# RICE Operating Company

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

April 1, 2023

Nelson Velez New Mexico Oil Conservation Division 1220 So. St. Francis Drive Santa Fe, New Mexico 87505

> RE: 2022 Annual Groundwater Report Rice Operating Company – Justis SWD System Justis P-2 vent (1R423-18): UL P, Section, 2, T25S, R37E

Mr. Velez:

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.

## **Background and Previous Work**

The site is located approximately 4 miles northeast of Jal, New Mexico at UL/P, Sec. 2, T25S, R37E as shown on the Geographical Location Map. Groundwater sampling at the site indicated the depth to groundwater is approximately 71 feet below ground surface (bgs).

In 2005, ROC initiated work on the former P-2 vent junction box. The site was delineated using a backhoe to form a 30x30x6-ft deep excavation and soil samples were screened at regular intervals for both hydrocarbon and chloride. From the excavation, a 4-wall composite sample and a bottom composite sample were sent to a commercial laboratory for analysis, resulting in elevated chloride concentrations. At 6-5 ft bgs, a one ft thick clay barrier was installed. The clay layer will provide a barrier that will inhibit the downward migration of chloride to groundwater. Clean, imported soil was blended with the remaining soil and the excavation was backfilled to the ground surface. On October 20<sup>th</sup>, 2006, the site was seeded with a blend of native vegetation.

To further investigate the depth of chloride presence, a soil bore was installed on November 5<sup>th</sup>, 2009. Soil samples were collected at regular intervals and representative samples were sent to a commercial laboratory for analysis. The entire borehole was plugged with bentonite to ground surface. NMOCD was notified of potential groundwater impact on November 20<sup>th</sup>, 2009. A junction box disclosure report was submitted to NMOCD with all the 2010 junction box closures and disclosures.

An Investigation and Characterization Plan (ICP) was submitted to NMOCD on March 8<sup>th</sup>, 2010, and approved on August 18<sup>th</sup>, 2010. According to the ICP, a total of seven soil bores were installed at the site on March 15<sup>th</sup>, 16<sup>th</sup>, and 17<sup>th</sup>, 2010. An additional five soil bores were drilled on January 30<sup>th</sup> and 31<sup>st</sup>, 2012, and an additional four bores were drilled on April 24<sup>th</sup> and 27<sup>th</sup>, 2012. Soil

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Review of 2022 Annual Groundwater
Report: Content satisfactory
1. Continue sampling all site
groundwater monitor wells on a
quarterly schedule
2. OCD requires additional
groundwater monitor wells (refer to site
map for acceptable areas) be installed
and sampled during 2023 (see site map
for acceptable well locations).
3. A groundwater gradient map
be included in the next annual
monitoring report.
4. Provide alternative abatement
options to effectively reduce chloride &
total dissolved solids (TDS) in
groundwater at the source and down
gradient areas in the near future.
5. Submit summarized activities
completed and their results in a 2022
Annual Report. Submittal to OCD
expected no later than April 1, 2024.

By Nelson Velez at 3:28 pm, Apr 10, 2023

samples were collected at regular intervals and representative samples were sent to a commercial laboratory for analysis. Each borehole was plugged with bentonite to the ground surface.

On March 16<sup>th</sup>, 2010, a near-source monitoring well, MW-1, was installed approximately 90 ft southeast of the former junction box. Soil samples were collected at regular intervals and representative samples were sent to a commercial laboratory for analysis. An up-gradient monitoring well, MW-2, was installed on January 30<sup>th</sup>, 2012, and soil samples were collected at regular intervals.

An ICP Report and Corrective Action Plan (CAP) was submitted to NMOCD on June 21<sup>st</sup>, 2018 and is currently pending NMOCD response. The ICP Report and CAP proposed ROC install a 20-mil, reinforced liner at a depth of 4-5 ft bgs. The report also proposed a chloride mass calculation for groundwater recovery.

The wells have been sampled regularly per NMOCD guidelines since installation. The most recent sampling event resulted in a chloride concentration of 3,250 mg/L in MW-1 and 530 mg/L in MW-2. BTEX concentrations have remained below detectable limit in each well since installation. The samples collected from the up-gradient well (MW-2) suggests a non-ROC, up-gradient source has contributed to the degradation of groundwater quality. On February 2<sup>nd</sup>, 2022, NMOCD granted approval to cease BTEX and sulfate analyses. NMOCD also requested abatement options to submitted to address the source. ROC is currently working with the landowner to gain access to begin remediation at this site. Once an agreement has been made, ROC will review the previously submitted ICP Report and CAP and resubmit to NMOCD via the portal. ROC will also continue quarterly sampling in 2023.

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 2022.

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.

Sincerely,

Katil Davis

Katie Davis Environmental Manager RICE Operating Company (ROC)

appendix

## Received by OCD: 3/30/2023 10:55:22 AM Geographic Location

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Received by OCD: 3/30/2023 10:55:22 AM Installed Monitor Wells



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MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
1	77.45	88.65	1.8	10	4/11/2010	760	1,740	<0.001	<0.001	<0.001	<0.003	90.7	Clear No odor
1	77.47	88.65	1.8	10	6/3/2010	920	2,940	<0.001	<0.001	<0.001	<0.003	82	Clear No odor
1	77.31	88.65	1.8	10	8/24/2010	1,010	2,110	<0.001	<0.001	<0.001	<0.003	93.1	Clear No odor
1	77.22	88.65	1.8	10	12/1/2010	860	1,650	< 0.001	< 0.001	< 0.001	<0.003	113	Clear No odor
1	76.99	88.65	1.9	10	3/10/2011	900	2,140	< 0.001	< 0.001	< 0.001	<0.003	81.5	Clear No odor
1	76.66	88.65	1.9	10	6/15/2011	960	2,230	< 0.001	< 0.001	< 0.001	<0.003	99.7	Clear No odor
1	76.54	88.65	1.9	10	9/14/2011	1,000	2,320	<0.001	< 0.001	< 0.001	<0.003	105	Clear No odor
1	76.37	88.65	2	10	12/8/2011	1,120	2,270	<0.001	<0.001	<0.001	<0.003	92.9	Clear No odor
1	76.14	88.65	2	10	3/8/2012	1,040	2,490	<0.001	<0.001	<0.001	<0.003	94.9	Clear No odor
1	75.98	88.65	2	10	6/5/2012	1,240	2,520	<0.001	<0.001	<0.001	<0.003	94.3	Clear No odor
1	75.87	88.65	2	10	9/19/2012	1,240	2,710	<0.001	<0.001	<0.001	<0.003	99.7	Clear No odor
1	75.81	88.65	2.1	10	11/27/2012	1,280	2,510	<0.001	<0.001	<0.001	<0.003	94.6	Clear No odor
1	75.77	88.65	2.1	10	2/27/2013	1,560	2,460	<0.001	<0.001	<0.001	<0.003	107	Clear No odor
1	75.38	88.65	2.1	10	6/14/2013	1,180	2,390	<0.001	<0.001	<0.001	<0.003	99	Clear No odor
1	75.26	88.65	2.1	10	9/12/2013	1,260	2,820	<0.001	<0.001	<0.001	<0.003	74	Clear No odor
1	75.14	88.65	2.2	10	11/21/2013	1,220	2,990	<0.001	<0.001	<0.001	<0.003	104	Clear No odor
1	75.07	88.65	2.2	10	3/18/2014	1,300	2,530	<0.001	<0.001	<0.001	<0.003	90.7	Clear No odor
1	74.86	88.65	2.2	10	6/20/2014	1,040	2,740	<0.001	<0.001	<0.001	<0.003	91.1	Clear No odor
1	74.73	88.65	2.2	10	8/29/2014	1,180	3,040	<0.001	<0.001	<0.001	<0.003	90	Clear No odor
1	74.68	88.65	2.2	10	12/16/2014	1,220	2,560	<0.001	<0.001	<0.001	<0.001	53.4	Clear No odor
1	74.44	88.65	2.3	10	3/11/2015	1,100	2,790	<0.001	<0.001	<0.001	<0.003	65.8	Clear No odor
1	74.23	88.65	2.3	10	6/10/2015	1,140	2,800	<0.001	<0.001	<0.001	<0.003	82.3	Clear No odor
1	74.13	88.65	2.3	10	8/27/2015	1,240	3,300	<0.001	<0.001	<0.001	<0.003	64	Clear No odor
1	73.98	88.65	2.3	10	11/25/2015	1,320	3,220	<0.001	<0.001	<0.001	<0.003	88.4	Clear No odor
1	73.75	88.65	2.3	10	3/23/2016	1,930	3,910	<0.001	< 0.001	< 0.001	<0.003	79	Clear No odor
1	73.7	88.65	2.4	10	6/7/2016	1,670	3,830	<0.001	<0.001	<0.001	<0.003	101	Clear No odor
1	73.62	88.65	2.4	10	9/19/2016	1,680	4,040	<0.001	<0.001	<0.001	<0.003	97	Clear No odor
1	73.58	88.65	2.4	10	12/2/2016	1,600	3,200	<0.001	<0.001	<0.001	<0.003	135	Clear No odor
1	73.43	88.65	2.4	10	3/10/2017	2,030	3,920	<0.001	<0.001	<0.001	<0.003	92.6	Clear No odor

мw	Depth to	Total	Well	Volume	Comula Data		TDC	Domanno	Taluana	Ethyl	Total	Cultata	Commonto
	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Suirate	Comments
1	73.49	88.65	2.4	10	6/20/2017	1,700	4,130	<0.001	<0.001	<0.001	<0.003	82.7	Clear No odor
1	73.2	88.65	2.5	15	9/22/2017	2,030	4,000	<0.001	<0.001	<0.001	<0.003	129	Clear No odor
1	73.08	88.65	2.5	15	12/13/2017	1,940	4,180	<0.001	<0.001	<0.001	<0.003	102	Clear No odor
1	72.92	88.65	2.5	15	3/15/2018	2,330	3,450	<0.001	<0.001	<0.001	<0.003	96	Clear No odor
1	72.78	88.65	2.5	15	6/13/2018	2,020	4,280	<0.001	<0.001	<0.001	<0.003	91	Clear No odor
1	72.69	88.65	2.6	15	9/13/2018	2,230	4,290	<0.001	<0.001	<0.001	<0.003	95	Clear No odor
1	72.58	88.65	2.6	15	12/4/2018	2,570	3,310	<0.001	<0.001	<0.001	<0.003	116	Clear No odor
1	72.44	88.65	2.6	15	3/21/2019	2,370	4,010	<0.001	<0.001	<0.001	<0.003	102	Clear No odor
1	72.4	88.65	2.6	15	6/18/2019	2,350	3,960	<0.001	<0.001	<0.001	<0.003	107	Clear No odor
1	72.42	88.65	2.6	15	9/19/2019	2,570	4,730	<0.001	<0.001	<0.001	<0.003	101	Clear No odor
1	71.96	88.65	2.7	15	12/4/2019	2,540	4,260	<0.001	<0.001	<0.001	<0.003	100	Clear No odor
1	71.92	88.65	2.7	10	3/13/2020	2,770	4,500	<0.001	<0.001	<0.001	<0.003	114	Clear No odor
1	71.59	88.65	2.7	10	9/24/2020	3,100	4,860	XXX	XXX	XXX	XXX	91.8	Clear No odor
1	71.49	88.65	2.7	15	3/24/2021	3,250	5,930	<0.001	<0.001	<0.001	<0.003	122	Clear No odor
1	71.39	88.65	2.8	15	6/22/2021	3,100	5,330	<0.001	<0.001	<0.001	<0.003	150	Clear No odor
1	71.43	88.65	2.8	15	9/22/2021	3,330	7,660	<0.001	<0.001	<0.001	<0.003	92	Clear No odor
1	71.4	88.65	2.8	15	11/30/2021	3,070	5,310	<0.001	<0.001	<0.001	<0.003	123	Clear No odor
1	71.5	88.65	2.7	15	3/24/2022	3,900	5,280	<0.001	<0.001	<0.001	<0.003	92.6	Clear No odor
1	71.21	88.65	2.8	15	6/21/2022	4,500	7,360	XXX	XXX	XXX	XXX	XXX	Clear No odor
1	71.02	88.65	2.8	15	9/19/2022	3,830	6,220	XXX	XXX	XXX	XXX	XXX	Clear No odor
1	71	88.65	2.8	15	12/9/2022	3,250	5,600	XXX	XXX	XXX	XXX	XXX	Clear No odor

мw	Depth to	Total	Well	Volume	Sample Date	CI	TDS	Benzene	Toluene	Ethyl	Total	Sulfato	Comments
	Water	Depth	Volume	Purged	Sample Date	CI	105	Delizene	Toluelle	Benzene	Xylenes	Sunate	comments
2	71.84	93.7	3.5	15	3/8/2012	272	887	<0.001	<0.001	<0.001	<0.003	108	Clear No odor
2	79.74	93.7	2.2	15	6/5/2012	284	876	<0.001	<0.001	<0.001	<0.003	97	Clear No odor
2	79.6	93.7	2.3	15	9/19/2012	452	1,250	<0.001	<0.001	<0.001	<0.003	119	Clear No odor
2	79.61	93.7	2.3	15	11/27/2012	500	1,300	<0.001	<0.001	<0.001	<0.003	108	Clear No odor

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Sample Bate	Ci	105	Denzene	Toracite	Benzene	Xylenes	Sunace	connicitos
2	79.47	93.7	2.3	15	2/27/2013	308	878	<0.001	<0.001	<0.001	<0.003	122	Clear No odor
2	79.14	93.7	2.3	15	6/14/2013	360	1,180	<0.001	<0.001	<0.001	<0.003	127	Clear No odor
2	79.03	93.7	2.3	15	9/12/2013	364	1,160	<0.001	<0.001	<0.001	<0.003	98	Clear No odor
2	78.9	93.7	2.4	15	11/21/2013	450	1,270	<0.001	<0.001	<0.001	<0.003	135	Clear No odor
2	78.81	93.7	2.4	15	3/18/2014	336	910	<0.001	<0.001	<0.001	<0.003	106	Clear No odor
2	78.62	93.7	2.4	15	6/20/2014	268	838	<0.001	<0.001	<0.001	<0.003	89	Clear No odor
2	78.44	93.7	2.4	15	8/29/2014	320	938	<0.001	<0.001	<0.001	<0.003	105	Clear No odor
2	78.37	93.7	2.5	15	12/16/2014	288	920	<0.001	<0.001	<0.001	<0.003	97.3	Clear No odor
2	78.16	93.7	2.5	15	3/11/2015	288	854	<0.001	<0.001	<0.001	<0.003	67	Clear No odor
2	78.01	93.7	2.5	15	6/10/2015	388	1,220	<0.001	<0.001	<0.001	<0.003	96	Clear No odor
2	77.89	93.7	2.5	15	8/27/2015	360	1,090	<0.001	<0.001	<0.001	<0.003	77	Clear No odor
2	77.75	93.7	2.6	15	11/25/2015	388	1,000	<0.001	<0.001	<0.001	<0.003	109	Clear No odor
2	77.52	93.7	2.6	15	3/23/2016	352	936	<0.001	<0.001	<0.001	<0.003	98	Clear No odor
2	77.54	93.7	2.6	15	6/7/2016	344	1,020	<0.001	<0.001	<0.001	<0.003	124	Clear No odor
2	77.37	93.7	2.6	15	9/19/2016	376	1,190	<0.001	<0.001	<0.001	<0.003	146	Clear No odor
2	77.33	93.7	2.6	15	12/2/2016	352	916	<0.001	<0.001	<0.001	<0.003	107	Clear No odor
2	77.13	93.7	2.6	15	3/10/2017	340	998	<0.001	<0.001	<0.001	<0.003	106	Clear No odor
2	77.16	93.7	2.6	15	6/20/2017	372	1,100	<0.001	<0.001	<0.001	<0.003	108	Clear No odor
2	76.89	93.7	2.7	15	9/22/2017	256	956	<0.001	< 0.001	<0.001	<0.003	106	Clear No odor
2	76.79	93.7	2.7	15	12/13/2017	312	886	<0.001	< 0.001	<0.001	<0.003	147	Clear No odor
2	76.63	93.7	2.7	15	3/15/2018	380	986	<0.001	< 0.001	<0.001	<0.003	105	Clear No odor
2	76.49	93.7	2.8	15	6/13/2018	396	698	<0.001	<0.001	<0.001	<0.003	109	Clear No odor
2	76.43	93.7	2.8	15	9/13/2018	396	1,200	<0.001	< 0.001	<0.001	<0.003	100	Clear No odor
2	76.31	93.7	2.8	15	12/4/2018	456	1,110	<0.001	< 0.001	< 0.001	<0.003	131	Clear No odor
2	76.15	93.7	2.7	15	3/21/2019	420	1,080	<0.001	<0.001	< 0.001	<0.003	99	Clear No odor
2	76.12	93.7	2.8	15	6/18/2019	460	1,280	<0.001	<0.001	<0.001	<0.003	113	Clear No odor
2	76.14	93.7	2.8	15	9/19/2019	420	1,190	<0.001	<0.001	<0.001	<0.003	105	Clear No odor
2	75.71	93.7	2.9	15	12/4/2019	480	1,240	<0.001	<0.001	< 0.001	<0.003	114	Clear No odor
2	75.62	93.7	2.9	15	3/13/2020	500	1,080	<0.001	<0.001	<0.001	<0.003	119	Clear No odor

MW	Depth to	Total	Well	Volume	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Sample Date	CI	103	Delizene	Toluelle	Benzene	Xylenes	Sunate	comments
2	75.32	93.7	2.9	15	9/24/2020	510	1,200	XXX	XXX	XXX	XXX	105	Clear No odor
2	75.16	93.7	3	15	3/24/2021	452	1,180	<0.001	<0.001	<0.001	<0.003	121	Clear No odor
2	75.1	93.7	3	15	6/22/2021	510	1,340	<0.001	<0.001	<0.001	<0.003	104	Clear No odor
2	75.12	93.7	3	15	9/22/2021	510	1,520	<0.001	<0.001	<0.001	<0.003	91.4	Clear No odor
2	75.1	93.7	3	15	11/30/2021	530	1,320	<0.001	<0.001	<0.001	<0.003	129	Clear No odor
2	75.14	93.7	3	15	3/24/2022	630	1,380	<0.001	<0.001	<0.001	<0.003	133	Clear No odor
2	74.94	93.7	3	15	6/21/2022	520	1,660	XXX	XXX	XXX	XXX	XXX	Clear No odor
2	74.74	93.7	3	15	9/19/2022	550	1,330	XXX	XXX	XXX	XXX	XXX	Clear No odor
2	74.68	93.7	3	15	12/9/2022	530	1,190	XXX	XXX	XXX	XXX	XXX	Clear No odor





December 19, 2022

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

**RE: JUSTIS P-2 VENT** 

Enclosed are the results of analyses for samples received by the laboratory on 12/13/22 13:35.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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. Keine

Celey D. Keene Lab Director/Quality Manager



#### Analytical Results For:

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

Received:	12/13/2022	Sampling Date:	12/09/2022
Reported:	12/19/2022	Sampling Type:	Water
Project Name:	JUSTIS P-2 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T25S-R37E-SEC2 P-LEA CTY., NM		

#### Sample ID: MONITOR WELL #1 (H225871-01)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	3250	4.00	12/13/2022	ND	104	104	100	0.00	
TDS 160.1	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	5600	5.00	12/16/2022	ND	582	118	495	1.36	

#### Sample ID: MONITOR WELL #2 (H225871-02)

Chloride, SM4500CI-B	mg	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	530	4.00	12/13/2022	ND	104	104	100	0.00	
TDS 160.1	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1190	5.00	12/16/2022	ND	582	118	495	1.36	

#### **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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celeg D. Keine

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 whatscever 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, whother business interruptors, loss of use, or loss of profits incurred by client, its subsidiaries, afflicate or successor 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.

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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September 27, 2022

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

**RE: JUSTIS P-2 VENT** 

Enclosed are the results of analyses for samples received by the laboratory on 09/22/22 15:45.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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. Keine

Celey D. Keene Lab Director/Quality Manager



#### Analytical Results For:

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

Received:	09/22/2022	Sampling Date:	09/19/2022
Reported:	09/27/2022	Sampling Type:	Water
Project Name:	JUSTIS P-2 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T25S-R37E-SEC2 P-LEA CTY., NM		

#### Sample ID: MONITOR WELL #1 (H224416-01)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	3830	4.00	09/23/2022	ND	104	104	100	0.00	
TDS 160.1	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	6220	5.00	09/27/2022	ND	525	105	500	3.42	

#### Sample ID: MONITOR WELL #2 (H224416-02)

Chloride, SM4500CI-B	mg	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	550	4.00	09/23/2022	ND	104	104	100	0.00	
TDS 160.1	mg	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1330	5.00	09/27/2022	ND	525	105	500	3.42	

#### **Cardinal Laboratories**

\*=Accredited Analyte

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Celeg D. Keine

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

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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June 27, 2022

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

**RE: JUSTIS P-2 VENT** 

Enclosed are the results of analyses for samples received by the laboratory on 06/23/22 11:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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 <a href="https://www.tceq.texas.gov/field/ga/lab\_accred\_certif.html">www.tceq.texas.gov/field/ga/lab\_accred\_certif.html</a>.

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. Keine

Celey D. Keene Lab Director/Quality Manager



#### Analytical Results For:

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

Received:	06/23/2022	Sampling Date:	06/21/2022
Reported:	06/27/2022	Sampling Type:	Water
Project Name:	JUSTIS P-2 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T25S-R37E-SEC2 P-LEA CTY., NM		

#### Sample ID: MONITOR WELL #1 (H222691-01)

Chloride, SM4500Cl-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	4500	4.00	06/24/2022	ND	100	100	100	3.92	
TDS 160.1	mg,	/L	Analyze	d By: GM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	7360	5.00	06/27/2022	ND	551	110	500	6.75	

#### Sample ID: MONITOR WELL #2 (H222691-02)

Chloride, SM4500CI-B	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	520	4.00	06/24/2022	ND	100	100	100	3.92	
TDS 160.1	mg,	/L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1660	5.00	06/24/2022	ND	551	110	500	6.75	

#### **Cardinal Laboratories**

\*=Accredited Analyte

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Celeg D. Keine

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

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Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager

East Marland - Hobbs, NM 88240 Tel (575) 393-2326 Fax (575) 393-2476	na	II	_a	b	01	ra	t	or	ie	es,	, ]	In	IC.		$\left  \right $		С	HA		No. of Concession, Name	Concession of the		-	NY A	AND	A	NA	LY	SIS	RE	QUE	ST	-
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April 04, 2022

KATIE JONES Rice Operating Company 112 W. Taylor Hobbs, NM 88240

**RE: JUSTIS P-2 VENT** 

Enclosed are the results of analyses for samples received by the laboratory on 03/29/22 15:21.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-21-14. 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 <a href="https://www.tceq.texas.gov/field/qa/lab\_accred\_certif.html">www.tceq.texas.gov/field/qa/lab\_accred\_certif.html</a>.

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. Keine

Celey D. Keene Lab Director/Quality Manager



#### Analytical Results For:

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

Received:	03/29/2022	Sampling Date:	03/24/2022
Reported:	04/04/2022	Sampling Type:	Water
Project Name:	JUSTIS P-2 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T25S-R37E-SEC2 P-LEA CTY., NM		

#### Sample ID: MONITOR WELL #1 (H221248-01)

mg/	L	Analyze	d By: MS\					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<0.001	0.001	04/01/2022	ND	0.020	102	0.0200	0.142	
<0.001	0.001	04/01/2022	ND	0.020	99.0	0.0200	0.890	
< 0.001	0.001	04/01/2022	ND	0.020	99.0	0.0200	1.65	
<0.003	0.003	04/01/2022	ND	0.062	104	0.0600	1.65	
<0.006	0.006	04/01/2022	ND					
102 %	6 77.1-12	4						
mg/	L	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
3900	4.00	03/29/2022	ND	104	104	100	0.00	
mg/	L	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
92.6	25.0	04/01/2022	ND	19.8	99.0	20.0	3.33	
mg/	L	Analyze	d By: AC					
Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
	Result <0.001 <0.001 <0.003 <0.006 <i>102 %</i> mg/ Result <b>3900</b> mg/ Result <b>92.6</b>	<ul> <li>&lt;0.001</li> <li>0.001</li> <li>&lt;0.001</li> <li>0.001</li> <li>&lt;0.003</li> <li>&lt;0.006</li> <li>0.006</li> <li></li> <li>102 % 77.1-12</li> <li>mg/L</li> <li>Result</li> <li>Reporting Limit</li> <li>3900</li> <li>4.00</li> <li>mg/L</li> </ul>	Result       Reporting Limit       Analyzed         <0.001	Result         Reporting Limit         Analyzed         Method Blank           <0.001	Result         Reporting Limit         Analyzed         Method Blank         BS           <0.001	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery           <0.001	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC           <0.001	Result         Reporting Limit         Analyzed         Method Blank         BS         % Recovery         True Value QC         RPD           <0.001

#### 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 sample identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celez D. Keine

Celey D. Keene, Lab Director/Quality Manager



#### Analytical Results For:

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

Received:	03/29/2022	Sampling Date:	03/24/2022
Reported:	04/04/2022	Sampling Type:	Water
Project Name:	JUSTIS P-2 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Shalyn Rodriguez
Project Location:	T25S-R37E-SEC2 P-LEA CTY., NM		

#### Sample ID: MONITOR WELL #2 (H221248-02)

BTEX 8021B	mg/	'L	Analyze	d By: MS\					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	04/01/2022	ND	0.020	102	0.0200	0.142	
Toluene*	< 0.001	0.001	04/01/2022	ND	0.020	99.0	0.0200	0.890	
Ethylbenzene*	< 0.001	0.001	04/01/2022	ND	0.020	99.0	0.0200	1.65	
Total Xylenes*	<0.003	0.003	04/01/2022	ND	0.062	104	0.0600	1.65	
Total BTEX	<0.006	0.006	04/01/2022	ND					
Surrogate: 4-Bromofluorobenzene (PID	101 9	% 77.1-12	4						
Chloride, SM4500Cl-B	mg/	Έ.	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	630	4.00	03/29/2022	ND	104	104	100	0.00	
Sulfate 375.4	mg/	Έ	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	133	25.0	04/01/2022	ND	19.8	99.0	20.0	3.33	
TDS 160.1	mg/	'L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1380	5.00	04/01/2022	ND	520	104	500	0.360	

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Celez D. Keine

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

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

101 East Marland - Hobbs, NM 88240 Tel (575) 393-2326 Fax (575) 393-2476 Company Name: RICE Operating Company Project Manager: Katie Jones Address: (Street, City, Zip)	al Laboratories, Inc. BILL TO COMPANY: PO# RICE Operating Company Address: (Street, City, Zip) 122 W Taylor Street, Hun	Page 1 of 1 o
(Street, City, Zip) 122 W Taylor Street ~ Hobbs, New Mexico 88240 Phone #: (575) 393-9174 Fax	122 W Taylor Street ~ Hobbs, New Mexico 88240         Phone#: Fax#:         (575) 393-9174       (575)397-1471         #:       (575)397-1471         5)397-1471       Sampler Bignature: Rozatine Johnson (5/5)631-9310         MATRIX       PRESERVATIVE METHOD       SAMPLING         WATRIX       PRESERVATIVE SAMPLING       Unit (1,1)         Water Bignature:       Rozatine Johnson (5/5)631-9310         Matrix       PRESERVATIVE METHOD       SAMPLING         UNU       UN0       Unit (1,1)       Unit (1,1)         Solor       UN0       Unit (1,1)       Unit (1,1)         Station       UN0       Unit (1,1)       Unit (1,1)         Solor       UN0       Unit (1,1)       Unit (1,1)         Sampler Bignature:       No       Unit (1,1)       Unit (1,1)         Solor       Unit (1,1)       Unit (1,1)       Unit (1,1)         Sampler Bignature:       Sampler Bignature:       Sampler Bignature:         Sampler Bignature:       No       Unit (1,1)       Unit (1,1)         Sampler Bignature:       Sampler Bignature:       Unit (1,1)       Unit (1,1)         Sampler Bignature:       Sampler Bignature:       Unit (1,1)       Unit (1,1)         S	<ul> <li>× × × BTEX 8021B/602</li> <li>TPH 418.1/TX1005 / TX1005 Extended (C35)</li> <li>PAH 8270C</li> <li>PCLP Wetals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7</li> <li>TCLP Pesticides</li> <li>TCLP Pesticides</li> <li>PCLP Pesticides</li> <li>PCLP Pesticides</li> <li>PCLP Pesticides</li> <li>PCLP Pesticides</li> <li>PCLP Pesticides</li> <li>PCLP Pesticides</li> <li>PCS</li> <li>PCS</li> <li>B0D, TSS, pH</li> <li>Moisture Content</li> <li>Cations (Ca, Mg, Na, K)</li> <li>Moisture Content</li> <li>Cations (Cl, SO4, CO3, HCO3)</li> <li>X Total Dissolved Solids</li> <li>X Total Dissolved Solids</li> <li>X Chlorides</li> </ul>
perished by: perished by: perished by: perished by: Date: Time: Parished by: Date: Time: Received Received Received Sample Cor Sample Cor Pler - UPS - Bus - Other: No	Date: Time: Phone Date: Time: Phone By: (Laboratory Staff) Date: Time: REMAR	sults Yes No. A line

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District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

## **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Action 202294

CONDITIONS					
Operator:	OGRID:				
RICE OPERATING COMPANY	19174				
122 W Taylor	Action Number:				
Hobbs, NM 88240	202294				
	Action Type:				
	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)				

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2022 Annual Groundwater Report: Content satisfactory 1. Continue sampling all site groundwater monitor wells on a quarterly schedule 2. OCD requires additional groundwater monitor wells (refer to site map for acceptable areas) be installed and sampled during 2023 (see site map for acceptable well locations). 3. A groundwater gradient map be included in the next annual monitoring report. 4. Provide alternative abatement options to effectively reduce chloride & total dissolved solids in groundwater at the source and down gradient areas in the near future. 5. Submit summarized activities completed and their results in a 2022 Annual Report. Submittal to OCD expected no later than April 1, 2024.	4/10/2023