



Infrastructure, buildings, environment, communications

Dr. Tomas Oberding
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:
2014 ANNUAL GROUNDWATER REPORT
NMOCD Case # 1R423-08
Justis D-1 vent
T25S, R37E, Section 1, Unit D, Lea County, New Mexico

Dr. Oberding,

On behalf of Rice Operating Company (ROC), ARCADIS respectfully submits this 2014 Annual Groundwater Report for the Justis D-1 Vent site located in the Justis Salt Water Disposal (SWD) System.

One monitoring well was installed on June 15, 2009, following the approval of the Investigation and Characterization Plan on May 21, 2008. During a site visit to the property, ROC personnel observed apparent up gradient monitor wells along an adjacent pipeline. ROC will review the data and submit a report with recommendations

MW-1 was sampled quarterly in 2014 per NMOCD guidelines. The attached table summarizes the analytical results from the groundwater samples collected from the monitor well at the site. Quarterly groundwater sampling will continue in 2015.

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 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 at (432) 687-5400 or Katie Jones at (575) 393-9174.

Best Regards,

ARCADIS U.S, Inc.

A handwritten signature in blue ink that reads "Sharon E. Hall".

Sharon E. Hall
Associate Vice President

Date:
March 18, 2014

Contact:
Sharon Hall

Phone:
432 687-5400

Email:
shall@arcadis-us.com

Copies: Katie Jones- ROC

Attachments:

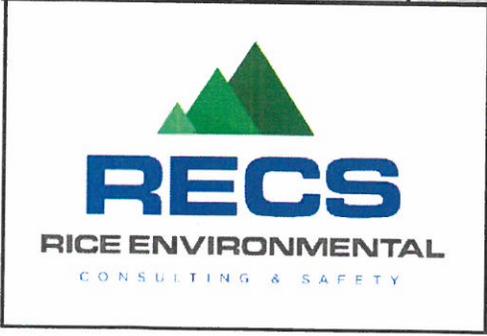
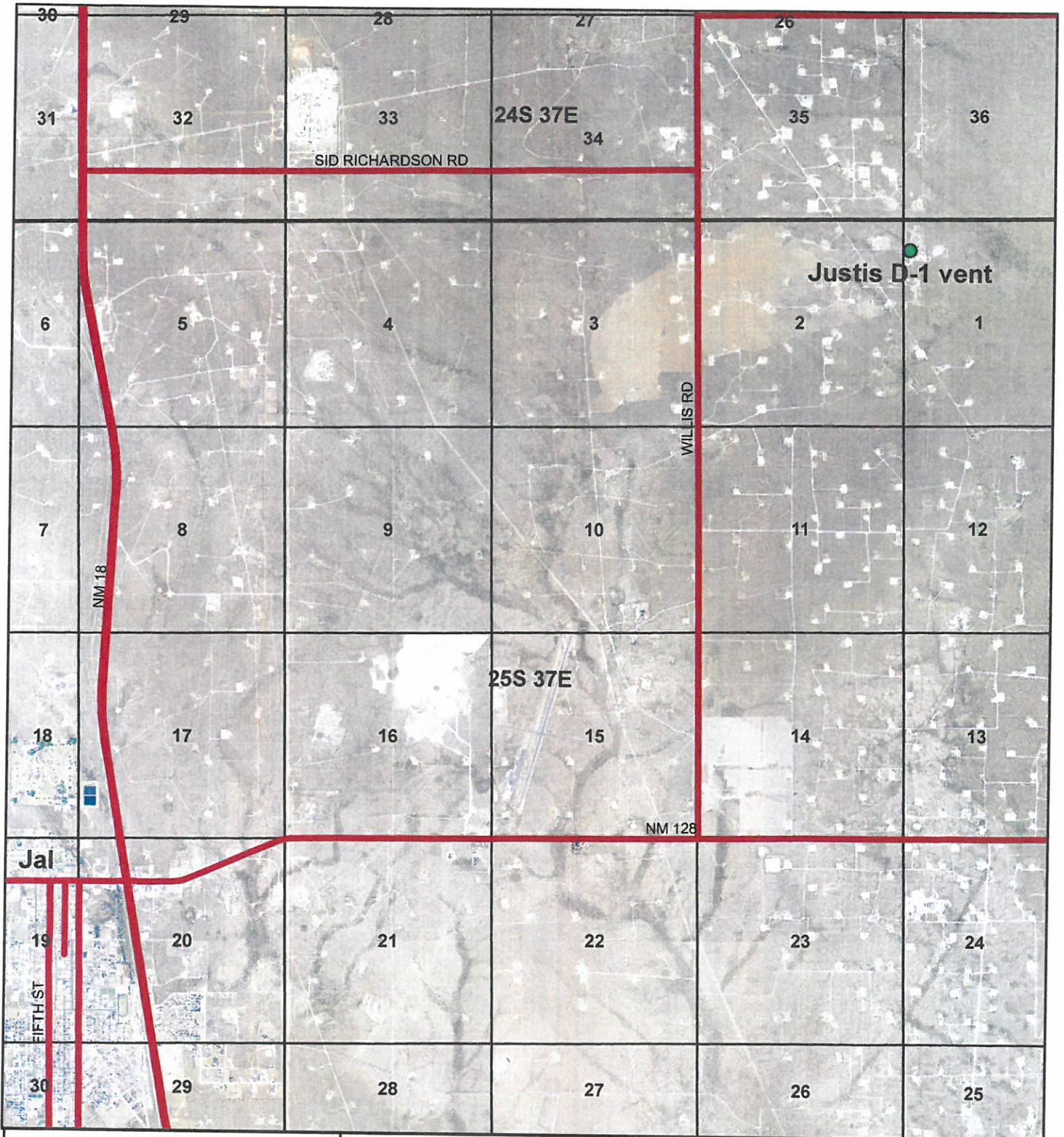
Site Location Map

Monitor Well Location Figure

Monitor Well Summary Table

December Monitor Well Lab Results

Site Location

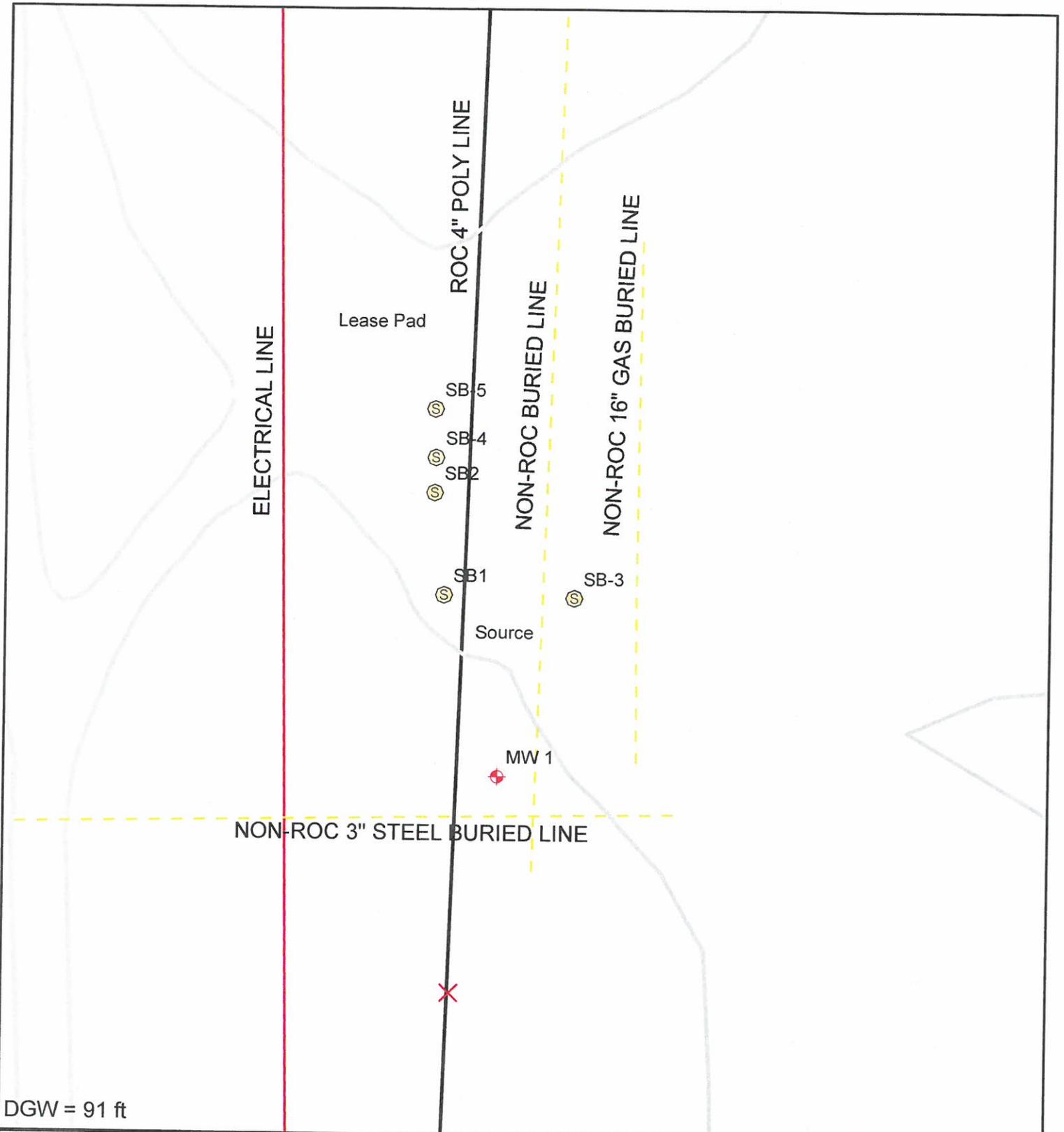


**Justis
D-1 vent**
LEGALS: UL/D sec. 1
T-25-S R-37-E
LEA COUNTY, NM
NMOCD CASE #: 1R423-08

0 0.5 1 Miles

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

Monitoring Well Location



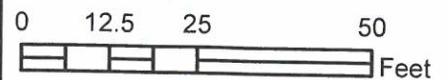
DGW = 91 ft



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
1	91.84	99.4	1.2	6	3/18/2014	1280	2470	<0.001	<0.001	<0.001	<0.003	107	Clear No odor
1	91.86	99.4	1.2	6	6/20/2014	1400	3290	<0.001	<0.001	<0.001	<0.003	160	Clear No odor
1	91.99	99.4	1.2	6	8/29/2014	1260	2690	<0.001	<0.001	<0.001	<0.003	99.6	Clear No odor
1	92.08	99.4	1.2	6	12/16/2014	1240	2520	<0.001	<0.001	<0.001	<0.003	79	Clear No odor

December 23, 2014

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 12/17/14 16:46.

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: 12/17/2014
 Reported: 12/23/2014
 Project Name: JUSTIS D-1 VENT
 Project Number: NOT GIVEN
 Project Location: T25S-R37E-SEC1 D - LEA CTY., NM

 Sampling Date: 12/16/2014
 Sampling Type: Water
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: MONITOR WELL #1 (H403853-01)

BTEX 8260B		mg/L		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.001	0.001	12/19/2014	ND	0.021	103	0.0200	3.33		
Toluene*	<0.001	0.001	12/19/2014	ND	0.021	106	0.0200	3.19		
Ethylbenzene*	<0.001	0.001	12/19/2014	ND	0.021	105	0.0200	3.57		
Total Xylenes*	<0.003	0.003	12/19/2014	ND	0.063	105	0.0600	5.70		
Total BTEX	<0.006	0.006	12/19/2014	ND						

Surrogate: Dibromofluoromethane 104 % 88.3-113
 Surrogate: Toluene-d8 98.9 % 90.3-115
 Surrogate: 4-Bromofluorobenzene 101 % 87.2-114

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	1240	4.00	12/19/2014	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*	79.0	25.0	12/22/2014	ND	16.4	82.0	20.0	5.86		

TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	2520	5.00	12/18/2014	ND	458	86.9	527	2.18		

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
Tel: (575) 393-2325
Fax: (575) 393-2478

Cardinal Laboratories, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

ANALYSIS REQUEST

(Circle or Specify Method No.)

Company Name: **RICE Operating Company** BILL TO Company: **RICE Operating Company** PO# _____

Project Manager: **Hack Conder** Address: **122 W Taylor Street ~ Hobbs, New Mexico 88240** (Street, City, Zip)

Address: **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: **T255-R37E-Sect 1 D ~ Lea County - New Mexico** Sampler Signature: *[Signature]* Rozanne Johnson (575) 393-9310

rozanne@valmet.com

LAB # (LAB USE ONLY)	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	MATRIX				PRESERVATIVE METHOD				SAMPLING				
				WATER	SOIL	AIR	SLUDGE	HCL (2 40ml VOA)	HNO ₃	NaHSO ₄	H ₂ SO ₄	ICE (1-1 Liter HDPE)	NONE	DATE (2014)	TIME	
H403653	Monitor Well #1	G	3	X						2					12/16 13:05	

	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, SO ₄ , CO ₃ , HCO ₃)	
X	Sulfates	
X	Total Dissolved Solids	
X	Chlorides	
	Turn Around Time ~ 24 Hours	

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<i>[Signature]</i>	12/16/14	16:45	<i>[Signature]</i>	12/17/14	16:46

Relinquished by: **Rozanne Johnson** Date: **12/16/14** Time: **16:45**

Received By: (Laboratory Staff) **Rozanne Johnson** Date: **12/17/14** Time: **16:46**

Delivered By: (Circle One) **UPS - Bus - Other** Checked By: *[Signature]* (Initials) **RA**

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

Email Results to: **hconder@riceswd.com**
weinheimer@rice-ecs.com
klones@riceswd.com
rozanne11@windstream.net