on site and the remediated backfill was returned to the excavation to bring it back to ground surface. The area was contoured to the surrounding landscape and an identification plate was placed on the surface of the site to mark its location for future environmental considerations. A junction box is no longer needed at the site. NMOCD was notified of potential groundwater impact on January

31st, 2003, and a junction box disclosure report was submitted to NMOCD with all the 2002 junction box closures and disclosures.

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on July 2nd, 2010 and approved on July 19th, 2010. The plan proposed additional investigation of the soils surrounding the former junction box and the installation of monitoring well(s) to delineate groundwater quality if warranted.

Per the ICP, nine soil bores were advanced through the former junction box site on September 13th and 14th, 2010. ROC personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID) for hydrocarbons. Representative samples from the bores were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers. Laboratory readings in SB-3, SB-5, SB-6, SB-7, SB-8 and SB-9 exhibited chloride concentrations that decreased with depth. Laboratory readings in SB-1 and SB-4 exhibited chloride concentrations that increased with depth. Laboratory readings for GRO and DRO were low, and BTEX readings were non-detect throughout all bores.

On January 13th, 2011, a monitor well was installed 26 ft southeast of the former junction box site. As the well was being installed, ROC personnel field tested the soil for chlorides and screened in the field for hydrocarbons with a photo-ionization detector (PID). Representative samples from the well were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers. Laboratory readings showed chloride numbers of 4,480 mg/kg at 10 ft bgs, 4,160 mg/kg at 75 ft bgs, and 1,390 mg/kg at 80 ft bgs. GRO and DRO readings were non-detect in all three samples.

On March 21st, 2011, an additional five soil bores (SB-10 through SB-15) were installed at the site. ROC personnel field tested the soil for chlorides and screened in the field with a photo-ionization detector (PID) for hydrocarbons. Representative samples from SB-11, SB-13, SB-14 and SB-15 were taken to a commercial laboratory for confirmation of chloride and hydrocarbon field numbers. Laboratory chloride readings significantly decreased with depth. SB-11 decreased from 1,060 mg/kg at 10 ft to 208 mg/kg at 35 ft, SB-13 decreased from 2,400 mg/kg at 5 ft to 160 mg/kg at 40 ft, SB-14 decreased from 7,360 mg/kg at 5 ft to 160 mg/kg at 40 ft, and SB-15 decreased from 688 mg/kg at 15 ft to 128 mg/kg at 30 ft. GRO and DRO readings for all laboratory samples showed non-detect.

On April 11th, 2012, ROC submitted an ICP Report and Corrective Action Plan (CAP) to NMOCD, which was approved on April 17th, 2012. The CAP proposed the plugging and abandonment of MW-1 with a 1-3% bentonite/concrete slurry with a 3 ft cap, because the well showed no impact to groundwater above WQCC standards for six quarters. Additional information describing the aquifer was submitted to NMOC on April 17th, 2012. The CAP also proposed installing a 20-mil, reinforced poly liner at 4-5 ft bgs that would measure 96 ft x 98 ft. The liner would cover all the soil bore points and extend past the farthest soil bores in each direction by five feet. The liner would cover the exiting 16 ft x 16 ft clay liner previously installed at 16 ft bgs. The liner would also

provide a barrier that would inhibit the downward migration of chlorides to groundwater. The soils placed above the liner would have a laboratory chloride reading no greater than 500 mg/kg and a field PID measurement below 100 ppm. Excavated soil would be evaluated for use as backfill, and any soil requiring disposal would be properly disposed of at a NMOCD approved facility. The surface soils over and surrounding the site would be prepared with soil amendments as needed and then seeded with a native vegetative mix. Vegetation above the liner would also provide a natural infiltration barrier for the site since plants capture water through their roots thereby reducing the volume of water moving through the vadose zone to groundwater.

CAP Report

On June 11th, 2012, RECS personnel were on site to plug and abandon MW-1 with a 1-3% bentonite/concrete slurry with a 3 foot concrete cap (Figure 2). Documentation of this activity can be found in Appendix A.

Beginning on February 5th, 2013, RECS personnel were on site to begin the excavation for 20-mil reinforced poly liner installation (Figure 2). The site was excavated to 96 ft x 98 ft to a depth of 5 ft. A total of 2,540 yards of excavated soil was taken to a NMOCD approved facility for disposal. Imported blow sand was used to pad the bottom of the excavation to protect the liner from punctures. A sample of the blow sand was field tested for hydrocarbons and returned a result of 3 ppm. The sample was then taken to a commercial laboratory for analysis of chlorides and TPH, which returned results of non-detect.

The liner was installed and properly seated into the excavation at approximately 4.5 ft bgs. The remainder of the blow sand was used to pad above the liner. Caliche was imported to the site and used to backfill the excavation up to 1 ft bgs. A sample of the caliche was field tested for hydrocarbons and returned a result of 0 ppm. The sample was then taken to a commercial laboratory for analysis of chlorides and TPH, which returned results of non-detect. Topsoil was imported to backfill the site to the surface and contour it to the surrounding location. A sample of the topsoil was field tested for hydrocarbons and returned a result of 3.0 ppm. The sample was taken to a commercial laboratory for analysis of chlorides and TPH which returned results of non-detect. Base coarse was imported to the site to rebuild and repair the lease roads. A sample of the base coarse was field tested for hydrocarbons and returned a result of 5.8 ppm. The sample was taken to a commercial laboratory and tested for chlorides and hydrocarbons, which returned a chloride result of 96 mg/kg and a TPH result of non-detect. The base coarse was water packed to provide a stable foundation for the lease road.

A silt net fence was placed around the excavation area to provide protection from wind erosion and maintain seed integrity. On April 3rd, 2012, RECS personnel were on site to prepare and seed the area. The site was disked and soil amendments were added to the top soil portions of the site. The site was seeded with a blend of native vegetation.

Documentation for the liner installation and seeding will be found in Appendix B.

ROC has completed the corrective actions as approved by NMOCD on April 17th, 2012. Therefore, ROC requests 'remediation termination' or similar closure status of the site.

RECS appreciates the opportunity to work with you on this project. Please call Hack Conder at (575) 393-9174 or me if you have any questions or wish to discuss the site.

Sincerely,

Lara Weinheimer
Project Scientist
RECS
(575) 441-0431

Attachments:

- Figure 1 – Site Location Map
- Figure 2 – NMOCD Approved Liner and P&A of MW-1
- Appendix A – Plug and Abandon Documentation
- Appendix B – Liner Installation and Seeding Documentation

Figures

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

Site Location

RICE ENVIRONMENTAL RECS CONSULTING & SAFETY, LLC

BD G-16 vent

Legals: UL/G sec. 16
T22S R37E
NMOCD Case #: 1R426-29

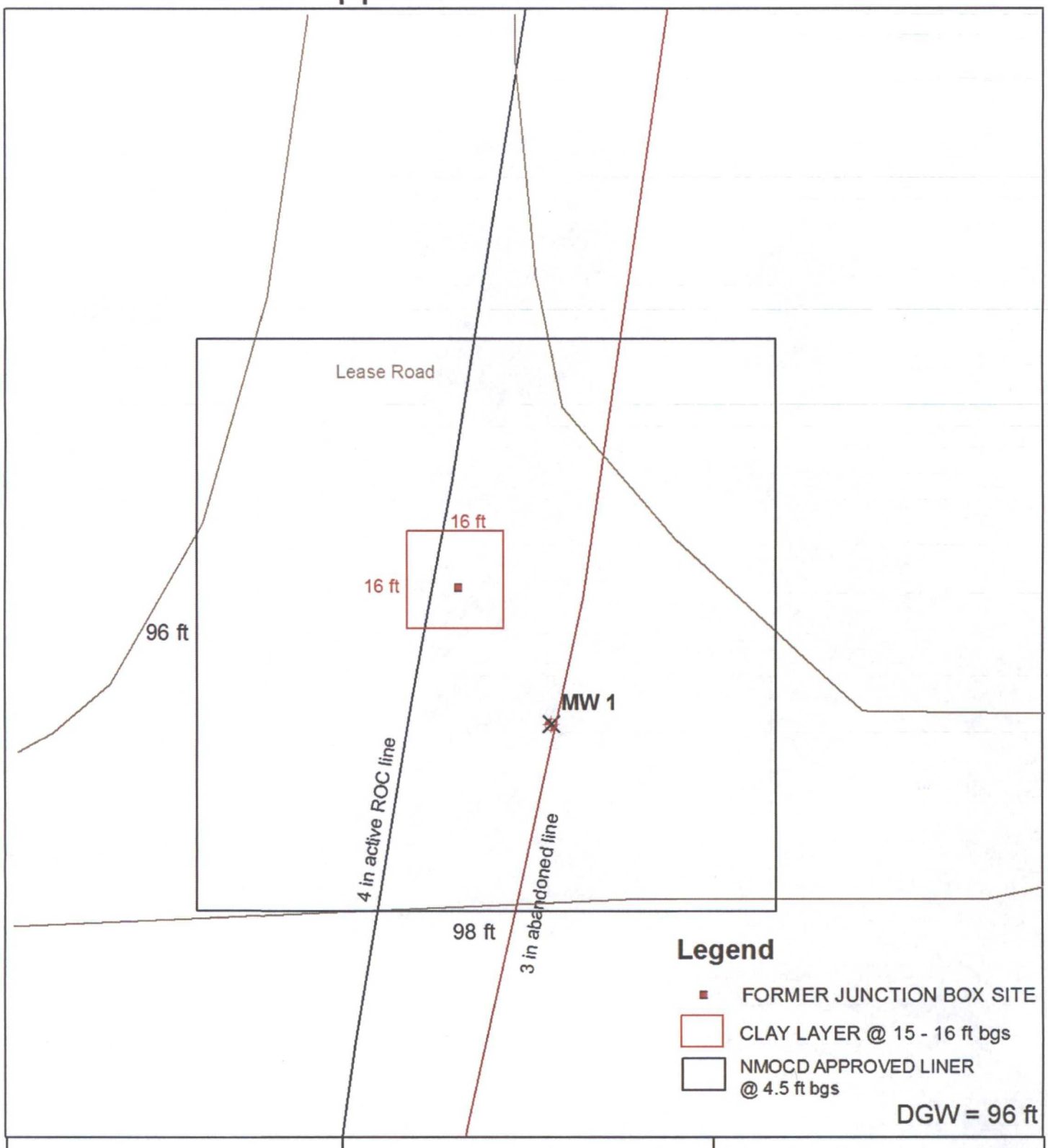
FIGURE 1

N
W E
S

0 0.5 1
Miles

Drawing date: 6/30/2010
Drafted by: L. Weinheimer

NMOCD Approved Liner and P&A of MW-1



RICE ENVIRONMENTAL CONSULTING & SAFETY, LLC

RECS

BD G-16 vent

NMOCD Case #: 1R426-29

Legals: UL/G sec. 16 T22S R37E

Figure 2

N W E S

0 10 20 40 Feet

Drawing date: 4/1/13
Drafted by: L. Weinheimer

Appendix A

Plug and Abandon Documentation

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

HARRISON & COOPER, INC.

Drilling & Pump Professionals

7414 85th Street, Lubbock, Texas 79424-4951

P.O. Box 96, Wolfforth, Texas 79382-0096

Ph: (806) 866-4026 Fax: (806) 866-4044 hcidrill.com

Plugging Report

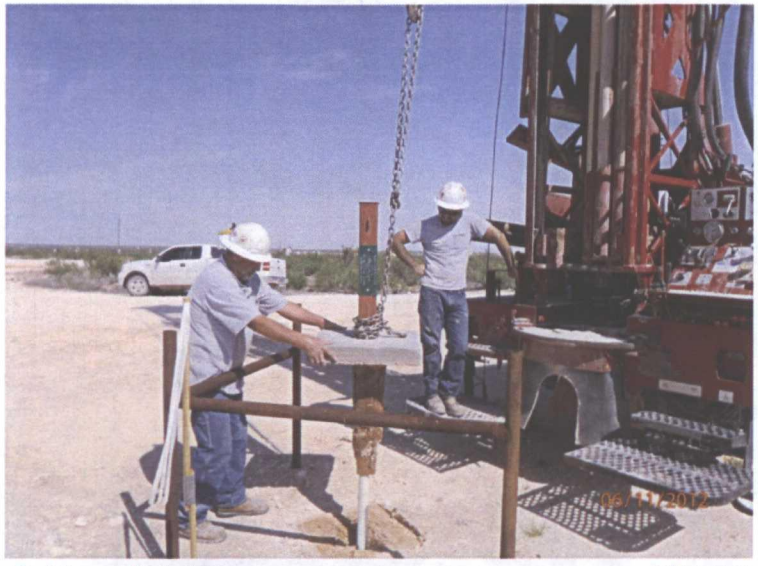
Client	Rice Operating
Contractor	Harrison & Cooper
Date Completed	6/11/12
Site	BD G-16 Vent
Well ID	MW-1
Casing Diameter	2"
Well Depth	97'
Casing Material	PVC
Plugging Material	Portland/Bentonite Slurry
Slurry Interval	3'-97'
Cement Interval	0'-3'

Copies: File
Email (Lara Weinheimer; Laura Pena)

BD G-16 vent

Unit Letter G, Section 16, T22S, R37E

Pulling MW-1, facing west 6/11/12



Pulling MW-1, facing west 6/11/12

Installing the 3 ft concrete cap, facing SW 6/11/12

Plug and abandon of MW-1 complete, facing S 6/11/12

Appendix B

Liner Installation and Seeding Documentation

RICE Environmental Consulting and Safety (RECS)
P.O. Box 5630 Hobbs, NM 88241
Phone 575.393.4411 Fax 575.393.0293

CARDINAL Laboratories

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

February 27, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD G-16 VENT

Enclosed are the results of analyses for samples received by the laboratory on 02/20/13 16:25.

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 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:	02/20/2013	Sampling Date:	02/20/2013
Reported:	02/27/2013	Sampling Type:	Soil
Project Name:	BD G-16 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T22S R37E SEC 16G - LEA CTY., NM		

Sample ID: BLOWSAND (H300473-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/25/2013	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/26/2013	ND	184	91.9	200	12.5	
DRO >C10-C28	<10.0	10.0	02/26/2013	ND	178	88.8	200	14.1	

Surrogate: 1-Chlorooctane	*77.9 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*90.8 %*	*63.6-154*

Sample ID: CALICHE (H300473-02)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	02/25/2013	ND	416	104	400	3.77	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	02/26/2013	ND	184	91.9	200	12.5	
DRO >C10-C28	<10.0	10.0	02/26/2013	ND	178	88.8	200	14.1	

Surrogate: 1-Chlorooctane	*78.2 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*95.9 %*	*63.6-154*

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

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	RICE Operating
Project Manager:	Hack Conder
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	
Project Location:	BD G-16 Vent
Sampler Name:	

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING DATE	SAMPLING TIME	Cl-	TPH										
H3004773																										
1	Blowsand	G	1			1					1		2/26/13	3:50	1	1										
2	Caliche	G	1			1					1		2/26/13	3:55	1	1										

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

Relinquished By:	Date: 2/26/13	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 4:25	Jodi Henson	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Hack Conder, Zach Conder, Bruce Baker, Lara W., Laura Perez
	Time:		

Delivered By: (Circle One)
Sampler - UPS - Bus - Other: 5°c

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

CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

#26

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

CK. MODEL NO.		MODEL: PGM 7300	SERIAL NO: 590-000508
		MODEL: PGM 7300	SERIAL NO: 590-000504
	X	MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-000183

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: HAL-248-100-1	EXPIRATION DATE: 7/1/2015
METER READING ACCURACY: 100	

ACCURACY : +/- 2%

COMPANY
RICE OPERATING

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	G-16 VENT	G	16	T-22-S	R-37-E

SAMPLE ID	PID	SAMPLE ID	PID
BLOWSAND	3		
CALICHE	0		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE: _____ DATE: 2/19/2013

CARDINAL Laboratories

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

March 06, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD G-16 VENT

Enclosed are the results of analyses for samples received by the laboratory on 02/28/13 16:50.

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

Received:	02/28/2013	Sampling Date:	02/28/2013
Reported:	03/06/2013	Sampling Type:	Soil
Project Name:	BD G-16 VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T22S R37E SEC 16G - LEA CTY., NM		

Sample ID: TOP SOIL (H300533-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	03/05/2013	ND	448	112	400	3.64	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/05/2013	ND	200	99.8	200	3.91	
DRO >C10-C28	<10.0	10.0	03/05/2013	ND	194	96.9	200	5.69	

Surrogate: 1-Chlorooctane	*101 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*110 %*	*63.6-154*

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	RICE Operating
Project Manager:	Hack Conder
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	BD G-16 Vent
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cl-	TPH
H3008833-1	Topsoil	C	1			1					1		2/25/13	3:35	1	1
													2/26/13			

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

Relinquished By:	Date: 2/28/13	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 4:30		Fax Result: ☐ Yes ☐ No Add'l Fax #:
Relinquished By:	Date:	Received By:	REMARKS: Hack Conder, Zach Conder, Bruce Baker, Lara Lu, Laura Pena, Katie Jones
	Time:		

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

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

CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

#210

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

CK.		MODEL: PGM 7300	SERIAL NO: 590-000508
MODEL		MODEL: PGM 7300	SERIAL NO: 590-000504
NO.	X	MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-000183

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: HAL-248-100-1	EXPIRATION DATE: 7/1/2015
METER READING ACCURACY: 100	

ACCURACY : +/- 2%

COMPANY
RICE OPERATING

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	G-16 VENT	G	16	T-22-S	R-37-E

SAMPLE ID	PID	SAMPLE ID	PID
TOP SOIL	3		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE: _____ DATE: 2/28/2013

CARDINAL Laboratories

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

March 08, 2013

Hack Conder

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: BD G-16 VENT

Enclosed are the results of analyses for samples received by the laboratory on 03/05/13 16:35.

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.

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Method EPA 524.4	Regulated VOCs (V1, V2, V3)

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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:	03/05/2013	Sampling Date:	03/05/2013
Reported:	03/08/2013	Sampling Type:	Soil
Project Name:	BD G-16 VENT	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T22S R37E SEC 16G - LEA CTY., NM		

Sample ID: BASE COARSE (H300560-01)

Chloride, SM4500Cl-B mg/kg **Analyzed By: DW**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	03/06/2013	ND	432	108	400	0.00	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10	<10.0	10.0	03/06/2013	ND	216	108	200	1.28	
DRO >C10-C28	<10.0	10.0	03/06/2013	ND	216	108	200	3.24	

Surrogate: 1-Chlorooctane	*87.8 %*	*65.2-140*
Surrogate: 1-Chlorooctadecane	*102 %*	*63.6-154*

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

Cardinal Laboratories

*=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name:	XTO Energy
Project Manager:	Zack Conder
Address:	
City:	State: Zip:
Phone #:	Fax #:
Project #:	Project Owner:
Project Name:	BD 6-16 Vent
Project Location:	
Sampler Name:	

BILL TO

P.O. #:	
Company:	
Attn:	
Address:	
City:	
State: Zip:	
Phone #:	
Fax #:	

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER:	PRESERV.: ACID/BASE:	ICE / COOL	OTHER:	SAMPLING: DATE	TIME	Cl	TPH
H300566-1	Basic Coarse	G	1			1					1		3/5/13	3:13	1	1

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

Relinquished By:	Date: 3/5/13	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Time: 4:35	Received By:	Fax Result: ☐ Yes ☐ No Add'l Fax #:
	Date:		REMARKS: Hack Conder, Zack Conder, Bruce Baker, Lara W, Laura Pena, Katie Jones
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Time:		

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

CHECKED BY: (Initials)

† Cardinal cannot accept verbal changes. Please fax written changes to (575) 393-2326

#26

RICE ENVIRONMENTAL CONSULTING & SAFETY

122 West Taylor Hobbs, NM 88240
PHONE: (505) 393-9174 FAX: (505) 397-1471
PID METER CALIBRATION & FIELD REPORT FORM

CK. MODEL NO.		MODEL: PGM 7300	SERIAL NO: 590-000508
		MODEL: PGM 7300	SERIAL NO: 590-000504
	X	MODEL: PGM 7320	SERIAL NO: 592-903318
		MODEL: PGM 7300	SERIAL NO: 590-000183

GAS COMPOSITION: ISOBUTYLENE 100PPM / AIR: BALANCE

LOT NO: HAL-248-100-1	EXPIRATION DATE: 7/1/2015
METER READING ACCURACY: 100	

ACCURACY : +/- 2%

COMPANY
RICE OPERATING

SYSTEM	JUNCTION	UNIT	SECTION	TOWN SHIP	RANGE
BD	G-16 VENT	G	16	T-22-S	R-37-E

SAMPLE ID	PID	SAMPLE ID	PID
BASE COARSE	0		

I verify that I have calibrated the above instrument in accordance to the manufacture operation manual.

SIGNATURE: _____ DATE: 3/5/2013

BD G-16 vent (1R426-29)
Unit G, Section 16, T22S, R37E

site prior, facing east 9/19/2012

beginning the excavation, facing south 2/6/2013

excavating and exporting the excavated soil, facing south 2/15/2013

completing the 98x96-ft excavation to a depth of 5 ft bgs, facing southeast 2/18/2013

importing blow sand, facing west 2/19/2013

padding the bottom of the excavation with blow sand, facing east 2/19/2013

98x96-ft, 20-mil reinforced liner installed at 4.5 ft bgs, facing north 2/19/2013

padding above the liner with blow sand, facing south 2/19/2013

importing and backfilling the excavation with caliche, facing south 2/21/2013

backfilling with caliche, facing south 2/27/2013

importing top soil, facing south 3/1/2013

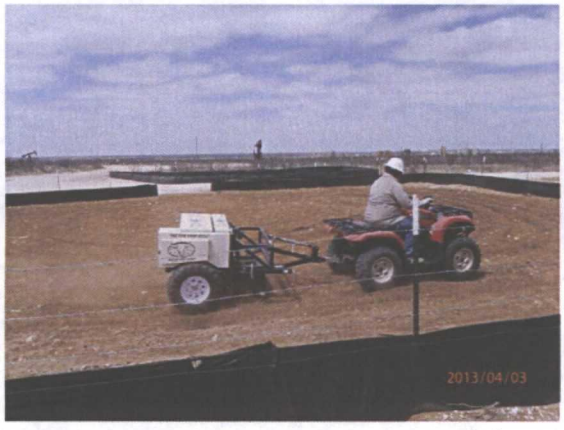
spreading top soil, facing south 3/4/2013

importing base coarse to repair the lease road, facing west 3/5/2013

repairing the lease road with imported base coarse, facing south 3/5/2013

spreading amendments, facing south 4/3/2013

spreading seed, facing south 4/3/2013



spreading seed, facing west 4/3/2013

site complete, facing west 4/3/2013

PO Box 5630
Hobbs, NM 88241
Phone: (575) 393-4411
Fax: (575) 393-0293

REVEGETATION FORM

1. General Information

Site name: BD G-16 vent						
U/L G	Section 16	Township T22S	Range R37E	County Lea	Latitude N32°23.608'	Longitude W103°09.878'
Contact Name: ZACHARY CONDER						
Email: zconder@rice-ecs.com						
Site size: 8,000 square feet			Map detail of site attached ☐			
Additional information:						

2. Soils **Do not rip caliches subsoils: caliche rocks brought to the surface by ripping shall be removed.*

Salvaged from site ☐	Bioremediated ☐	Imported ☒	Blended ☐	Depth (in):
Texture:	Describe soil & subsoil:			
Soil prep methods:	Rip ☐ Depth(in):	Disc ☐ Depth (in):		Roller pack ☐
Date completed: 3/5/2013				

3. Bioremediation

Fertilizer ☒ 2 bags of manure	Hay ☐	Other ☒
Type:		Describe: 8 bags of RestorNhance, 8 bags of Pete Moss
Lbs/acre:		

4. Seeding **Attach seed bag tags to this form. Seed bag tags shall contain the site name and S-T-R.*

Custom seed mix ☒	Prescribed mix ☐	Seed mix name: 8 lbs. Lea County Mix, 8 lbs. Side Oats, and 8 lbs. Blue Grama Seeding date: 4/3/2013
Broadcast ☒ Method: Mechanical Drop Seeder		
Soil conditions during seeding:	Dry ☒ Damp ☐ Wet ☐	
Photos attached ☐ Number of photos:	Observations:	

5. Certification I hereby certify that the information in this form and attachments is true and complete to the best of my knowledge and belief.

Name: Eduardo Garcia	Title: Environmental Tech	Date: 4-3-13
Signature: Eduardo Garcia		