

1RP-423-8

**2013 Annual
Groundwater Report
Justis D-1**

**DATE:
March 27, 2014**

From: [Hall, Sharon](#)
To: [Lowe, Leonard, EMNRD](#)
Cc: [VonGonten, Glenn, EMNRD](#); [Hack Conder, Katie Jones](#)
Subject: ROC Annual Groundwater Report for Justis D-1 Vent site (NMOCD case#1R423-08)
Date: Thursday, March 27, 2014 1:16:06 PM
Attachments: [Justis D-1 Vent 2013 Annul report.pdf](#)

Mr. Lowe,

Attached is the 2013 Annual Groundwater Report for Justis D-1 Vent site (NMOCD case#1R423-08).

Annual Reports are submitted yearly to update the NMOCD about groundwater quality and groundwater recovery, if applicable, for a particular site. This report does not require NMOCD approval; therefore, a flow chart is not included.

If you have any questions please contact Hack.

Regards,

Sharon

Sharon Hall | Associate Vice President | Sharon.Hall@arcadis-us.com
ARCADIS U.S., Inc. | 1004 N. Big Spring St., Suite 300 | Midland, Texas 79701
T. 432.687.5400 | F. 432.687.5401 www.arcadis-us.com
ARCADIS, Imagine the result
Please consider the environment before printing this email.

NOTICE: This e-mail and any files transmitted with it are the property of ARCADIS U.S., Inc. and its affiliates. All rights, including without limitation copyright, are reserved. The proprietary information contained in this e-mail message, and any files transmitted with it, is intended for the use of the recipient(s) named above. If the reader of this e-mail is not the intended recipient, you are hereby notified that you have received this e-mail in error and that any review, distribution or copying of this e-mail or any files transmitted with it is strictly prohibited. If you have received this e-mail in error, please notify the sender immediately and delete the original message and any files transmitted. The unauthorized use of this e-mail or any files transmitted with it is prohibited and disclaimed by ARCADIS U.S., Inc. and its affiliates. Nothing herein is intended to constitute the offering or performance of services where otherwise restricted by law.



Infrastructure, buildings, environment, communications

Mr. Leonard Lowe
New Mexico Oil Conservation Division
1220 So. Saint Francis Drive
Santa Fe, New Mexico 87505

ARCADIS U.S., Inc.
1004 N. Big Spring Street
Suite 300
Midland Texas 79701
Tel 432.687.5400
Fax 432.687.5401
www.arcadis-us.com

Subject:
2013 ANNUAL GROUNDWATER REPORT
NMOCD Case # 1R423-08
Justis D-1 vent
T25S, R37E, Section 1, Unit D, Lea County, New Mexico

Mr. Lowe,

Date:
March 27, 2014

On behalf of Rice Operating Company (ROC), ARCADIS respectfully submits this 2013 Annual Groundwater Report for the Justis D-1 Vent site located in the Justis Salt Water Disposal (SWD) System.

Contact:
Sharon Hall

An Investigation and Characterization Work Plan (ICP) was submitted to the New Mexico Oil Conservation Division (NMOCD) on April 30, 2008 and approved on May 21, 2008. As part of the approved ICP, ROC was onsite to install one monitor well and three soil borings on June 15, 2009. During a site visit to the property, ROC personnel observed apparent up gradient monitor wells along an adjacent pipeline.

Phone:
432 687-5400

Email:
shall@arcadis-us.com

In order to delineate chloride impacted soils at the site, ROC was onsite on October 16, 2012 to install two additional soil borings (SB-4 and SB-5) to a depth of 80 feet below ground surface (bgs). Samples were collected from cuttings from both borings at 5 foot intervals and screened for hydrocarbons with a Photoionization Detector (PID) and for chlorides with field test kits. A confirmation sample was collected from both borings (SB-4 at 20 and 80 feet bgs and SB-5 at 25 and 80 feet bgs) and submitted to Cardinal Labs in Hobbs, New Mexico for analysis for chlorides using EPA method SM4500Cl-B and total petroleum hydrocarbons (TPH) using EPA Method 8015M. Both the chloride field test results and the laboratory analysis indicate the soils are impacted from the surface to a depth of 80 feet with elevated chlorides. Both PID and laboratory analysis confirm that TPH is below regulatory standards. Monitor well MW-1 was sampled quarterly per NMOCD guidelines. The attached table summarizes the analytical results from groundwater samples collected from the monitor well at the site.

Quarterly groundwater sampling will continue in 2014.

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


Part of a bigger picture

System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis.

Thank you for your consideration concerning this summary of groundwater monitoring information. If you have any questions please do not hesitate to contact me or Hack Conder.

Best Regards,

ARCADIS U.S, Inc.



Sharon E. Hall
Associate Vice President

Copies: Hack Conder- ROC

Glenn Von Gonten-NMOCD

Attachments:

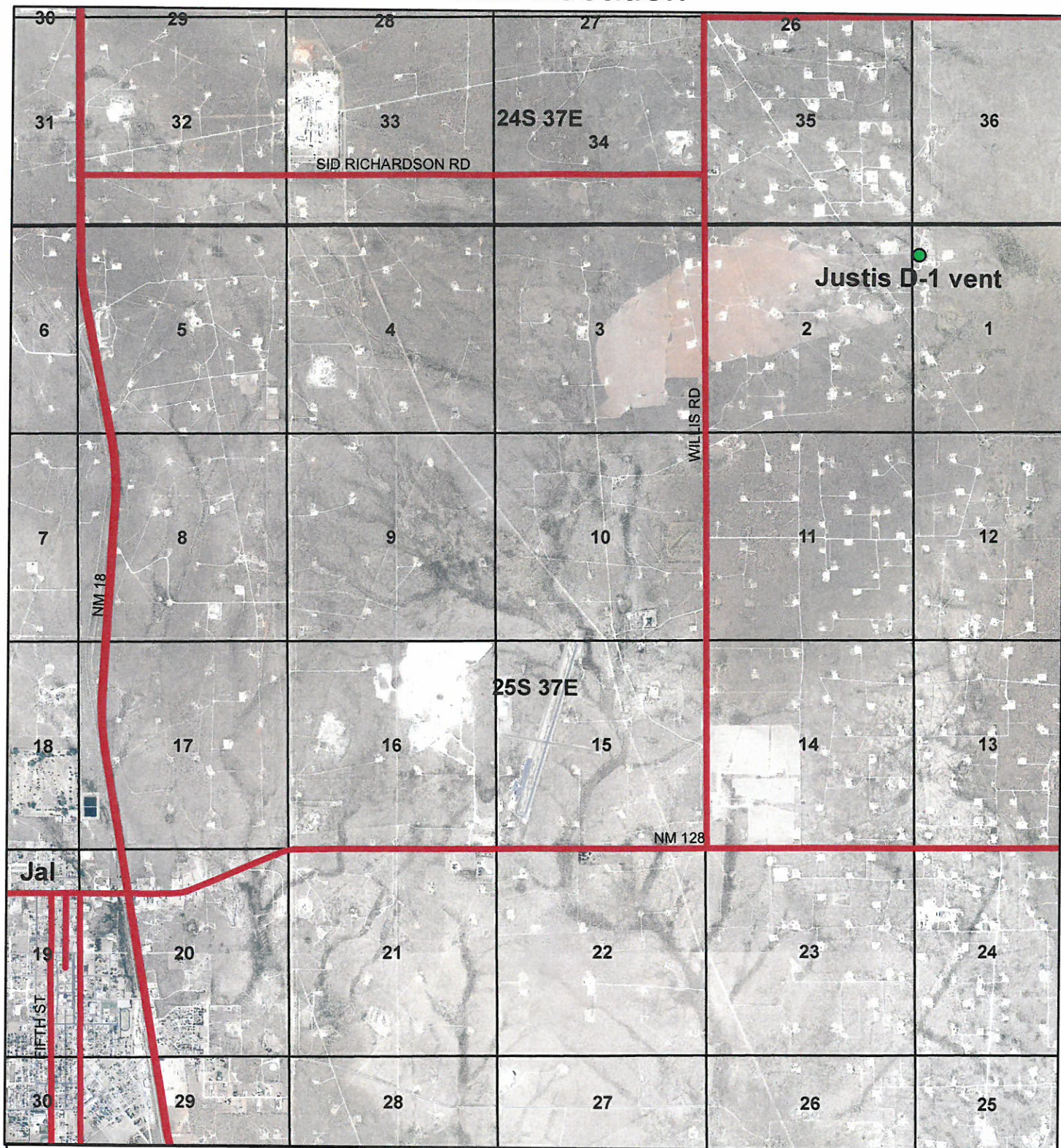
Site Location Map

Monitor Well Location Figure

Monitor Well Summary Table

November 2013 Monitor Well Lab Results

Site Location



RECS
RICE ENVIRONMENTAL
CONSULTING & SAFETY

Justis D-1 vent

LEGALS: UL/D sec. 1
T-25-S R-37-E
LEA COUNTY, NM

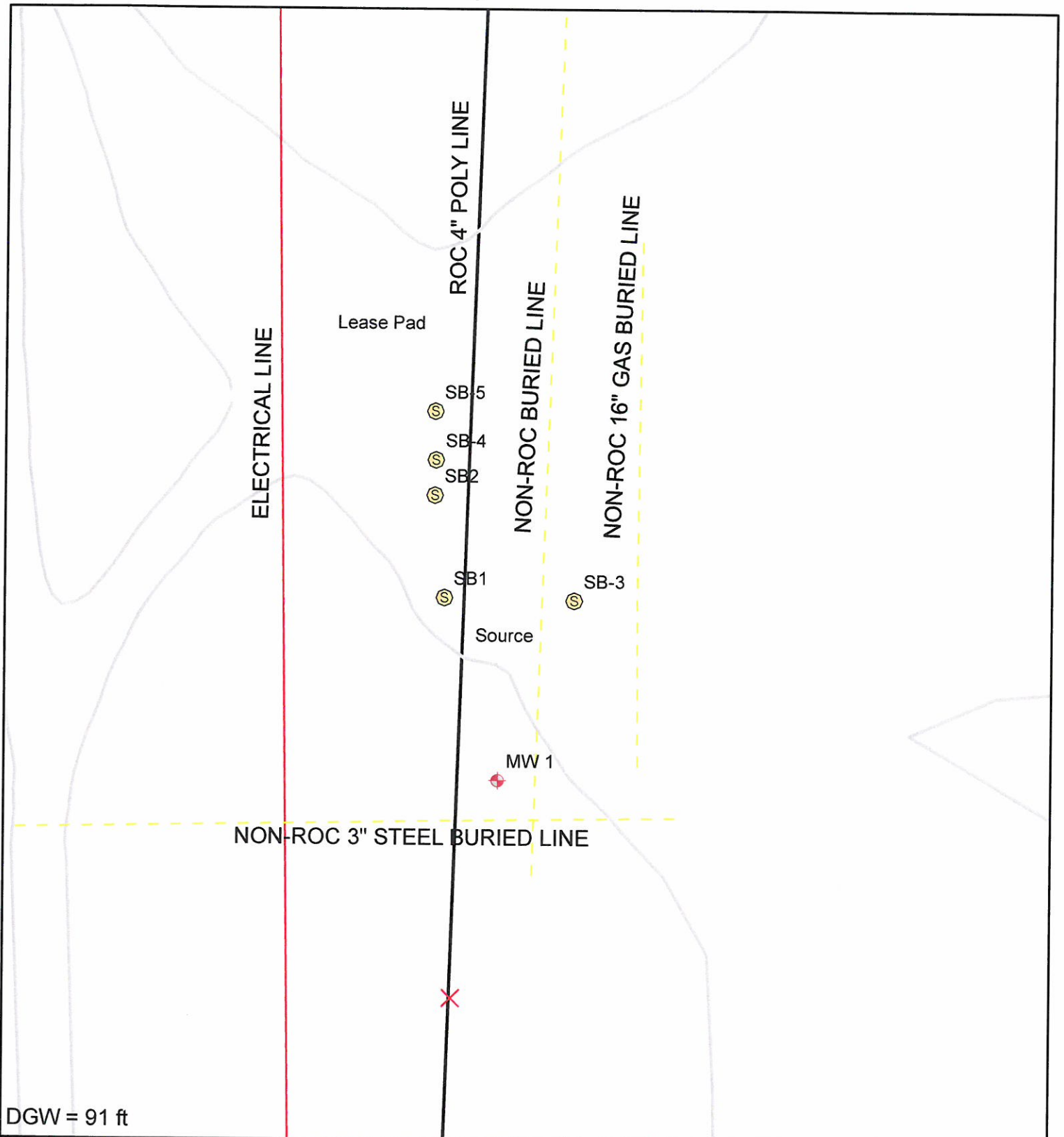
NMOCD CASE #: 1R423-08



0 0.5 1
Miles

Drawing date: 3/26/14
Drafted by: L. Flores

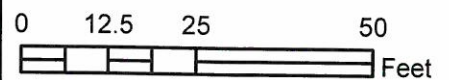
Monitoring Well Location



Justis D-1 vent

LEGALS: UL/D sec. 1
T-25-S R-37-E
LEA COUNTY, NM

NMOCD CASE #: 1R423-08



Drawing date: 3/26/14
Drafted by: L. Flores

ROC - Justis D-1 vent (1R423-08)

Unit Letter D, Section 1, T25S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	91.43	99.39	1.3	5	9/8/2009	500	1280	<0.001	<0.001	<0.001	<0.003	124	Clear No odor
1	91.41	99.39	1.3	5	7/9/2009	2460	4560	<0.001	<0.001	<0.001	<0.003	173	Clear No odor
1	91.42	99.39	1.3	5	11/17/2009	580	1290	<0.001	<0.001	<0.001	<0.003	82.4	Clear No odor
1	91.38	99.4	1.3	5	3/8/2010	1170	2770	<0.001	<0.001	<0.001	<0.003	149	Clear No odor
1	91.39	99.4	1.3	5	6/2/2010	580	1530	<0.001	<0.001	<0.001	<0.003	151	Clear No odor
1	91.44	99.4	1.3	5	8/26/2010	850	2150	<0.001	<0.001	<0.001	<0.003	143	Clear No odor
1	91.48	99.4	1.3	5	12/1/2010	790	1750	<0.001	<0.001	<0.001	<0.003	200	Clear No odor
1	91.4	99.4	1.3	6	3/24/2011	800	1930	<0.001	<0.001	<0.001	<0.001	138	Clear No odor
1	91.39	99.4	1.3	6	6/10/2011	780	2020	<0.001	<0.001	<0.001	<0.003	149	Clear No odor
1	91.42	99.4	1.3	6	9/14/2011	1060	2120	<0.001	<0.001	<0.001	<0.003	168	Clear No odor
1	91.41	99.4	1.3	6	12/8/2011	1380	2710	<0.001	<0.001	<0.001	<0.003	123	Clear No odor
1	91.38	99.4	1.3	6	3/8/2012	880	2090	<0.001	<0.001	<0.001	<0.003	269	Clear No odor
1	91.44	99.4	1.3	6	6/5/2012	1060	2530	<0.001	<0.001	<0.001	<0.003	354	Clear No odor
1	91.36	99.4	1.3	6	9/21/2012	850	2360	<0.001	<0.001	<0.001	<0.003	192	Clear No odor
1	91.54	99.4	1.3	6	11/27/2012	1100	2230	<0.001	<0.001	<0.001	<0.003	108	Clear No odor
1	91.61	99.4	1.2	6	2/27/2013	1200	2140	<0.001	<0.001	<0.001	<0.003	119	Clear No odor
1	91.65	99.4	1.2	6	6/14/2013	1040	2170	<0.001	<0.001	<0.001	<0.003	170	Clear No Odor
1	91.72	99.4	1.2	6	9/12/2013	1260	2900	<0.001	<0.001	<0.001	<0.003	79.1	Clear No Odor
1	91.78	99.4	1.2	6	11/21/2013	1100	2690	<0.001	<0.001	<0.001	<0.003	95.3	Clear No odor



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

December 05, 2013

Hack Conder
Rice Operating Company
112 W. Taylor
Hobbs, NM 88240

RE: JUSTIS D-1 VENT

Enclosed are the results of analyses for samples received by the laboratory on 11/21/13 14:13.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. 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 accredited 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
Lab Director/Quality Manager

Analytical Results For:

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

Received: 11/21/2013
Reported: 12/05/2013
Project Name: JUSTIS D-1 VENT
Project Number: NOT GIVEN
Project Location: T25S-R37E-SEC1 D - LEA CTY., NM

Sampling Date: 11/21/2013
Sampling Type: Water
Sampling Condition: Cool & Intact
Sample Received By: Celey D. Keene

Sample ID: MONITOR WELL #1 (H302859-01)
BTEX 8021B

mg/L

Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	11/24/2013	ND	0.056	113	0.0500	0.721	
Toluene*	<0.001	0.001	11/24/2013	ND	0.056	111	0.0500	0.0556	
Ethylbenzene*	<0.001	0.001	11/24/2013	ND	0.055	111	0.0500	0.123	
Total Xylenes*	<0.003	0.003	11/24/2013	ND	0.163	108	0.150	0.0111	
Total BTEX	<0.006	0.006	11/24/2013	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 111 % 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*	1100	4.00	11/25/2013	ND	104	104	100	0.00	

Sulfate 375.4

mg/L

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	95.3	25.0	12/05/2013	ND	20.3	102	20.0	4.58	

TDS 160.1

mg/L

Analyzed By: AP

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	2690	5.00	12/02/2013	ND	248	103	240	1.34	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

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

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



Celey D. Keene, Lab Director/Quality Manager

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

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

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:

Justis D-1 Vent

Project Location:

T25S-R37E-Sec1 D ~ Lea County - New Mexico

Sample Signature: Rozanne Johnson (575) 393-8310

rozanne@valmet.com

LAB #

FIELD CODE

LAB USE ONLY
H302854

Monitor Well #1

G

3

X

2

1

11-21

12:45

TIME

MTBE 8021B/602

X

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)

X

Sulfates

X

Total Dissolved Solids

X

Chlorides

Turn Around Time ~ 24 Hours

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB Order ID #

Relinquished By: Rozanne Johnson
Date: 11-21-2013
Time: 14:12

Received by: *[Signature]*
Date: 11-21-2013
Time: 14:13

Delivered By: (Circle One)

Sample: - UPS - Bus - Other:

Sample Condition
Yes ☒ No ☐
Cool ☒ Intact ☒
Yes ☒ No ☐

CHECKED BY:

(Initials)

[Signature]

REMARKS:

Email Results to:

hconder@riceswd.com

weinheimer@rice-ecs.com

kiones@riceswd.com

rozanne11@windstream.net