RICE *Operating Company*
112 West Taylor • Hobbs, New Mexico 88240
Phone: (575) 393-9174 • Fax: (575) 397-1471

April 1, 2020

Bradford Billings
New Mexico Oil Conservation Division
1220 So. St. Francis Drive
Santa Fe, New Mexico 87505

RE: **2019 Annual Groundwater Report**
Rice Operating Company – Justis SWD System
Justis H-2 (AP-49): UL H, Section, 2, T26S, R37E

Mr. Billings:

ROC is the service provider (agent) for the Justis Saltwater 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.

A Stage 2 Abatement Plan was prepared and submitted to the New Mexico Oil Conservation Division (NMOCD) on May 25, 2006. On June 7, 2006, NMOCD certified the plan as Administratively Complete. A public notice was submitted and approved on July 21, 2006. Final approval for the Stage 2 Abatement Plan was received on October 3, 2006. The abatement system, consisting of a solar/wind powered pump and Reverse Osmosis (R/O) system, was installed on November 6, 2006. Since startup in 2007, a total of 176,271.8 gallons of groundwater has been removed from MW-2 and MW-2R, 68,152.3 gallons re-injected, 106,029.5 gallons disposed into the permitted SWD well on site. Groundwater was not recovered in 2015 and 2016 due to equipment failure. Groundwater recovery began again in 2017 and continued in 2018. Since groundwater recovery began in 2017, an additional 65,630 gallons of groundwater have been removed and utilized for a beneficial use.

On July 16, 2009, a formal request was submitted to NMOCD for suspension of further sampling of BTEX and sulfate at the site. In an email dated January 26, 2012, the NMOCD granted suspension of BTEX sampling at this site.

All wells were sampled quarterly in 2019 per NMOCD guidelines. The attached tables and graph summarize the analytical results from groundwater samples collected from the monitor wells at the site.

Due to the current climate, and in the interest of safety, ROC is proposing to reduce groundwater monitoring from quarterly to semi-annually for the remainder of this year. In addition, ROC is proposing to suspend groundwater recovery for this year. These proposals are only temporary and regularly scheduled groundwater monitoring and recovery will commence as soon as possible.

Attached is the Appendix, which contains:

1. A Geographical Location Map.
2. A map showing well locations.
3. A table presenting all laboratory results and depth to groundwater for the well at the site, and a graph showing recent laboratory results.
4. The laboratory analytical results for 2019.

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 (575) 393-9174 or Edward Hansen at (505) 920-4965.

Sincerely,

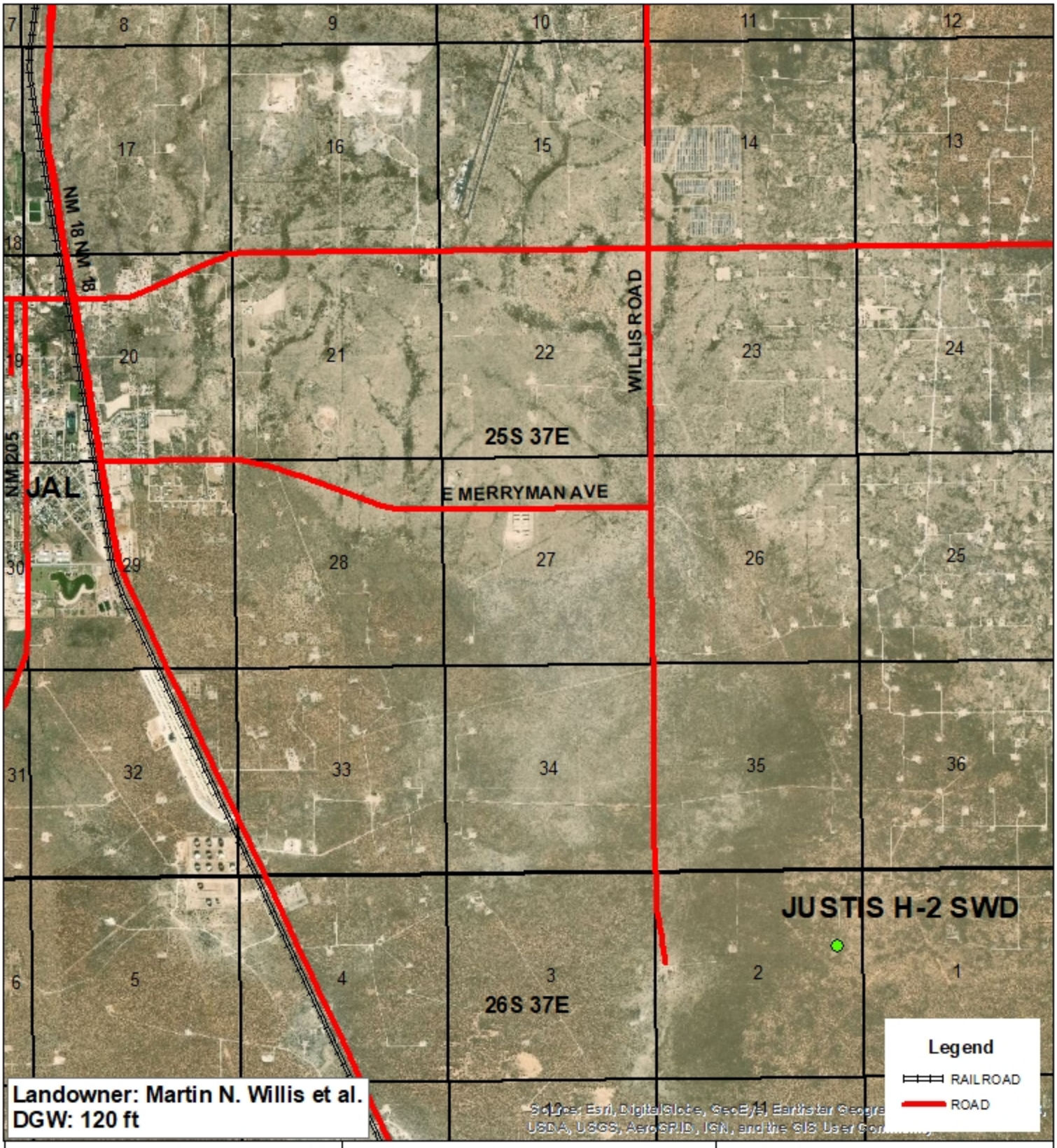
Katie Davis

Katie Davis
Environmental Manager
RICE Operating Company (ROC)

Cc – Edward J. Hansen (ROC)

appendix

Geographic Location



RICE OPERATING COMPANY
ROC
SINCE 1955

JUSTIS H-2 SWD

AP-49

UL/H SECTION 2
T-26-S R-37-E
LEA COUNTY, NM

GPS: 32.074143 -103.127316
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 0.5 1
Miles

N
W E
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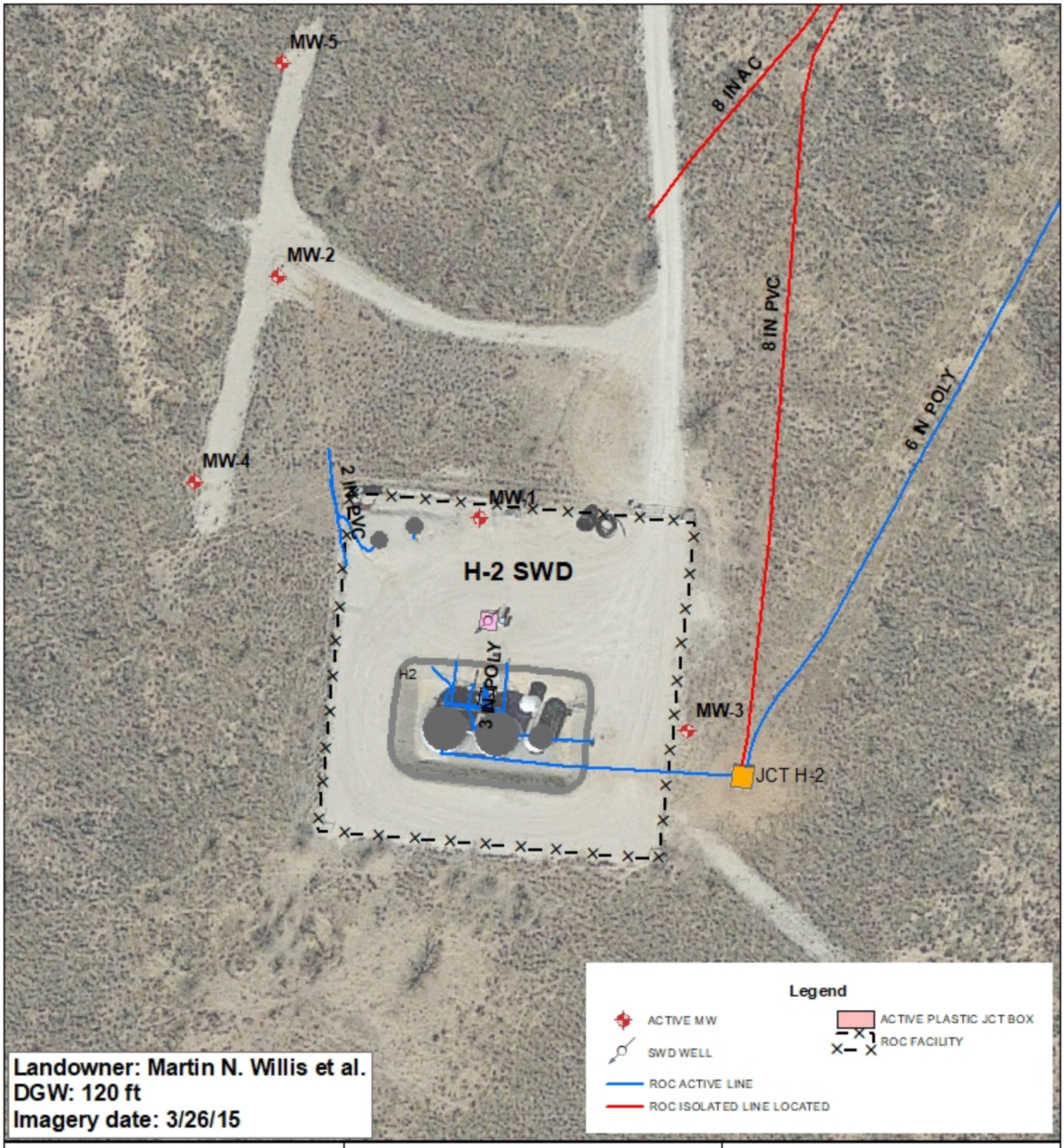
Drawing date: 2/4/20
Drafted by: T. Grieco

Site Map



Landowner: Martin N. Willis et al.
DGW: 120 ft
Imagery date: 3/26/15

RICE OPERATING COMPANY
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JUSTIS H-2 SWD

AP-49

UL/H SECTION 2
T-26-S R-37-E
LEA COUNTY, NM

GPS: 32.074143 -103.127316
NAD83 STATE PLANE PROJ
NM EAST ZONE

0 50 100
Feet

N
W E
S

Drawing date: 2/4/20
Drafted by: T. Grieco

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	116.2	145	18.8	56.4	1/3/2002	336	1,112	<0.002	<0.002	<0.002	<0.006	116	
1	XXX	XXX	XXX	XXX	3/1/2002	301	971	XXX	XXX	XXX	XXX	190	
1	XXX	XXX	XXX	XXX	6/10/2002	173	XXX	0.001	0.008	0.01	0.066	XXX	
1	116.2	137	XXX	66	8/16/2002	111	619	<0.001	<0.001	<0.001	<0.001	202	
1	123.32	144	XXX	60	11/12/2002	257	971	<0.001	0.001	<0.001	<0.001	194	
1	122.95	144	XXX	70	2/13/2003	98	647	<0.001	<0.001	<0.001	<0.001	200	
1	123.34	144	XXX	70	5/20/2003	102	682	<0.001	<0.001	<0.001	<0.001	196	
1	122.94	144	XXX	70	9/16/2003	594	1,920	<0.001	<0.001	<0.001	<0.001	186	
1	123.19	144	XXX	70	12/16/2003	82	587	0.013	<0.001	<0.001	<0.001	180	
1	122.43	144	XXX	70	3/11/2004	727	2,060	<0.001	<0.001	<0.001	<0.001	227	
1	122.24	144	XXX	70	6/28/2004	1,030	3,230	0.0056	<0.001	<0.001	<0.001	349	
1	122.22	144	XXX	70	9/23/2004	106	749	<0.001	<0.001	<0.001	<0.001	175	
1	122.18	144	XXX	68	12/21/2004	93	858	<0.001	<0.001	<0.001	0.00108	215	
1	121.97	144	XXX	75	3/29/2005	98	608	<0.001	<0.001	<0.001	<0.001	169	
1	122.08	144	XXX	80	6/16/2005	173	711	<0.001	<0.001	<0.001	<0.001	166	
1	XXX	XXX	XXX	XXX	9/15/2005	151	840	<0.001	<0.001	<0.001	<0.001	133	
1	122.12	153	31.5	100	12/5/2005	94	586	<0.001	<0.001	<0.001	<0.001	114	
1	121.81	153	31.8	100	2/27/2006	414	1,120	<0.001	<0.001	<0.001	<0.001	157	
1	121.94	153	31.7	100	6/14/2006	206	782	<0.001	<0.001	<0.001	<0.001	151	
1	121.89	153	31.7	100	12/5/2006	223	512	<0.001	<0.001	<0.001	<0.001	47.6	Clear with no odor *pH changed from last sampling

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	122	142.6	13.4	40.3	1/7/2002	1,839	3,908	<0.002	<0.002	<0.002	<0.006	120	
2	XXX	XXX	XXX	XXX	3/1/2002	700	1,780	XXX	XXX	XXX	XXX	150	
2	XXX	XXX	XXX	XXX	5/23/2002	904	2,710	<0.001	<0.001	<0.001	<0.001	243	

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	121.85	142	XXX	25	8/16/2002	1,040	3,390	<0.001	<0.001	<0.001	<0.001	188	
2	122.1	142	XXX	25	11/12/2002	1,130	2,600	0.002	0.003	<0.001	<0.002	200	
2	121.71	142	XXX	25	2/13/2003	1,110	2,780	<0.001	<0.001	<0.001	<0.001	216	
2	122.08	142	XXX	25	5/20/2003	1,130	3,600	<0.001	<0.001	<0.001	<0.001	215	
2	121.7	142	XXX	25	9/16/2003	1,070	3,540	<0.001	<0.001	<0.001	<0.001	167	
2	122	142	XXX	30	12/16/2003	1,230	2,490	0.032	0.003	<0.001	<0.001	202	
2	121.87	142	XXX	30	3/11/2004	1,200	3,660	<0.001	<0.001	<0.001	<0.001	164	
2	121.74	142	XXX	30	6/28/2004	2,570	6,290	0.0112	<0.001	<0.001	<0.001	208	
2	121.7	142	XXX	25	9/23/2004	1,130	3,760	<0.001	<0.001	<0.001	<0.001	198	
2	121.65	142	XXX	10	12/21/2004	1,150	2,877	0.0055	<0.001	<0.001	<0.001	210	
2	121.45	142	XXX	25	3/29/2005	1,310	2,620	<0.001	<0.001	<0.001	<0.001	186	
2	121.58	142	XXX	30	6/16/2005	1,280	3,080	<0.001	<0.001	<0.001	<0.001	221	
2	XXX	XXX	XXX	XXX	9/15/2005	1,110	3,240	<0.001	<0.001	<0.001	<0.001	196	
2	121.52	142.6	3.4	20	12/5/2005	1,110	2,630	<0.001	<0.001	<0.001	<0.001	134	
2	121.4	142.6	3.4	20	2/27/2006	1,360	3,450	<0.001	<0.001	<0.001	<0.001	139	
2	121.4	142.6	3.4	15	6/14/2006	1,260	3,520	<0.001	<0.001	<0.001	<0.001	204	
2	N/A	142.6	XXX	XXX	12/5/2006	1,240	2,300	<0.001	<0.001	<0.001	<0.001	156	Clear No odor *Temperature lower due to air pump
2	XXX	142.6	XXX	XXX	3/15/2007	1,810	3,540	<0.001	<0.001	<0.001	<0.001	222	Clear No odor
2	XXX	142.6	XXX	XXX	6/13/2007	1,350	3,820	<0.001	<0.001	<0.001	<0.001	193	Clear No odor
2	XXX	142.6	XXX	XXX	9/17/2007	1,424	3,820	<0.002	<0.002	<0.002	<0.006	234	Clear No odor
2	XXX	142.6	XXX	XXX	11/13/2007	1,600	3,053	<0.001	<0.001	<0.001	<0.003	177	Clear No odor
2	XXX	142.6	XXX	XXX	2/23/2008	1,500	3,390	<0.001	<0.001	<0.001	<0.003	169	Clear No odor
2R	120.9	153.8	21.4	75	5/21/2008	1,600	4,490	<0.002	<0.002	<0.002	<0.006	252	Clear No odor REPLACED THE WELL WITH 4 in RECOVERY WELL
2R	XXX	XXX	XXX	XXX	8/27/2008	1,360	3,090	<0.001	<0.001	<0.001	<0.003	198	Clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2R	XXX	XXX	XXX	XXX	12/1/2008	1,800	3,600	<0.001	<0.001	<0.001	<0.003	176	Clear No odor
2R	XXX	XXX	XXX	XXX	2/25/2009	2,320	3,850	<0.001	<0.001	<0.001	<0.003	52	Clear No odor
2R	XXX	XXX	XXX	70	6/15/2009	1,440	3,030	<0.001	<0.001	<0.001	<0.003	146	Clear No odor
2R	XXX	XXX	XXX	XXX	9/4/2009	1,500	3,390	<0.001	<0.001	<0.001	<0.003	166	Clear No odor
2R	XXX	XXX	XXX	XXX	11/16/2009	1,580	2,870	<0.001	<0.001	<0.001	<0.003	128	Clear No odor
2R	XXX	XXX	XXX	XXX	3/5/2010	1,520	3,790	<0.001	<0.001	<0.001	<0.003	175	Clear No odor
2R	XXX	XXX	XXX	XXX	6/1/2010	1,600	3,730	<0.001	<0.001	<0.001	<0.003	184	Clear No odor
2R	XXX	XXX	XXX	Pumping	8/23/2010	1,640	2,690	<0.001	<0.001	<0.001	<0.003	160	Clear No odor
2R	XXX	XXX	XXX	Pumping	11/19/2010	1,500	2,970	<0.001	<0.001	<0.001	<0.003	197	Clear No odor
2R	XXX	XXX	XXX	Pumping	3/7/2011	2,100	3,810	<0.001	<0.001	<0.001	<0.003	158	Clear No odor
2R	XXX	XXX	XXX	XXX	6/7/2011	1,720	3,120	<0.001	<0.001	<0.001	<0.003	162	Clear No odor
2R	XXX	XXX	XXX	XXX	9/13/2011	1,560	3,260	<0.001	<0.001	<0.001	<0.003	171	Clear No odor
2R	XXX	XXX	XXX	XXX	12/7/2011	1,320	3,040	<0.001	<0.001	<0.001	<0.003	175	Clear No odor
2R	XXX	XXX	XXX	XXX	3/7/2012	1,700	3,180	XXX	XXX	XXX	XXX	164	Clear No odor
2R	XXX	XXX	XXX	XXX	6/4/2012	1,500	2,810	XXX	XXX	XXX	XXX	148	Clear No odor
2R	XXX	XXX	XXX	XXX	9/19/2012	1,580	3,100	<0.001	<0.001	<0.001	<0.003	126	Clear No odor
2R	XXX	XXX	XXX	XXX	11/26/2012	1,240	3,140	XXX	XXX	XXX	XXX	468	Clear No odor, Samples Collected at the Tank
2R	XXX	XXX	XXX	XXX	2/26/2013	1,620	3,370	XXX	XXX	XXX	XXX	565	Clear No odor, Samples Collected at the Tank
2R	XXX	165	XXX	XXX	6/13/2013	1,620	2,940	XXX	XXX	XXX	XXX	130	Clear No odor, Samples Collected at the Tank
2R	XXX	165	XXX	XXX	9/13/2013	1,560	3,040	XXX	XXX	XXX	XXX	124	Clear No odor, Samples Collected at Tank
2R	XXX	165	XXX	XXX	11/20/2013	1,600	3,480	XXX	XXX	XXX	XXX	140	Clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2R	XXX	165	XXX	90	3/17/2014	1,640	2,870	XXX	XXX	XXX	XXX	112	Clear No odor
2R	XXX	165	XXX	90	6/13/2014	1,760	3,770	XXX	XXX	XXX	XXX	120	Clear No odor
2R	XXX	165	XXX	90	9/9/2014	1,720	3,340	XXX	XXX	XXX	XXX	102	Clear No odor
2R	XXX	165	XXX	90	12/15/2014	1,670	3,020	XXX	XXX	XXX	XXX	74.7	Clear No odor
2R	XXX	165	XXX	90	3/12/2015	1,870	4,300	XXX	XXX	XXX	XXX	102	Clear No odor
2R	XXX	165	XXX	90	6/9/2015	2,430	5,120	XXX	XXX	XXX	XXX	118	Clear No odor
2R	XXX	165	XXX	200	8/26/2015	3,000	6,100	XXX	XXX	XXX	XXX	115	Clear No odor
2R	XXX	165	XXX	200	11/24/2015	2,140	4,170	XXX	XXX	XXX	XXX	142	Clear No odor
2R	XXX	165	XXX	90	3/24/2016	2,400	4,910	XXX	XXX	XXX	XXX	115	Clear No odor
2R	XXX	165	XXX	90	6/6/2016	1,740	3,280	XXX	XXX	XXX	XXX	122	Clear No odor
2R	XXX	165	XXX	90	9/20/2016	1,700	3,490	XXX	XXX	XXX	XXX	134	Clear No odor
2R	XXX	165	XXX	90	12/1/2016	1,830	3,870	XXX	XXX	XXX	XXX	151	Clear No odor
2R	XXX	165	XXX	90	3/9/2017	1,900	4,670	XXX	XXX	XXX	XXX	148	Clear No odor
2R	XXX	165	XXX	90	6/16/2017	1,880	4,040	XXX	XXX	XXX	XXX	193	Clear No odor
2R	XXX	165	XXX	Running	9/21/2017	2,170	5,200	XXX	XXX	XXX	XXX	127	Clear No odor
2R	XXX	165	XXX	100	12/12/2017	2,300	4,640	XXX	XXX	XXX	XXX	112	Clear No odor
2R	XXX	165	XXX	90	3/14/2018	2,430	4,000	XXX	XXX	XXX	XXX	111	Clear No odor
2R	XXX	165	XXX	200	6/14/2018	1,620	3,200	XXX	XXX	XXX	XXX	137	Clear No odor
2R	XXX	165	XXX	90	9/12/2018	1,730	3,270	XXX	XXX	XXX	XXX	152	Clear No odor
2R	XXX	165	XXX	90	12/3/2018	1,830	3,210	XXX	XXX	XXX	XXX	206	Clear No odor
2R	XXX	165	XXX	90	3/22/2019	2950	5400	XXX	XXX	XXX	XXX	173	Clear No odor
2R	XXX	165	XXX	Running	6/19/2019	1600	3280	XXX	XXX	XXX	XXX	151	Clear No odor
2R	XXX	165	XXX	Running	9/20/2019	2000	3250	XXX	XXX	XXX	XXX	155	Clear No odor
2R	XXX	165	XXX	100	12/5/2019	1900	3470	XXX	XXX	XXX	XXX	183	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	122.1	137.5	10	30.1	1/7/2002	48	577	<0.005	<0.005	<0.005	<0.015	145	

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	XXX	XXX	XXX	XXX	3/1/2002	37	561	XXX	XXX	XXX	XXX	167	
3	XXX	XXX	XXX	XXX	5/16/2002	35	570	<0.001	<0.001	<0.001	<0.001	182	
3	118.68	133	XXX	20	8/16/2002	93	631	<0.001	<0.001	<0.001	<0.001	238	
3	118.9	133	XXX	25	11/12/2002	98	688	0.03	0.014	0.002	0.003	219	
3	118.53	133	XXX	25	2/13/2003	102	666	<0.001	<0.001	<0.001	<0.001	250	
3	118.87	133	XXX	25	5/20/2003	168	885	<0.001	<0.001	<0.001	<0.001	278	
3	118.53	133	XXX	25	9/16/2003	204	568	<0.001	<0.001	<0.001	<0.001	184	
3	118.79	133	XXX	30	12/16/2003	41	517	0.013	<0.001	<0.001	<0.001	204	
3	118.71	133	XXX	30	3/11/2004	65	666	<0.001	<0.001	<0.001	<0.001	203	
3	118.53	133	XXX	30	6/28/2004	124	735	0.0124	<0.001	<0.001	<0.001	295	
3	118.52	133	XXX	25	9/23/2004	115	703	0.00113	<0.001	<0.001	<0.001	242	
3	118.52	133	XXX	7	12/21/2004	154	1,057	0.0127	<0.001	0.00144	<0.001	272	
3	118.31	133	XXX	25	3/29/2005	108	670	<0.001	<0.001	<0.001	<0.001	215	
3	118.41	133	XXX	30	6/16/2005	62	535	<0.001	<0.001	<0.001	<0.001	180	
3	XXX	XXX	XXX	XXX	9/15/2005	56	664	<0.001	<0.001	<0.001	<0.001	139	
3	118.25	133.7	2.5	20	12/5/2005	31	450	<0.001	<0.001	<0.001	<0.001	131	
3	118.18	133.7	2.5	15	2/27/2006	27	562	<0.001	<0.001	<0.001	<0.001	123	
3	118.18	133.7	2.5	15	6/14/2006	38	514	<0.001	<0.001	<0.001	<0.001	151	
3	118.21	133.7	2.5	10	12/5/2006	26	486	<0.001	<0.001	<0.001	<0.001	164	Sand to clear No odor
3	118.26	133.4	2.4	10	3/15/2007	78	532	<0.001	<0.001	<0.001	<0.001	226	Sand to clear No odor
3	118.49	133.4	2.4	10	6/13/2007	87	512	<0.001	<0.001	<0.001	<0.001	193	Sand to clear No odor
3	118.07	133.4	2.5	10	9/17/2007	36	564	<0.002	<0.002	<0.002	<0.006	201	Sand to clear No odor
3	118.23	133.4	2.4	10	11/13/2007	32	537	<0.001	<0.001	<0.001	<0.003	223	Sand to clear No odor
3	118.08	133.4	2.5	10	2/23/2008	32	548	<0.001	<0.001	<0.001	<0.003	157	Sand to clear No odor
3	117.98	133.4	2.5	10	5/21/2008	32	519	<0.002	<0.002	<0.002	<0.006	156	Sand to clear No odor
3	118.13	133.4	2.4	10	8/27/2008	32	544	<0.001	<0.001	<0.001	<0.003	183	Sand to clear No odor
3	118.26	133.4	2.4	10	12/1/2008	36	577	<0.001	<0.001	<0.001	<0.003	177	Sand to clear No odor
3	118.11	134.3	2.6	10	2/25/2009	36	543	<0.001	<0.001	<0.001	<0.003	169	Sand to clear No odor
3	118.14	134.3	2.6	10	6/15/2009	36	591	<0.001	<0.001	<0.001	<0.003	145	Sand to clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	118.04	134.3	2.6	10	9/4/2009	36	588	<0.001	<0.001	<0.001	<0.003	172	Sand to clear No odor
3	118.13	134.3	2.6	10	11/16/2009	48	527	<0.001	<0.001	<0.001	<0.003	142	Sand to clear No odor
3	117.88	134.31	2.6	10	3/5/2010	36	565	<0.001	<0.001	<0.001	<0.003	202	Sand to clear No odor
3	117.93	134.31	2.6	10	6/1/2010	32	567	<0.001	<0.001	<0.001	<0.003	178	Sand to clear No odor
3	117.92	134.31	2.6	10	8/23/2010	36	560	<0.001	<0.001	<0.001	<0.003	180	Sand to clear No odor
3	117.83	134.31	2.6	10	11/19/2010	36	552	<0.001	<0.001	<0.001	<0.003	206	Sand to clear No odor
3	117.98	134.33	2.6	10	3/7/2011	36	551	<0.001	<0.001	<0.001	<0.003	166	Sand to clear No odor
3	117.78	134.33	2.6	10	6/7/2011	48	543	<0.001	<0.001	<0.001	<0.003	170	Sand to clear No odor
3	117.79	134.33	2.6	10	9/13/2011	40	534	<0.001	<0.001	<0.001	<0.003	189	Sand to clear No odor
3	117.91	134.33	2.6	10	12/7/2011	36	554	<0.001	<0.001	<0.001	<0.003	190	Sand to clear No odor
3	117.69	134.33	2.7	10	3/7/2012	32	563	XXX	XXX	XXX	XXX	187	Sand to clear No odor
3	117.73	134.33	2.7	10	6/4/2012	32	556	XXX	XXX	XXX	XXX	172	Sand to clear No odor
3	117.68	134.33	2.7	10	9/19/2012	36	566	<0.001	<0.001	<0.001	<0.003	164	Sand to clear No odor
3	117.74	134.33	2.7	10	11/26/2012	40	558	XXX	XXX	XXX	XXX	147	Sand to clear No odor
3	117.83	134.33	2.6	10	2/26/2013	36	538	XXX	XXX	XXX	XXX	177	Sand to clear No odor
3	117.59	134.33	2.7	10	6/13/2013	36	557	XXX	XXX	XXX	XXX	179	Sand to clear No odor
3	117.68	134.33	2.7	10	9/13/2013	36	569	XXX	XXX	XXX	XXX	160	Sand to clear No odor
3	117.53	134.33	2.7	10	11/20/2013	36	540	XXX	XXX	XXX	XXX	183	Sand to clear No odor
3	117.73	134.33	2.7	10	3/17/2014	36	468	XXX	XXX	XXX	XXX	182	Sand to clear No odor
3	117.51	134.33	2.7	10	6/13/2014	36	578	XXX	XXX	XXX	XXX	176	Sand to clear No odor
3	117.48	134.33	2.7	10	9/9/2014	32	544	XXX	XXX	XXX	XXX	165	Sand to clear No odor
3	117.54	134.33	2.7	10	12/15/2014	36	512	XXX	XXX	XXX	XXX	145	Sand to clear No odor
3	117.47	134.33	2.7	10	3/12/2015	32	486	XXX	XXX	XXX	XXX	116	Sand to clear No odor
3	117.53	134.33	2.7	10	6/9/2015	40	558	XXX	XXX	XXX	XXX	139	Sand to clear No odor
3	117.46	134.33	2.7	10	8/26/2015	32	510	XXX	XXX	XXX	XXX	84	Sand to clear No odor
3	117.41	134.33	2.7	10	11/24/2015	32	520	XXX	XXX	XXX	XXX	186	Sand to clear No odor
3	117.45	134.33	2.7	10	3/24/2016	44	562	XXX	XXX	XXX	XXX	134	Sand to clear No odor
3	117.45	134.33	2.7	10	6/6/2016	32	494	XXX	XXX	XXX	XXX	167	Sand to clear No odor
3	117.48	134.33	2.7	10	9/20/2016	36	540	XXX	XXX	XXX	XXX	192	Sand to clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	117.51	134.33	2.7	10	12/1/2016	36	490	XXX	XXX	XXX	XXX	187	Sand to clear No odor
3	117.42	134.33	2.7	10	3/9/2017	36	554	XXX	XXX	XXX	XXX	177	Sand to clear No odor
3	117.49	134.33	2.7	10	6/16/2017	40	568	XXX	XXX	XXX	XXX	169	Sand to clear No odor
3	117.43	134.33	2.7	10	9/21/2017	40	570	XXX	XXX	XXX	XXX	222	Sand to clear No odor
3	117.38	134.33	2.7	10	12/12/2017	40	376	XXX	XXX	XXX	XXX	194	Sand to clear No odor
3	117.28	134.33	2.7	10	3/14/2018	36	540	XXX	XXX	XXX	XXX	194	Sand to clear No odor
3	117.27	134.33	2.7	10	6/14/2018	36	548	XXX	XXX	XXX	XXX	134	Sand to clear No odor
3	117.38	134.33	2.7	10	9/12/2018	36	512	XXX	XXX	XXX	XXX	188	Sand to clear No odor
3	117.27	134.33	2.7	10	12/3/2018	40	486	XXX	XXX	XXX	XXX	224	Sand to clear No odor
3	117.34	134.33	2.7	10	3/22/2019	40	556	XXX	XXX	XXX	XXX	183	Sand to clear No odor
3	117.38	134.33	2.7	10	6/19/2019	32	605	XXX	XXX	XXX	XXX	171	Sand to clear No odor
3	117.39	134.33	2.7	10	9/20/2019	36	484	XXX	XXX	XXX	XXX	190	Sand to clear No odor
3	117.09	134.33	2.8	10	12/5/2019	32	581	XXX	XXX	XXX	XXX	211	Sand to clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	121.96	137	XXX	30	6/28/2004	58	596	0.00749	<0.001	<0.001	<0.001	225	
4	121.93	137	XXX	25	9/23/2004	53	648	<0.001	<0.001	<0.001	<0.001	180	
4	121.88	137	XXX	8	12/21/2004	59	865	0.00275	<0.001	<0.001	<0.001	210	calculated TDS
4	121.66	137	XXX	25	3/29/2005	56	506	<0.001	<0.001	<0.001	<0.001	186	
4	121.8	137	XXX	30	6/16/2005	50	543	<0.001	<0.001	<0.001	<0.001	179	
4	XXX	XXX	XXX	XXX	9/15/2005	48	634	<0.001	<0.001	<0.001	<0.001	135	
4	121.81	141.4	3.1	20	12/5/2005	29	496	<0.001	<0.001	<0.001	<0.001	136	
4	121.59	141.4	3.2	20	2/27/2006	29	542	<0.001	<0.001	<0.001	<0.001	136	
4	121.61	141.4	3.2	15	6/14/2006	40	564	<0.001	<0.001	<0.001	<0.001	157	
4	121.63	141.4	3.2	15	12/5/2006	30	476	<0.001	<0.001	<0.001	<0.001	176	Clear No odor
4	121.65	140.95	3.1	15	3/15/2007	41	514	<0.001	<0.001	<0.001	<0.001	211	Clear
4	121.58	140.95	3.1	15	6/13/2007	30	534	<0.001	<0.001	<0.001	<0.001	149	Clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	121.45	140.95	3.1	15	9/17/2007	40	612	<0.002	<0.002	<0.002	<0.006	220	Clear No odor
4	121.64	140.95	3.1	15	11/13/2007	36	547	<0.001	<0.001	<0.001	<0.003	222	Clear No odor
4	121.45	140.95	3.1	15	2/23/2008	36	585	<0.001	<0.001	<0.001	<0.003	190	Clear No odor
4	121.31	140.95	3.1	15	5/21/2008	36	533	<0.002	<0.002	<0.002	<0.006	169	Clear No odor
4	121.53	140.95	3.1	15	8/27/2008	36	581	<0.001	<0.001	<0.001	<0.003	181	Clear No odor
4	121.65	140.95	3.1	15	12/1/2008	36	621	<0.001	<0.001	<0.001	<0.003	187	Clear No odor
4	121.48	140.89	3.1	15	2/25/2009	36	540	<0.001	<0.001	<0.001	<0.003	180	Clear No odor
4	121.53	140.89	3.1	15	6/15/2009	40	593	<0.001	<0.001	<0.001	<0.003	169	Clear No odor
4	121.39	140.89	3.1	15	9/4/2009	36	580	<0.001	<0.001	<0.001	<0.003	169	Clear No odor
4	121.56	140.89	3.1	15	11/16/2009	36	471	<0.001	<0.001	<0.001	<0.003	148	Clear No odor
4	121.22	140.9	3.1	15	3/5/2010	36	562	<0.001	<0.001	<0.001	<0.003	197	Clear No odor
4	121.28	140.9	3.1	15	6/1/2010	32	579	<0.001	<0.001	<0.001	<0.003	176	Clear No odor
4	121.31	140.9	3.1	15	8/23/2010	40	600	<0.001	<0.001	<0.001	<0.003	186	Clear No odor
4	121.14	140.9	3.2	15	11/19/2010	36	534	<0.001	<0.001	<0.001	<0.003	214	Clear No odor
4	121.44	140.9	3.1	15	3/7/2011	36	559	<0.001	<0.001	<0.001	<0.003	182	Clear No odor
4	121.21	140.9	3.2	15	6/7/2011	40	564	<0.001	<0.001	<0.001	<0.003	177	Clear No odor
4	121.22	140.9	3.1	15	9/13/2011	116	659	<0.001	<0.001	<0.001	<0.003	199	Clear No odor
4	121.32	140.9	3.1	15	12/7/2011	36	558	<0.001	<0.001	<0.001	<0.003	209	Clear No odor
4	121.05	140.9	3.2	15	3/7/2012	36	582	XXX	XXX	XXX	XXX	206	Clear No odor
4	121.17	140.9	3.2	15	6/4/2012	268	908	XXX	XXX	XXX	XXX	175	Clear No odor
4	121.02	140.9	3.2	15	9/19/2012	36	587	<0.001	<0.001	<0.001	<0.003	201	Clear No odor
4	121.16	140.9	3.2	15	11/26/2012	32	548	XXX	XXX	XXX	XXX	146	Clear No odor
4	121.29	140.9	3.1	15	2/26/2013	40	573	XXX	XXX	XXX	XXX	194	Clear No odor
4	121.05	140.9	3.2	15	6/13/2013	40	569	XXX	XXX	XXX	XXX	187	Clear No odor
4	121.02	140.9	3.2	15	9/13/2013	40	568	XXX	XXX	XXX	XXX	185	Clear No odor
4	120.92	140.9	3.2	15	11/20/2013	36	556	XXX	XXX	XXX	XXX	193	Clear No odor
4	121.12	140.9	3.2	15	3/17/2014	36	550	XXX	XXX	XXX	XXX	192	Clear No odor
4	120.91	140.9	3.2	15	6/13/2014	92	680	XXX	XXX	XXX	XXX	180	Clear No odor
4	120.87	140.9	3.2	15	9/9/2014	40	560	XXX	XXX	XXX	XXX	194	Clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	120.96	140.9	3.2	15	12/15/2014	40	566	XXX	XXX	XXX	XXX	173	Clear No odor
4	120.83	140.9	3.2	15	3/12/2015	120	574	XXX	XXX	XXX	XXX	107	Clear No odor
4	120.88	140.9	3.2	15	6/9/2015	40	602	XXX	XXX	XXX	XXX	169	Clear No odor
4	120.82	140.9	3.2	15	8/26/2015	460	1,260	XXX	XXX	XXX	XXX	122	Clear No odor
4	120.75	140.9	3.2	15	11/24/2015	490	1,250	XXX	XXX	XXX	XXX	173	Clear No odor
4	120.7	140.9	3.2	15	3/24/2016	204	796	XXX	XXX	XXX	XXX	128	Clear No odor
4	120.8	140.9	3.2	15	6/6/2016	168	712	XXX	XXX	XXX	XXX	190	Clear No odor
4	120.84	140.9	3.2	15	9/20/2016	248	832	XXX	XXX	XXX	XXX	134	Clear No odor
4	120.86	140.9	3.2	15	12/1/2016	84	602	XXX	XXX	XXX	XXX	187	Clear No odor
4	120.81	140.9	3.2	15	3/9/2017	336	1,040	XXX	XXX	XXX	XXX	96.6	Clear No odor
4	120.85	140.9	3.2	15	6/16/2017	368	1,070	XXX	XXX	XXX	XXX	198	Clear No odor
4	120.82	140.9	3.2	15	9/21/2017	332	1,170	XXX	XXX	XXX	XXX	211	Clear No odor
4	120.77	140.9	3.2	15	12/12/2017	376	1,070	XXX	XXX	XXX	XXX	113	Clear No odor
4	120.67	140.9	3.2	15	3/14/2018	332	926	XXX	XXX	XXX	XXX	117	Clear No odor
4	120.65	140.9	3.2	15	6/14/2018	300	946	XXX	XXX	XXX	XXX	199	Clear No odor
4	120.82	140.9	3.2	15	9/12/2018	44	564	XXX	XXX	XXX	XXX	172	Clear No odor
4	120.56	140.9	3.3	15	12/3/2018	40	548	XXX	XXX	XXX	XXX	241	Clear No odor
4	120.72	140.9	3.2	15	3/22/2019	44	511	XXX	XXX	XXX	XXX	190	Clear No odor
4	120.77	140.9	3.2	15	6/19/2019	40	600	XXX	XXX	XXX	XXX	188	Clear No odor
4	120.79	140.9	3.2	15	9/20/2019	40	546	XXX	XXX	XXX	XXX	236	Clear No odor
4	120.5	140.9	3.3	15	12/5/2019	36	559	XXX	XXX	XXX	XXX	203	Clear No odor

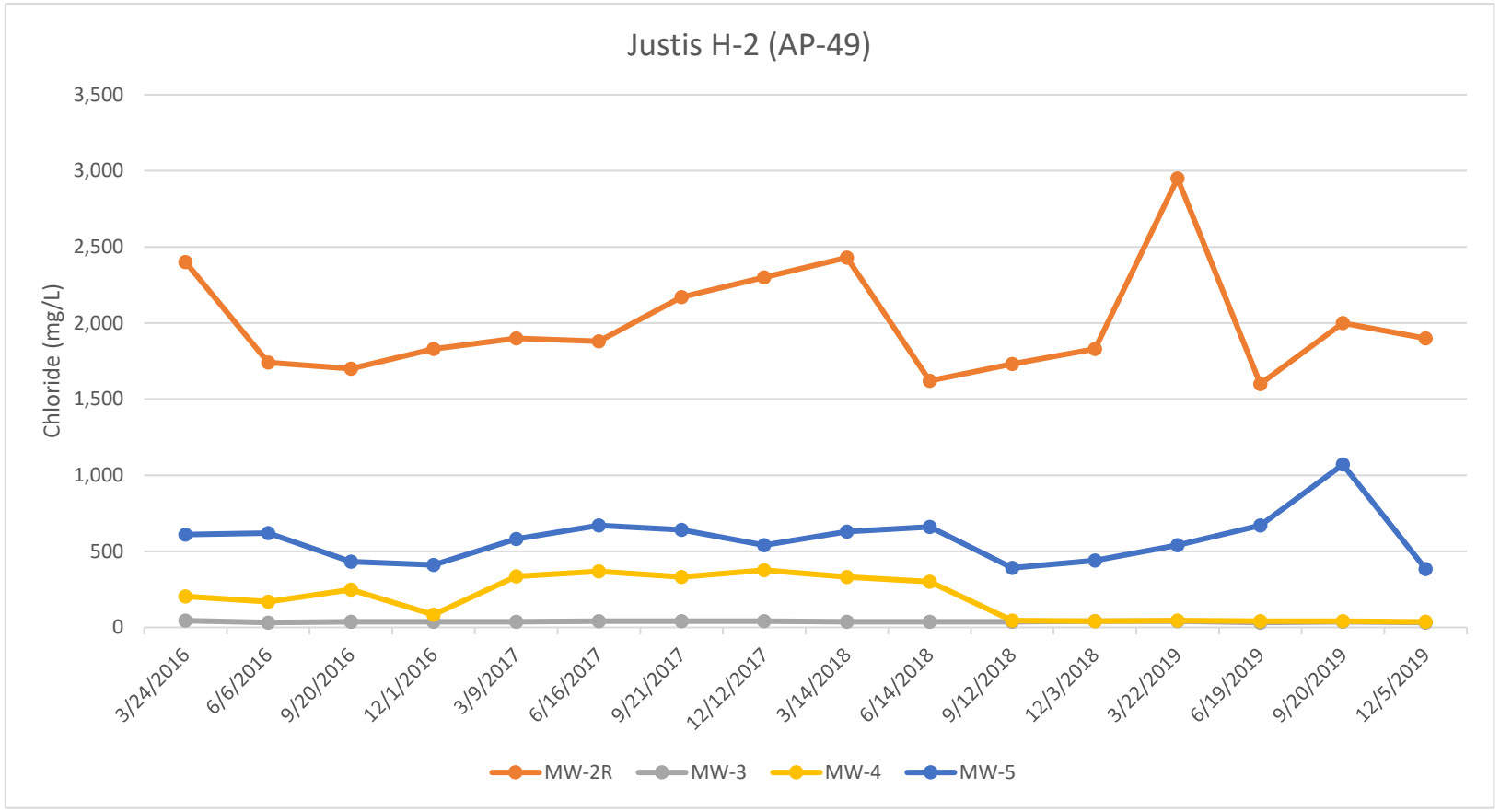
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	120.04	135	XXX	30	6/28/2004	310	1,130	0.0105	<0.001	0.00108	<0.001	238	
5	119.98	135	XXX	25	9/23/2004	160	792	<0.001	<0.001	<0.001	<0.001	224	
5	119.93	135	XXX	8	12/21/2004	165	1,072	0.00292	<0.001	<0.001	<0.001	224	calculated TDS
5	119.73	135	XXX	25	3/29/2005	202	636	<0.001	<0.001	<0.001	<0.001	201	

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	119.88	135	XXX	30	6/16/2005	172	767	<0.001	<0.001	<0.001	<0.001	187	
5	XXX	XXX	XXX	XXX	9/15/2005	147	852	<0.001	<0.001	<0.001	<0.001	136	
5	119.8	140	3.2	20	12/5/2005	159	662	<0.001	<0.001	<0.001	<0.001	142	
5	119.68	140	3.3	20	2/27/2006	167	696	<0.001	<0.001	<0.001	<0.001	139	
5	119.65	140	3.3	15	6/14/2006	197	786	<0.001	<0.001	<0.001	<0.001	152	
5	119.74	140	3.2	15	12/5/2006	186	748	<0.001	<0.001	<0.001	<0.001	173	Clear No odor
5	119.72	138.8	3.1	15	3/15/2007	255	766	<0.001	<0.001	<0.001	<0.001	220	Clear No odor
5	119.65	138.8	3.1	15	6/13/2007	189	842	<0.001	<0.001	<0.001	<0.001	156	Clear No odor
5	119.53	138.8	3.1	15	9/17/2007	68	668	<0.002	<0.002	<0.002	<0.006	227	Clear No odor
5	119.7	138.8	3.1	15	11/13/2007	100	669	<0.001	<0.001	<0.001	<0.003	234	Clear No odor
5	119.55	138.8	3.1	15	2/23/2008	216	900	<0.001	<0.001	<0.001	<0.003	198	Clear No odor
5	119.41	138.8	3.1	15	5/21/2008	208	877	<0.002	<0.002	<0.002	<0.006	177	Clear No odor
5	119.59	138.8	3.1	15	8/27/2008	200	945	<0.001	<0.001	<0.001	<0.003	198	Clear No odor
5	119.7	138.8	3.1	15	12/1/2008	200	885	<0.001	<0.001	<0.001	<0.003	189	Clear No odor
5	119.54	138.75	3.1	15	2/25/2009	184	747	<0.001	<0.001	<0.001	<0.003	185	Clear No odor
5	119.55	138.75	3.1	15	6/15/2009	204	894	<0.001	<0.001	<0.001	<0.003	179	Clear No odor
5	119.46	138.75	3.1	15	9/4/2009	204	873	<0.001	<0.001	<0.001	<0.003	181	Clear No odor
5	119.61	138.75	3.1	15	11/16/2009	192	741	<0.001	<0.001	<0.001	<0.003	157	Clear No odor
5	119.27	138.75	3.1	15	3/5/2010	140	721	<0.001	<0.001	<0.001	<0.003	210	Clear No odor
5	119.34	138.75	3.1	15	6/1/2010	172	855	<0.001	<0.001	<0.001	<0.003	190	Clear No odor
5	119.29	138.75	3.1	15	8/23/2010	144	788	<0.001	<0.001	<0.001	<0.003	196	Clear No odor
5	119.23	138.75	3.1	15	11/19/2010	184	749	<0.001	<0.001	<0.001	<0.003	226	Clear No odor
5	119.45	138.75	3.1	15	3/7/2011	124	699	<0.001	<0.001	<0.001	<0.003	181	Clear No odor
5	119.19	138.75	3.1	15	6/7/2011	156	714	<0.001	<0.001	<0.001	<0.003	174	Clear No odor
5	119.2	138.75	3.1	15	9/13/2011	168	750	<0.001	<0.001	<0.001	<0.003	199	Clear No odor
5	119.34	138.75	3.1	15	12/7/2011	168	731	<0.001	<0.001	<0.001	<0.003	214	Clear No odor
5	119.06	138.75	3.2	15	3/7/2012	256	879	XXX	XXX	XXX	XXX	189	Clear No odor
5	119.22	138.75	3.1	15	6/4/2012	268	908	XXX	XXX	XXX	XXX	175	Clear No odor
5	119.09	138.75	3.1	15	9/19/2012	364	1,060	<0.001	<0.001	<0.001	<0.003	172	Clear No odor

ROC - Justis H-2 (AP-49)
Unit Letter H, Section 2, T26S, R37E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	119.23	138.75	3.1	15	11/26/2012	432	1,120	XXX	XXX	XXX	XXX	154	Clear No odor
5	119.31	138.75	3.1	15	2/26/2013	432	1,010	XXX	XXX	XXX	XXX	146	Clear No odor
5	119.08	138.75	3.1	15	6/13/2013	344	1,080	XXX	XXX	XXX	XXX	173	Clear No odor
5	119.07	138.75	3.1	15	9/13/2013	344	1,030	XXX	XXX	XXX	XXX	163	Clear No odor
5	118.94	138.75	3.2	15	11/20/2013	343	1,020	XXX	XXX	XXX	XXX	179	Clear No odor
5	119.17	138.75	3.1	15	3/17/2014	580	1,270	XXX	XXX	XXX	XXX	166	Clear No odor
5	119.03	138.75	3.2	15	6/13/2014	480	1,370	XXX	XXX	XXX	XXX	186	Clear No odor
5	118.93	138.75	3.2	15	9/9/2014	510	1,420	XXX	XXX	XXX	XXX	191	Clear No odor
5	119.03	138.75	3.2	15	12/15/2014	392	1,090	XXX	XXX	XXX	XXX	175	Clear No odor
5	118.92	138.75	3.2	15	3/12/2015	500	1,340	XXX	XXX	XXX	XXX	50	Clear No odor
5	118.91	138.75	3.2	15	6/9/2015	740	2,010	XXX	XXX	XXX	XXX	122	Clear No odor
5	118.86	138.75	3.2	15	8/26/2015	1,140	2,710	XXX	XXX	XXX	XXX	139	Clear No odor
5	118.8	138.75	3.2	15	11/24/2015	740	1,950	XXX	XXX	XXX	XXX	192	Clear No odor
5	118.75	138.75	3.2	15	3/24/2016	610	1,400	XXX	XXX	XXX	XXX	56	Clear No odor
5	118.86	138.75	3.2	15	6/6/2016	620	1,190	XXX	XXX	XXX	XXX	172	Clear No odor
5	118.9	138.75	3.2	15	9/20/2016	432	1,200	XXX	XXX	XXX	XXX	178	Clear No odor
5	118.93	138.75	3.2	15	12/1/2016	410	1,170	XXX	XXX	XXX	XXX	187	Clear No odor
5	118.87	138.75	3.2	15	3/9/2017	580	1,500	XXX	XXX	XXX	XXX	148	Clear No odor
5	118.91	138.75	3.2	15	6/16/2017	670	1,670	XXX	XXX	XXX	XXX	170	Clear No odor
5	118.88	138.75	3.2	15	9/21/2017	640	2,150	XXX	XXX	XXX	XXX	204	Clear No odor
5	118.86	138.75	3.2	15	12/12/2017	540	1,400	XXX	XXX	XXX	XXX	151	Clear No odor
5	118.74	138.75	3.2	15	3/14/2018	630	1,430	XXX	XXX	XXX	XXX	169	Clear No odor
5	118.73	138.75	3.2	15	6/14/2018	660	1,540	XXX	XXX	XXX	XXX	174	Clear No odor
5	118.98	138.75	3.2	15	9/12/2018	392	1,150	XXX	XXX	XXX	XXX	194	Clear No odor
5	118.63	138.75	3.2	15	12/3/2018	440	804	XXX	XXX	XXX	XXX	227	Clear No odor
5	118.77	138.75	3.2	15	3/22/2019	540	1270	XXX	XXX	XXX	XXX	193	Clear No odor
5	118.82	138.75	3.2	15	6/19/2019	670	1470	XXX	XXX	XXX	XXX	167	Clear No odor
5	118.85	138.75	3.2	15	9/20/2019	1070	2020	XXX	XXX	XXX	XXX	165	Clear No odor
5	118.57	138.75	3.2	15	12/5/2019	384	1120	XXX	XXX	XXX	XXX	172	Clear No odor


Justis H-2 (AP-49)
Chloride (mg/L)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
3/24/2016
6/6/2016
9/20/2016
12/1/2016
3/9/2017
6/16/2017
9/21/2017
12/12/2017
3/14/2018
6/14/2018
9/12/2018
12/3/2018
3/22/2019
6/19/2019
9/20/2019
12/5/2019
MW-2R
MW-3
MW-4
MW-5

CARDINAL Laboratories

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

April 01, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: JUSTIS H-2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 03/25/19 13:55.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	03/25/2019	Sampling Date:	03/22/2019
Reported:	04/01/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #2R (H901118-01)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**2950**	4.00	03/26/2019	ND	104	104	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**173**	25.0	03/27/2019	ND	23.4	117	20.0	3.74	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**5400**	5.00	03/27/2019	ND	470	89.2	527	1.68	

Sample ID: MONITOR WELL #3 (H901118-02)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**40.0**	4.00	03/26/2019	ND	104	104	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**183**	25.0	03/27/2019	ND	23.4	117	20.0	3.74	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**556**	5.00	03/27/2019	ND	470	89.2	527	1.68	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

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Analytical Results For:

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

Received:	03/25/2019	Sampling Date:	03/22/2019
Reported:	04/01/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H901118-03)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**44.0**	4.00	03/26/2019	ND	104	104	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**190**	25.0	03/27/2019	ND	23.4	117	20.0	3.74	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**511**	5.00	03/27/2019	ND	470	89.2	527	1.68	

Sample ID: MONITOR WELL #5 (H901118-04)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**540**	4.00	03/26/2019	ND	104	104	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**193**	25.0	03/27/2019	ND	23.4	117	20.0	3.74	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1270**	5.00	03/27/2019	ND	470	89.2	527	1.68	

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*=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, Lab Director/Quality Manager

101 East Marland - Hobbs, NM 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: Katie Jones	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 H-2 SWD
Project Location: T26S-R37E-Sec2 H ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

LAB # (LAB USE ONLY) H901118	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 (2019)	TIME
1	Monitor Well #2R	G	1	X									1		3/22	15:20
2	Monitor Well #3	G	1	X									1		3/22	9:40
3	Monitor Well #4	G	1	X									1		3/22	11:00
4	Monitor Well #5	G	1	X									1		3/22	12:40

ANALYSIS REQUEST

(Circle or Specify Method No.)

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	X	X	
																		X	X	X	
																		X	X	X	

Relinquished by: Rozanne Johnson	Date: 3/25/2019	Time: 13:50	Received by: Tamara Oldaker	Date: 3-25-19	Time: 13:55
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

Email Results: kjones@riceswd.com
rozanne11@windstream.net

Delivered By: (Circle One)	Sample Condition				CHECKED BY:
	Cool		Intact		
	Yes	✓	Yes	✓	(Initials) JO
Sampler - UPS - Bus - Other:	No		No		

CARDINAL Laboratories

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

June 27, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: JUSTIS H-2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 06/21/19 16:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. 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 524.2	Total Trihalomethanes (TTHM)
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
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #2 R (H902150-01)

Chloride, SM4500Cl-B mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**1600**	4.00	06/24/2019	ND	100	100	100	0.00	

Sulfate 375.4 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**151**	25.0	06/26/2019	ND	20.5	103	20.0	1.64	

TDS 160.1 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**3280**	5.00	06/25/2019	ND	520	98.7	527	2.49	

Sample ID: MONITOR WELL #3 (H902150-02)

Chloride, SM4500Cl-B mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**32.0**	4.00	06/24/2019	ND	100	100	100	0.00	

Sulfate 375.4 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**171**	25.0	06/26/2019	ND	20.5	103	20.0	1.64	

TDS 160.1 mg/L **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**605**	5.00	06/25/2019	ND	520	98.7	527	2.49	

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

Received:	06/21/2019	Sampling Date:	06/19/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H902150-03)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**40.0**	4.00	06/24/2019	ND	100	100	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**188**	25.0	06/26/2019	ND	20.5	103	20.0	1.64	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**600**	5.00	06/25/2019	ND	520	98.7	527	2.49	

Sample ID: MONITOR WELL #5 (H902150-04)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**670**	4.00	06/24/2019	ND	100	100	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**167**	25.0	06/26/2019	ND	20.5	103	20.0	1.64	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1470**	5.00	06/25/2019	ND	520	98.7	527	2.49	

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

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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

101 East Marland - Hobbs, NM 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: Katie Jones	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 H-2 SWD
Project Location: T26S-R37E-Sec2 H ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

H902150 LAB # (LAB USE ONLY)

	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 (2019)	TIME
1	Monitor Well #2R	G	1	X									1		6/19	13:05
2	Monitor Well #3	G	1	X									1		6/19	10:00
3	Monitor Well #4	G	1	X									1		6/19	11:20
4	Monitor Well #5	G	1	X									1		6/19	12:40

ANALYSIS REQUEST
(Circle or Specify Method No.)

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	X	X	
																		X	X	X	
																		X	X	X	

Relinquished by: Rozanne Johnson	Date: 6/21/2019	Time: 16:45	Received by: Tamara Eldaker 6-21-19 16:45
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Date: Time:

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

REMARKS:

Email Results: kjones@riceswd.com
rozanne11@windstream.net

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

Sample Condition: Cool: Yes / No; Intact: Yes / No

CHECKED BY: (Initials) T.O.

CARDINAL Laboratories

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

October 01, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: JUSTIS H-2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 09/25/19 14:55.

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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

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Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/20/2019
Reported:	10/01/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #2 R (H903305-01)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**2000**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**155**	50.0	09/30/2019	ND	20.8	104	20.0	2.56	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**3250**	5.00	10/01/2019	ND	545	103	527	1.92	

Sample ID: MONITOR WELL #3 (H903305-02)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**36.0**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**190**	50.0	09/30/2019	ND	20.8	104	20.0	2.56	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**484**	5.00	09/30/2019	ND	545	103	527	1.92	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

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

Received:	09/25/2019	Sampling Date:	09/20/2019
Reported:	10/01/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H903305-03)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**40.0**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**236**	50.0	09/30/2019	ND	20.8	104	20.0	2.56	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**546**	5.00	09/30/2019	ND	545	103	527	1.92	

Sample ID: MONITOR WELL #5 (H903305-04)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**1070**	4.00	09/27/2019	ND	104	104	100	3.77	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**165**	25.0	09/30/2019	ND	20.8	104	20.0	2.56	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**2020**	5.00	10/01/2019	ND	545	103	527	1.92	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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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: Katie Jones	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 H-2 SWD
Project Location: T26S-R37E-Sec2 H ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

LAB # (LAB USE ONLY) H903305	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 (2019)	TIME
1	Monitor Well #2R	G	1	X									1		9/20	14:00
2	Monitor Well #3	G	1	X									1		9/20	10:20
3	Monitor Well #4	G	1	X									1		9/20	11:50
4	Monitor Well #5	G	1	X									1		9/20	13:20

ANALYSIS REQUEST
(Circle or Specify Method No.)

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	X	X	
																		X	X	X	
																		X	X	X	

Relinquished by: Rozanne Johnson	Date: 9/25/2019	Time: 14:55	Received by: Tamara Oldaker	Date: 9-25-19	Time: 14:55
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff)	Date:	Time:

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

REMARKS:

Email Results: kjones@riceswd.com
rozanne11@windstream.net

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

Sample Condition: Cool: Yes ✓ / No ; Intact: Yes ✓ / No

CHECKED BY: (Initials) TO

CARDINAL Laboratories

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

December 16, 2019

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: JUSTIS H-2 SWD

Enclosed are the results of analyses for samples received by the laboratory on 12/10/19 14:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-19-12. 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
KATIE JONES
112 W. Taylor
Hobbs NM, 88240
Fax To: (575) 397-1471

Received:	12/10/2019	Sampling Date:	12/05/2019
Reported:	12/16/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #2 R (H904128-01)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**1900**	4.00	12/11/2019	ND	100	100	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**183**	50.0	12/12/2019	ND	21.3	106	20.0	11.9	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**3470**	5.00	12/13/2019	ND	585	111	527	3.05	

Sample ID: MONITOR WELL #3 (H904128-02)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**32.0**	4.00	12/11/2019	ND	100	100	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**211**	50.0	12/12/2019	ND	21.3	106	20.0	11.9	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**581**	5.00	12/13/2019	ND	585	111	527	3.05	

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

Received:	12/10/2019	Sampling Date:	12/05/2019
Reported:	12/16/2019	Sampling Type:	Water
Project Name:	JUSTIS H-2 SWD	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T26S-R37E-SEC2 H-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H904128-03)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**36.0**	4.00	12/11/2019	ND	100	100	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**203**	50.0	12/12/2019	ND	21.3	106	20.0	11.9	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**559**	5.00	12/13/2019	ND	585	111	527	3.05	

Sample ID: MONITOR WELL #5 (H904128-04)

Chloride, SM4500Cl-B **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	**384**	4.00	12/11/2019	ND	100	100	100	0.00	

Sulfate 375.4 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	**172**	50.0	12/12/2019	ND	21.3	106	20.0	11.9	

TDS 160.1 **mg/L** **Analyzed By: AC**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	**1120**	5.00	12/13/2019	ND	585	111	527	3.05	

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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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

101 East Marland - Hobbs, NM 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: Katie Jones	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 H-2 SWD
Project Location: T26S-R37E-Sec2 H ~ Lea County - New Mexico	Sampler Signature: Rozanne Johnson (575)631-9310

ANALYSIS REQUEST

(Circle or Specify Method No.)

LAB # (LAB USE ONLY) H404128	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 (2019)	TIME	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
1	Monitor Well #2R	G	1	X									1		12/5	15:20																	X	X	X	
2	Monitor Well #3	G	1	X									1		12/5	10:40																	X	X	X	
3	Monitor Well #4	G	1	X									1		12/5	12:25																	X	X	X	
4	Monitor Well #5	G	1	X									1		12/5	13:40																	X	X	X	

Relinquished by: Rozanne Johnson	Date: 12/10/2019	Time: 14:40	Received by:
Relinquished by:	Date:	Time:	Received By: (Laboratory Staff) Jodi Henson 12/10/19 14:40
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool: Yes ✓ / No; Intact: Yes ✓ / No		CHECKED BY: (Initials) JH

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

REMARKS:

Email Results: kjones@riceswd.com
rozanne11@windstream.net