L Peter Galusky, Jr PE

5935 Exeter Circle Norcross, GA 30071 | 470 955-5335 | peter@bluerock.pro

April 1st, 2020

Bradford Billings

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87505

RE: 2019 Annual Report Rice Operating Company Vacuum N-6-1 Jct, UL N, Sec 6, T18S, R35E OCD Case Number 1R0479

Sent by E-mail

Mr. Billings:

This letter summarizes progress made over the past calendar year pursuant to the NMOCD approved Corrective Action Plan for this site (Appendix - Figure 1), which is operated by Rice Operating Company (ROC).

ROC submitted a Vadose Zone Corrective Action Plan (CAP) Update to NMOCD on November 8th, 2013, and approved on November 20th, 2013, which entailed the removal of high-chloride soils to 3 ft bgs and the installation of an impermeable, 20-mil reinforced synthetic liner to reduce the potential downward migration of residual soil chlorides (Appendix - Figure 2). This work was completed in 2014 and is summarized in the Vadose Zone CAP Report & Soil Closure Request dated and submitted to NMOCD on August 12th, 2014. NMOCD approved the report and granted 'Soil Closure' on September 18th, 2014.

ROC continued to monitor groundwater chloride concentrations during 2019. In brief,

- Approximately 41,927 barrels of chloride-affected groundwater have been removed from the source area between January 2008 and October 2019, when the system was shut down for the winter (Figure 3). The removed groundwater was hauled to an off-site location and utilized for a beneficial use.
- Average annual groundwater chloride concentrations in the near-source monitor well (MW-1) have dropped from 21,700 mg/l in 2006 to 5,100 mg/l in 2014 (Figure 3, Tables 1&2a). This well was replaced in summer 2014 with a new monitor well, MW-1R, after being damaged during the installation of the sub-surface soil liner. Groundwater chloride concentrations in MW-1R averaged 503 mg/l in 2019, down substantially from 915 mg/l in 2018 (Figure 3, Tables 1a, b & 2b).

L Peter Galusky, Jr PE

- Groundwater chloride concentrations in up and down gradient monitor wells (MW-2, MW-3 and MW-4) have continued to remain low throughout 2019 with concentrations below 50 mg/l (Figure 3, Tables 1a,b & 2b 2d).
- Average annual groundwater chloride concentrations in the (down-gradient) recovery well (RW-1) dropped substantially from 1,360 mg/l in 2018 to 713 mg/l in 2019 (Figure 3, Tables 1a, b & 2e).

Water-soluble petroleum hydrocarbons (BTEX) were not detected in any of the groundwater samples taken in 2019 nor in any prior years. Given BTEX concentrations have been below detectable limits since installation, ROC requests to suspend BTEX sampling in all monitoring wells (MW-1R, MW-2, MW-3, MW-4, and RW-1) in 2020. Further, due to the current climate, and in the interest of safety, ROC proposes to reduce groundwater monitoring from quarterly to semi-annually for the remainder of this year. In addition, ROC proposes 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.

ROC is the service provider (agent) for the Vacuum Saltwater Disposal System and has no ownership of any portion of pipeline, well or facility. The Vacuum SWD System is owned by a consortium of oil producers, System Parties, who provide all operating capital on a percentage ownership/usage basis. The Vacuum system is now abandoned.

Please contact either myself or Rice Operating Company if you have any questions or need additional information.

Sincerely,

L. Peter Galusky, Jr. P.E. NM Prof. Engineer No. 22561



Copy: Rice Operating Company Attachments: ... as noted, above.

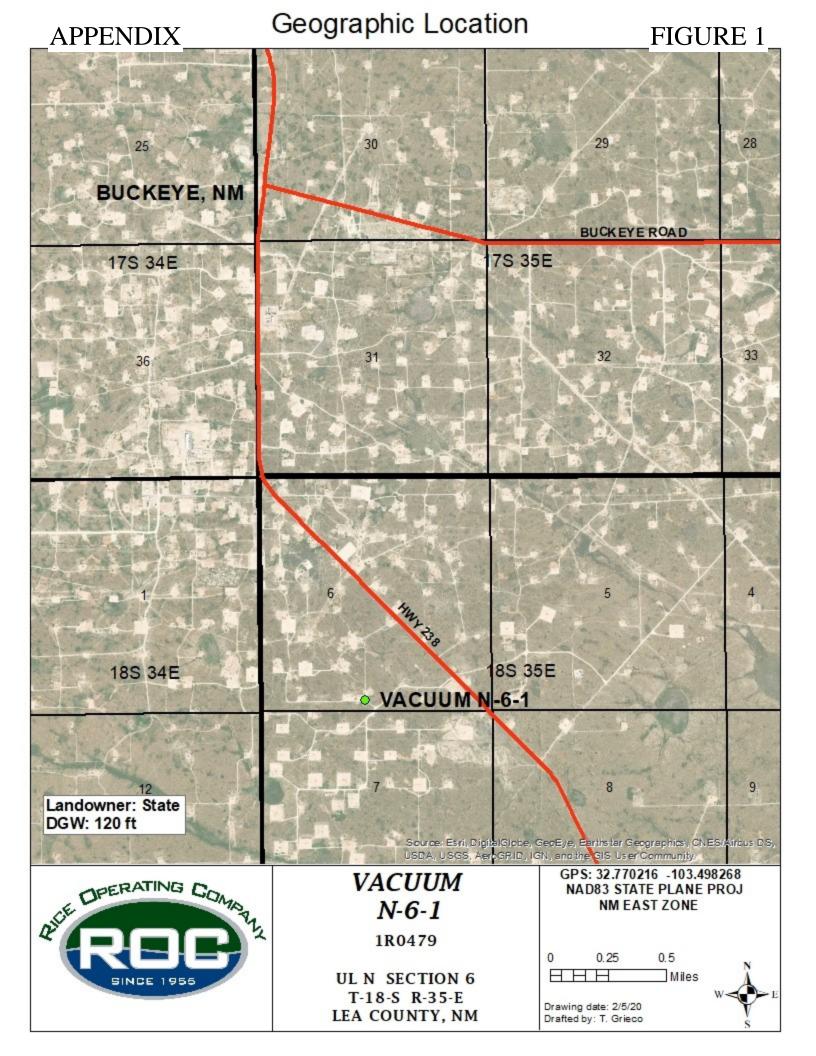
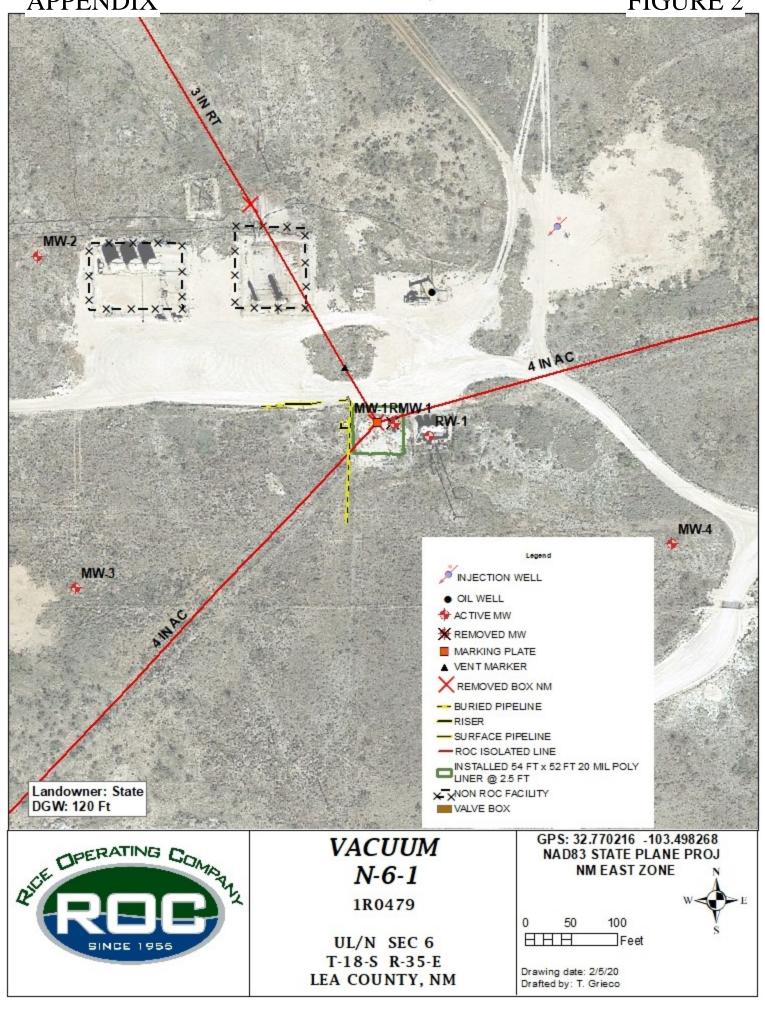


FIGURE 2



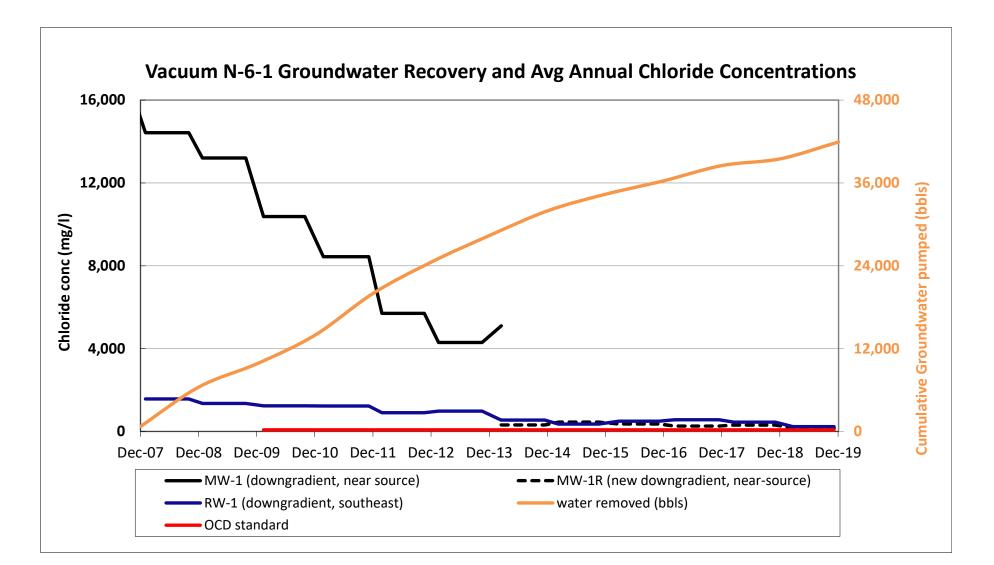


FIGURE 3

Table 1a

date	MW-1 (downgradient, near source)	MW-1R (new downgradient, near-source)	MW-2 (upgradient northwest)	MW-3 (upgradient, southwest)	(downgradient,	RW- 1 (downgradient southeast
	<u>`</u>	-	<u>`</u>			
May-07	16,898		25	24	42	
Sep-07	16,898		25	24	42	
Oct-07	16,898		25	24	42	
Jan-08	14,425		32	27	41	4,713
Apr-08	14,425		32 32	27 27	41 41	4,713
Aug-08 Oct-08	14,425 14,425		32 32	27	41	4,713 4,713
Jan-09	13,200		32 30	27	34	4,713
Apr-09	13,200		30	27	34	4,050
Aug-09	13,200		30	27	34	4,050
Oct-09	13,200		30	27	34	4,050
Feb-10	10,375		27	23	39	3,73
Apr-10	10,375		27	23	39	3,733
Aug-10	10,375		27	23	39	3,733
Oct-10	10,375		27	23	39	3,73
Feb-11	8,433		27	25	37	3,700
Jun-11	8,433		27	25	37	3,70
Sep-11	8,433		27	25	37	3,700
Dec-11	8,433		27	25	37	3,70
Feb-12	5,700		31	24	38	2,71
Jun-12	5,700		31	24	38	2,71
Aug-12	5,700		31	24	38	2,718
Nov-12	5,700		31	24	38	2,71
Feb-13	4,295		30	28	31	2,94
May-13	4,295		30	28	31	2,94
Sep-13	4,295		30	28	31	2,94
Nov-13	4,295		30	28	31	2,94
Mar-14	5,100	960	64	28	37	1,65
Jun-14		960	64	28	37	1,65
Aug-14		960	64	28	37	1,65
Dec-14		960	64	28	37	1,65
Mar-15		1,350	37	27	30	1,07
Jun-15		1,350	37	27	30	1,07
Aug-15		1,350	37	27	30	1,07
Nov-15		1,350	37	27	30	1,07
Mar-16		1,093	47	24	43	1,48
Jun-16		1,093	47	24	43	1,48
Sep-16		1,093	47	24	43	1,48
Nov-16		1,093	47	24	43	1,48
Mar-17		776	39	34	37	1,70
Jun-17		776	39	34	37	1,70
Sep-17		776	39	34	37	1,70
Dec-17		776	39 51	34	37	1,70
Mar-18		915	51	37	41	1,36
Jun-18		915	51	37	41	1,36
Sep-18		915	51	37	41	1,36
Nov-18		915 502	51	37	41	1,36
Mar-19		503 503	33	34	32	71
Jun-19		503 503	33	34	32	71:
Sep-19 Dec-19		503 503	33 33	34 34	32 32	71: 71:

data	MW-1 (downgradient,	•	MW-2 (upgradient northwest)	MW-3 (upgradient, southwest)	MW-4 (downgradient,	RW-1 (downgradient, southeast)	OCI standar
date	near source)	near-source)	,		southeast)	soumeasi	
5/29/2007	18,500		24	24	37	5 200	25
9/25/2007	15,795		24	24	44	5,398	25
0/17/2007	16,400		28	24	44	5,400	250
1/31/2008	15,400		28	24	40	5,300	250
4/24/2008	14,300		28 32	24 24	40 44	3,900	250
8/7/2008	14,000		32 40	24 36		3,800	25
0/30/2008 1/23/2009	14,000 13,600		40 36	36	40 36	5,850 5,600	25
4/29/2009	14,200		30 24	30 24	30 40	5,800 4,050	25 25
4/29/2009 8/7/2009	12,800		24 36	24	40 24	4,050 3,000	25 25
0/22/2009	12,800		30 24	24	36	3,550	25
2/11/2010	12,200		24	24	36	3,900	25
4/26/2010	10,700		28	24	36	4,200	25
8/5/2010	9,800		28	24	40	3,800	25
0/28/2010	8,900		20	24	40	3,200	25
2/21/2011	7,730		24	20	40	2,550	25
6/6/2011	9,800		24	32	40	4,800	25
9/2/2011	9,300		32	20	24	4,800	25
12/4/2011	6,900		24	24	44	3,250	25
2/24/2012	6,000		24	24	36	2,800	25
6/1/2012	5,700		32	24	40	3,250	25
8/31/2012	5,700		40	28	36	2,550	25
1/16/2012	5,400		28	24	40	2,330	25
2/14/2013	4,850		36	28	44	3,900	25
5/23/2013	5,100		24	28	28	4,200	25
9/4/2013	4,100		28	24	20	1,880	25
1/13/2013	3,130		32	32	28	1,800	25
3/14/2014	5,100		68	40	40	2,070	25
6/24/2014	0,100		60	24	20	1,640	25
8/22/2014		1,300	60	24	28	1,400	25
2/12/2014		620	68	24	60	1,500	25
3/9/2015		2,270	24	24	36	1,300	25
6/8/2015		1,110	48	28	32	1,020	25
8/25/2015		1,100	36	28	24	1,100	25
1/17/2015		920	40	28	28	880	25
3/21/2016		1,300	60	28	60	840	25
6/3/2016		1,300	44	4	40	1,040	25
9/21/2016		710	28	28	32	2,130	25
1/28/2016		1,060	56	36	40	1,930	25
3/8/2017		1,340	32	32	32	1,930	25
6/8/2017		32	36	32	36	1,740	25
9/20/2017		570	32	28	24	1,580	25
2/11/2017		1,160	56	44	56	1,580	25
3/13/2018		1,520	80	44	60	1,580	25
6/8/2018		570	64	44	44	1,480	25
9/17/2018		510	32	28	28	1,500	25
1/29/2018		1,060	28	32	32	880	25
3/19/2019		730	44	48	48	870	25
6/14/2019		450	28	28	24	710	25
9/18/2019		430	28	28	24	650	25
12/3/2019		404	32	32	28	620	2

Groundwater Analyte Concentrations (mg/l)

MW Depth to Water Total Depth Well Volume Volume Purged Sample Date Cl Date TDS Benzene Toluene Benzene Ethyl Benzene Total Suffac Comments 1 116.4 125.8 1.5 10.0 10/18/2006 21,400 40,100 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 Sistot	,									7		l			
1 116.4 125.8 1.5 10.0 10/18/2006 21,400 40,100 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.003 128 Sitt to clear Siight 1 117.2 125.1 1.2 5.0 10/3/2008 14,000 24,200 <0.001		Comments	Sulfate			Toluene	Benzene	TDS							MW
1 116.7 125.1 1.4 10.0 3/7/2007 20,200 28,100 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 584 Silt to clear Slight (1 1 117.0 125.1 1.3 5.0 9/25/2007 15,795 27,714 <0.002		Silt to clear	475	-		< 0.001	<0.001	40.100	21.400	10/18/2006	10.0	1.5	125.8	116.4	1
1 116.6 125.1 1.4 10.0 5/29/2007 18,500 35,900 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.003 143 Silt to clear Slight (1 1 117.0 125.1 1.3 5.0 1/31/2008 14,000 28,300 <0.001	it odor														
1 117.0 125.1 1.3 5.0 9/25/2007 15,795 27,714 <0.002 <0.002 <0.002 <0.001 152 Silt to clear Slight (1 1 117.0 125.1 1.3 5.0 10/17/2007 16,400 27,927 <0.001															1
1 117.0 125.1 1.3 5.0 1/31/2008 15,400 28,300 <0.001 <0.001 <0.003 148 Silt to clear Slight (11,17,2) 1 117.2 125.1 1.3 5.0 4/24/2008 14,300 24,800 <0.001				<0.006	<0.002	<0.002	<0.002	27,714	15,795	9/25/2007	5.0	1.3	125.1	117.0	1
1 117.2 125.1 1.3 5.0 4/24/2008 14,300 24,800 <0.001 <0.001 <0.003 128 Silt to clear Slight (1 1 117.7 125.1 1.2 5.0 8/7/2008 14,000 24,900 <0.001	t odor	Silt to clear Slight o	143	<0.001	<0.001	0.004	<0.001	27,927	16,400	10/17/2007	5.0	1.3	125.1	117.0	1
1 117.7 125.1 1.2 5.0 8/7/2008 14,000 24,900 <0.001 <0.001 <0.003 158 Silt to clear Slight of 1 117.6 125.1 1.2 5.0 10/30/2008 14,000 28,200 <0.001	t odor	Silt to clear Slight o	148	<0.003	<0.001	<0.001	<0.001	28,300	15,400	1/31/2008	5.0	1.3	125.1	117.0	1
1 117.6 125.1 1.2 5.0 10/30/2008 14,000 28,200 <0.001 <0.001 <0.003 126 Silt to clear Slight of 1 117.8 125.0 1.1 5.0 1/23/2009 13,600 24,200 <0.001				<0.003	<0.001	<0.001	<0.001	24,800	14,300				125.1	117.2	1
1 117.8 125.0 1.1 5.0 1/23/2009 13,600 24,200 <0.001 <0.001 <0.003 109 Silt to clear Slight of 1 118.1 125.0 1.1 5.0 4/29/2009 14,200 22,800 <0.001	it odor	Silt to clear Slight o	158	<0.003	<0.001	<0.001	<0.001	24,900	14,000	8/7/2008	5.0		125.1	117.7	1
1 118.1 125.0 1.1 5.0 4/29/2009 14,200 22,800 <0.001 <0.001 <0.003 110 Silt to clear Slight of 1 118.1 125.0 1.1 5.0 8/7/2009 12,800 21,200 <0.001	it odor	Silt to clear Slight o	126	<0.003	<0.001	<0.001	<0.001	28,200	14,000	10/30/2008	5.0			117.6	1
1 118.1 125.0 1.1 5.0 8/7/2009 12,800 21,200 <0.001 <0.001 <0.003 102 Silt to clear Slight of 1 118.4 125.0 1.0 5.0 10/22/2009 12,200 19,700 <0.001				<0.003	<0.001	<0.001	<0.001		13,600	1/23/2009	5.0			117.8	1
1 118.4 125.0 1.0 5.0 10/22/2009 12,200 19,700 <0.001 <0.001 <0.003 76 Silt to clear Slight of 1 118.3 125.0 1.1 5.0 2/11/2010 12,100 20,700 <0.001				<0.003	<0.001	<0.001	<0.001	22,800	14,200	4/29/2009	5.0	1.1	125.0	118.1	1
1 118.3 125.0 1.1 5.0 2/11/2010 12,100 20,700 <0.001 <0.001 <0.003 94 Silt to clear Slight of 1 118.8 125.0 1.0 5.0 4/26/2010 10,700 18,400 <0.001	it odor	Silt to clear Slight o	102	<0.003	<0.001	<0.001	<0.001	21,200	12,800	8/7/2009	5.0	1.1	125.0	118.1	1
1 118.8 125.0 1.0 5.0 4/26/2010 10,700 18,400 <0.001 <0.001 <0.003 96 Silt to clear Slight of 1 118.6 125.0 1.0 5.0 8/5/2010 9,800 15,600 <0.001	t odor	Silt to clear Slight o	76	<0.003	<0.001	<0.001	<0.001	19,700	12,200			1.0	125.0	118.4	1
1 118.6 125.0 1.0 5.0 8/5/2010 9,800 15,600 <0.001 <0.001 <0.003 79 Silt to clear Slight of 1 119.0 125.0 1.0 5.0 10/28/2010 8,900 16,800 <0.001	t odor	Silt to clear Slight o	94	<0.003	<0.001	<0.001	<0.001	20,700	12,100			1.1	125.0	118.3	1
1 119.0 125.0 1.0 5.0 10/28/2010 8,900 16,800 <0.001 <0.001 <0.003 82 Silt to clear Slight of 1 118.9 125.2 1.0 5.0 2/21/2011 7,730 13,200 <0.001	t odor	Silt to clear Slight o	96	<0.003	<0.001	<0.001	<0.001	18,400	10,700	4/26/2010	5.0	1.0	125.0	118.8	1
1 118.9 125.2 1.0 5.0 2/21/2011 7,730 13,200 <0.001 0.001 <0.003 60 Silt to clear Slight of 1 119.4 125.2 0.9 5.0 6/6/2011 9,800 13,700 <0.001	t odor	Silt to clear Slight o	79	<0.003	<0.001	<0.001	<0.001	15,600	9,800	8/5/2010	5.0	1.0	125.0	118.6	1
1 119.4 125.2 0.9 5.0 6/6/2011 9,800 13,700 <0.001 <0.001 <0.003 78 Silt to clear Slight of 1 120.2 125.2 0.8 5.0 9/2/2011 9,300 11,800 <0.001	t odor	Silt to clear Slight o	82		<0.001	<0.001	<0.001		8,900						1
1 120.2 125.2 0.8 5.0 9/2/2011 9,300 11,800 <0.001 <0.001 <0.003 95 Silt to clear Slight of 1 119.7 125.2 0.9 5.0 12/4/2011 6,900 11,500 <0.001	t odor	Silt to clear Slight o	60	<0.003	<0.001	0.001	<0.001	13,200	7,730	2/21/2011	5.0	1.0	125.2	118.9	1
1 119.7 125.2 0.9 5.0 12/4/2011 6,900 11,500 <0.001 <0.001 <0.003 81 Silt to clear Slight of 1 119.8 125.2 0.9 5.0 2/24/2012 6,000 10,400 <0.001				<0.003	<0.001	<0.001	<0.001	13,700	9,800	6/6/2011			125.2	119.4	1
1 119.8 125.2 0.9 5.0 2/24/2012 6,000 10,400 <0.001 <0.001 <0.003 78 Silt to clear Slight of 1 119.8 125.2 0.9 5.0 6/1/2012 5,700 10,100 <0.001	t odor	Silt to clear Slight o	95	<0.003	<0.001	<0.001	<0.001	11,800	9,300	9/2/2011	5.0	0.8	125.2	120.2	1
1 119.8 125.2 0.9 5.0 6/1/2012 5,700 10,100 <0.001 <0.001 <0.003 77 Silt to clear Slight of 1 119.8 125.2 0.9 5.0 8/31/2012 5,700 9,330 <0.001	t odor	Silt to clear Slight o	81	<0.003	<0.001	<0.001	<0.001	11,500	6,900					119.7	1
1 119.8 125.2 0.9 5.0 8/31/2012 5,700 9,330 <0.001 <0.001 <0.003 66 Silt to clear Slight of the cle	t odor	Silt to clear Slight o	78	<0.003	<0.001	<0.001	<0.001	10,400	6,000	2/24/2012	5.0	0.9	125.2	119.8	1
1 120.0 125.2 0.8 5.0 11/16/2012 5,400 9,240 <0.001 <0.001 <0.003 72 Silt to clear Slight of the cl	t odor	Silt to clear Slight o	77	<0.003	<0.001	<0.001	<0.001	10,100	5,700	6/1/2012	5.0	0.9	125.2	119.8	1
1 120.0 125.2 0.8 5.0 2/14/2013 4,850 8,110 <0.001 <0.001 <0.001 <0.003 65 Silt to clear Slight of the second seco	t odor	Silt to clear Slight o	66		<0.001	<0.001	<0.001	9,330						119.8	1
	t odor	Silt to clear Slight o	72		<0.001		<0.001								1
1 120 4 125 2 0.8 5.0 5/23/2013 5.100 8.230 <0.001 <0.001 <0.001 <0.003 7/1 Silt to clear Slight															1
	t odor	Silt to clear Slight o	74	<0.003	<0.001	<0.001	<0.001	8,230					125.2	120.4	1
1 120.6 125.2 0.7 5.0 9/4/2013 4,100 7,160 <0.001 <0.001 <0.001 <0.003 55 Silt to clear Slight of the second secon	t odor	Silt to clear Slight o	55	<0.003	<0.001	<0.001								120.6	1
1 120.6 125.2 0.7 5.0 11/13/2013 3,130 6,910 <0.001 <0.001 <0.001 <0.003 61 Silt to clear Slight of the second sec	t odor	Silt to clear Slight o	61			<0.001									1
1 120.6 125.2 0.7 5.0 3/14/2014 5,100 7,250 <0.001 <0.001 <0.003 73 Silt to clear Slight of the second s	t odor	Silt to clear Slight o	73	<0.003				7,250	5,100	3/14/2014	5.0	0.7	125.2	120.6	1
Groundwater Analyte Concentrations (mg/l) MW-1R installed 7/17/2014					7/17/2014	R installed	MW-1F				t ions (mg/	oncentrat	alyte Co	ndwater An	Grour
1R XXX XXX 0.0 Running 8/22/2014 1,300 2,770 <0.001 <0.001 <0.003 46 Silt to clear Slight of the second					<0.001		<0.001				0				
1R XXX 168.3 0.0 100.0 12/13/2014 620 1,360 <0.001 <0.001 <0.003 37 Silt to clear Slight of the second s								,							
1R XXX 168.3 0.0 100.0 3/9/2015 2,270 5,920 <0.001 <0.001 <0.003 180 Silt to clear Slight of the second				< 0.003	<0.001	<0.001	<0.001	5,920	2,270	3/9/2015	100.0	0.0	168.3	XXX	1R
1R XXX 168.0 0.0 Running 6/8/2015 1,110 2,670 <0.001 <0.001 <0.003 48 Silt to clear Slight of the second											Running				
1R XXX 168.0 0.0 Running 8/25/2015 1,100 1,970 <0.001 <0.001 <0.003 36 Silt to clear Slight of the second secon															
1R XXX 168.0 0.0 Running 11/17/2015 920 1,780 <0.001 <0.001 <0.003 40 Silt to clear Slight of the second	t odor	Silt to clear Slight o	40	<0.003	<0.001	<0.001	<0.001	1,780	920	11/17/2015	Running	0.0	168.0	XXX	1R

1R	XXX	168.3	XXX	100.0	3/21/2016	1,300	2,880	<0.001	<0.001	<0.001	< 0.003	209	Silt to clear Slight odor
1R	XXX	168.3	XXX	100.0	6/3/2016	1,300	2,750	<0.001	<0.001	<0.001	<0.003	72	Silt to clear Slight odor
1R	XXX	168.3	XXX	Running	9/21/2016	710	1,500	<0.001	<0.001	<0.001	<0.003	40	Silt to clear Slight odor
1R	XXX	168.3	XXX	100.0	11/28/2016	1,060	2,040	<0.001	<0.001	<0.001	<0.003	43	Silt to clear Slight odor
1R	XXX	168.3	XXX	100.0	3/8/2017	1,340	2,790	<0.001	<0.001	<0.001	<0.003		Silt to clear Slight odor
1R	XXX	168.3	XXX	Running	6/8/2017	32	320	<0.001	<0.001	<0.001	<0.003	43	Silt to clear Slight odor
1R	XXX	168.3	XXX	Running	9/20/2017	570	1,470	<0.001	<0.001	<0.001	<0.003		Silt to clear Slight odor
1R	XXX	168.3	XXX	100.0	12/11/2017	1,160	2,310	<0.001	<0.001	<0.001	<0.003	80	Silt to clear Slight odor
1R	XXX	168.0	XXX	100.0	3/13/2018	1,520	2,830	<0.001	<0.001	<0.001	<0.003	74	Silt to clear Slight odor
1R	XXX	168.0	XXX	100.0	6/8/2018	570	1,190	<0.001	<0.001	<0.001	<0.003	39	Silt to clear Slight odor
1R	XXX	168.3	XXX	Running	9/17/2018	510	1,030	<0.001	<0.001	<0.001	<0.003	40	Silt to clear Slight odor
1R	XXX	168.0	XXX	100.0	11/29/2018	1,060	1,760	<0.001	<0.001	<0.001	<0.003	53	Silt to clear Slight odor
1R	XXX	168.3	XXX	100.0	3/19/2019	730	1,540	<0.001	<0.001	<0.001	<0.003	70	Silt to clear Slight odor
1R	XXX	168.3	XXX	Running	6/14/2019	450	1,030	<0.001	<0.001	<0.001	<0.003	38	Silt to clear Slight odor
1R	XXX	168.3	XXX	Running	9/18/2019	428	966	<0.001	<0.001	<0.001	<0.003	40	Silt to clear Slight odor
1R	XXX	168.3	XXX	100.0	12/3/2019	404	828	<0.001	<0.001	<0.001	<0.003	40	Silt to clear Slight odor

Groundwater Analyte Concentrations (mg/l)

MW	Depth to Water	Total Depth	Well	Volume Purged	Sample	CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	117.3	125.8	1.4	10.0	10/18/2006	20	308	j[0.000837]	<0.001	<0.001	<0.001	33	Clear
2	117.6	126.9	1.5	8.0	3/7/2007	21	278	<0.001	<0.001	<0.001	<0.001	31	Sand to clear No odor
2	117.6	126.9	1.5	2.0	5/29/2007	24	296	<0.001	<0.001	<0.001	<0.001	34	Sand to clear No odor
2	117.9	126.9	1.4	6.0	9/25/2007	24	319	<0.002	<0.002	<0.002	<0.006	38	Sand to clear No odor
2	117.9	126.9	1.4	6.0	10/17/2007	28	289	<0.001	0.005	<0.001	0.004	38	Sand to clear No odor
2	118.0	126.6	1.4	6.0	1/31/2008	28	325	<0.001	<0.001	<0.001	<0.003	36	Sand to clear No odor
2	118.1	126.6	1.4	6.0	4/24/2008	28	286	<0.001	<0.001	<0.001	<0.003	31	Sand to clear No odor
2	118.4	126.6	1.3	6.0	8/7/2008	32	324	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	118.5	126.6	1.3	6.0	10/30/2008	40	342	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	118.7	126.6	1.3	6.0	1/23/2009	36	365	<0.001	<0.001	<0.001	<0.003	45	Sand to clear No odor
2	118.8	126.6	1.2	6.0	4/29/2009	24	346	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	119.0	126.6	1.2	6.0		36	24	<0.001	<0.001	<0.001	<0.003	302	Silt to clear No odor
2	119.1	126.6	1.2	6.0	10/22/2009	24	314	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	119.5	126.5	1.1	6.0	4/26/2010	28	324	<0.001	<0.001	<0.001	<0.003	42	Sand to clear No odor
2	119.3	126.5	1.2	6.0	2/11/2010	28	343	<0.001	<0.001	<0.001	<0.003	43	Sand to clear No odor
2	119.6	126.5	1.1	6.0		28	316	<0.001	<0.001	<0.001	<0.003	35	Sand to clear No odor
2	119.7	126.5	1.1	6.0	10/28/2010	24	336	<0.001	<0.001	<0.001	<0.003	39	Sand to clear No odor
2	120.0	127.0	1.1	6.0	2/21/2011	24	311	<0.001	<0.001	<0.001	<0.003	35	Sand to clear No odor
2	120.1	127.0	1.1	6.0	6/6/2011	28	309	<0.001	<0.001	<0.001	<0.003	39	Sand to clear No odor
2	120.3	127.0	1.1	6.0	9/2/2011	32	270	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	120.5	127.0	1.0	6.0	12/4/2011	24	303	<0.001	<0.001	<0.001	<0.003	40	Sand to clear No odor
2	120.6	127.0	1.0	6.0	2/24/2012	24	343	<0.001	<0.001	<0.001	<0.003	38	Sand to clear No odor
2	120.7	127.0	1.0	6.0	6/1/2012	32	311	<0.001	<0.001	<0.001	<0.003	40	Sand to clear No odor
2	120.9	127.0	1.0	6.0	8/31/2012	40	320	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	121.1	127.0	0.9	6.0	11/16/2012	28	303	<0.001	<0.001	<0.001	<0.003	30	Sand to clear No odor
2	121.1	127.0	0.9	6.0	2/14/2013	36	326	<0.001	<0.001	<0.001	<0.003	56	Sand to clear No odor
2	121.3	127.0	0.9	6.0	5/23/2013	24	255	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	121.5	127.0	0.9	6.0	9/4/2013	28	290	<0.001	<0.001	<0.001	<0.003	33	Sand to clear No odor
2	121.5	127.0	0.9	6.0	11/13/2013	32	300	<0.001	<0.001	<0.001	<0.003	47	Sand to clear No odor
2	121.7	127.0	0.9	6.0	3/14/2014	68	336	<0.001	<0.001	<0.001	<0.003	37	Sand to clear No odor
2	121.8	127.0	0.8	6.0	6/24/2014	60	368	<0.001	<0.001	<0.001	<0.003	58	Sand to clear No odor
2	121.9	127.0	0.8	6.0	8/22/2014	60	426	<0.001	<0.001	<0.001	<0.003	32	Sand to clear No odor
2	121.3	127.0	0.9	6.0	12/12/2014	68	370	<0.001	<0.001	<0.001	<0.003	28	Sand to clear No odor
2	122.0	127.0	0.8	6.0	3/9/2015	24	284	<0.001	<0.001	<0.001	<0.003	27	Sand to clear No odor
2	122.1	127.0	0.8	6.0		48	276	<0.001	<0.001	<0.001	<0.003	34	Sand to clear No odor
2	122.3	127.0	4.7	6.0	8/25/2015	36	390	<0.001	<0.001	<0.001	<0.003	40	Sand to clear No odor
2	122.4	127.0	0.7	6.0	11/17/2015	40	356	<0.001	<0.001	<0.001	<0.003	44	Sand to clear No odor

2	122.4	127.0	0.7	6.0	3/21/2016	60	362	<0.001	<0.001	<0.001	< 0.003	39	Sand to clear No odor
2	122.5	127.0		6.0	6/3/2016		320		< 0.001	< 0.001	< 0.003		Sand to clear No odor
2	123.0	127.0	0.6	6.0	9/21/2016	28	288	<0.001	<0.001	<0.001	<0.003		Sand to clear No odor
2	123.0	127.0	0.6	6.0	11/28/2016	56	376	<0.001	<0.001	<0.001	<0.003	46	Sand to clear No odor
2	123.2	127.0	0.6	5.0	3/8/2017	32	320	<0.001	<0.001	<0.001	<0.003	43	Sand to clear No odor
2	123.3	127.0	0.6	5.0	6/8/2017	36	332	<0.001	<0.001	<0.001	<0.003	42	Sand to clear No odor
2	123.2	127.0	0.6	6.0	9/20/2017	32	340	<0.001	<0.001	<0.001	<0.003	45	Sand to clear No odor
2	123.2	127.0	0.6	6.0	12/11/2017	56	396	<0.001	<0.001	<0.001	<0.003	54	Sand to clear No odor
2	123.4	127.0	0.6	5.0	3/13/2018	80	386	<0.001	<0.001	<0.001	<0.003	40	Sand to clear No odor
2	123.6	127.0	0.5	5.0	6/8/2018	64	312	<0.001	<0.001	<0.001	<0.003	45	Sand to clear No odor
2	123.7	127.0	0.5	5.0	9/17/2018	32	250	<0.001	<0.001	<0.001	<0.003	42	Sand to clear No odor
2	123.8	127.0	0.5	3.0	11/29/2018	28	299	<0.001	<0.001	<0.001	<0.003	41	Sand to clear No odor
2	123.9	127.0	0.5	3.0	3/19/2019	44	338	<0.001	<0.001	<0.001	<0.003	47	Sand to clear No odor
2	123.8	127.0	0.5	3.0	6/14/2019	28	330	<0.001	<0.001	<0.001	<0.003	44	Sand to clear No odor
2	124.0	127.0	0.5	3.0	9/18/2019	28	266	<0.001	<0.001	<0.001	<0.003	42	Sand to clear No odor
2	124.2	127.0	0.5	3.0	12/3/2019	32	311	<0.001	<0.001	<0.001	<0.003	43	Sand to clear No odor

Groundwater Analyte Concentrations (mg/l)

		-			Í I	1				E 44	T . 4 . 1	
MW	Depth to	Total	Well	Volume		CI	TDS	Benzene	Toluene	Ethyl	Total	Sulfate Comments
	Water	Depth		Purged						Benzene	Xylenes	
3	117.1	129.0	1.9	10.0		20	342	<0.001	<0.001	<0.001	<0.001	35 Clear
3	117.4	127.6	1.6	8.0	3/7/2007	20	236	<0.001	<0.001	<0.001	<0.001	34 Sand to clear No odor
3	117.4	127.6	1.6	8.0	5/29/2007	24	290	<0.001	<0.001	<0.001	<0.001	40 Sand to clear No odor
3	117.7	127.6	1.6	6.0	9/25/2007	24	332	<0.002	<0.002	<0.002	<0.006	41 Sand to clear No odor
3	117.8	127.6	1.6	6.0		24	281	<0.001	0.004	<0.001	0.004	40 Sand to clear No odor
3	117.9	127.6	1.6	6.0	1/31/2008	24	291	<0.001	<0.001	<0.001	<0.003	38 Sand to clear No odor
3	118.0	127.6	1.5	6.0		24	306	<0.001	<0.001	<0.001	<0.003	38 Sand to clear No odor
3	118.2	127.6	1.5	6.0	8/7/2008	24	264	<0.001	<0.001	<0.001	<0.003	51 Sand to clear No odor
3	118.3	127.6	1.5	6.0	10/30/2008	36	325	<0.001	<0.001	<0.001	<0.003	48 Sand to clear No odor
3	118.5	127.5	1.4	6.0	1/23/2009	36	328	<0.001	<0.001	<0.001	<0.003	46 Sand to clear No odor
3	118.5	127.5	1.4	6.0	4/29/2009	24	229	<0.001	<0.001	<0.001	<0.003	36 Sand to clear No odor
3	118.8	127.5	1.4	6.0	8/7/2009	24	313	<0.001	<0.001	<0.001	<0.003	38 Sand to clear No odor
3	119.0	127.5	1.4	6.0	10/22/2009	24	319	<0.001	<0.001	<0.001	<0.003	35 Sand to clear No odor
3	119.4	127.6	1.3	6.0	4/26/2010	24	312	<0.001	<0.001	<0.001	<0.003	42 Sand to clear No odor
3	119.1	127.6	1.4	6.0	2/11/2010	24	297	<0.001	<0.001	<0.001	<0.003	45 Sand to clear No odor
3	119.4	127.6	1.3	6.0	8/5/2010	24	257	<0.001	<0.001	<0.001	<0.003	34 Sand to clear No odor
3	119.6	127.6	1.3	6.0	10/28/2010	20	289	<0.001	<0.001	<0.001	<0.003	33 Sand to clear No odor
3	119.2	127.7	1.4	6.0	2/21/2011	24	294	<0.001	<0.001	<0.001	<0.003	34 Sand to clear No odor
3	119.9	127.7	1.2	6.0	6/6/2011	32	291	<0.001	<0.001	<0.001	<0.003	41 Sand to clear No odor
3	120.2	127.7	1.2	6.0	9/2/2011	20	263	<0.001	<0.001	<0.001	<0.003	46 Sand to clear No odor
3	120.4	127.7	1.2	6.0	12/4/2011	24	275	<0.001	<0.001	<0.001	<0.003	41 Sand to clear No odor
3	120.4	127.4	1.2	6.0	2/24/2012	24	294	<0.001	<0.001	<0.001	<0.003	38 Sand to clear No odor
3	120.5	127.7	1.1	6.0	6/1/2012	20	307	<0.001	<0.001	<0.001	<0.003	32 Sand to clear No odor
3	120.8	127.7	1.1	6.0	8/31/2012	28	289	<0.001	<0.001	<0.001	<0.003	42 Sand to clear No odor
3	120.8	127.7	1.1	6.0		24	296	<0.001	<0.001	<0.001	<0.003	32 Sand to clear No odor
3	120.9	127.7	1.1	6.0	2/14/2013	28	278	<0.001	<0.001	<0.001	<0.003	38 Sand to clear No odor
3	121.0	127.7	1.1	6.0	5/23/2013	28	287	<0.001	<0.001	<0.001	<0.003	44 Sand to clear No odor
3	121.3	127.7	1.0	6.0	9/4/2013	24	305	<0.001	<0.001	<0.001	<0.003	35 Sand to clear No odor
3	121.3	127.7	1.0	6.0	11/13/2013	32	316	<0.001	<0.001	<0.001	<0.003	45 Sand to clear No odor
3	121.5	127.7	1.0	6.0		40	138	<0.001	<0.001	<0.001	<0.003	47 Sand to clear No odor
3	121.7	127.7	1.0	6.0		24	286	<0.001	<0.001	<0.001	<0.003	38 Sand to clear No odor
3	121.8	127.7	0.9	6.0	8/22/2014	24	300	< 0.001	< 0.001	< 0.001	< 0.003	34 Silt to clear No odor
3	121.2	127.7	1.0	6.0	12/12/2014	24	266	< 0.001	< 0.001	< 0.001	< 0.003	33 Sand to clear No odor
3	122.0	127.7	0.9	6.0		24	296	< 0.001	< 0.001	< 0.001	< 0.003	30 Sand to clear No odor
3	122.1	127.7	0.9	6.0		28	266	< 0.001	< 0.001	< 0.001	< 0.003	43 Sand to clear No odor
3	122.2	127.7	0.9	6.0		28	270	< 0.001	< 0.001	< 0.001	< 0.003	26 Sand to clear No odor
3	122.4	127.7	0.9	6.0		28	330	< 0.001	< 0.001	< 0.001	< 0.003	37 Sand to clear No odor
	· 22.7		0.0	0.0	11,11,2010	20	000	.0.001	0.001	0.001	0.000	

3	122.4	127.7	0.8	6.0	3/21/2016	28	272	<0.001	<0.001	<0.001	< 0.003	19	Sand to clear No odor
3	122.5	127.7	0.8	6.0	6/3/2016	4	180	<0.001	<0.001	<0.001	<0.003	17	Sand to clear No odor
3	122.9	127.7	0.8	6.0	9/21/2016	28	294	<0.001	<0.001	<0.001	<0.003	38	Sand to clear No odor
3	123.0	127.7	0.7	6.0	11/28/2016	36	286	<0.001	<0.001	<0.001	<0.003	42	Sand to clear No odor
3	123.1	127.7	0.7	5.0	3/8/2017	32	292	<0.001	<0.001	<0.001	<0.003	41	Sand to clear No odor
3	123.2	127.7	0.7	5.0	6/8/2017	32	312	<0.001	<0.001	<0.001	<0.003	40	Sand to clear No odor
3	123.1	127.7	0.7	6.0	9/20/2017	28	310	<0.001	<0.001	<0.001	<0.003	47	Sand to clear No odor
3	123.2	127.7	0.7	6.0	12/11/2017	44	334	<0.001	<0.001	<0.001	<0.003	47	Sand to clear No odor
3	123.4	127.7	0.7	5.0	3/13/2018	44	330	<0.001	<0.001	<0.001	<0.003	43	Sand to clear No odor
3	123.6	127.7	0.6	5.0	6/8/2018	44	168	<0.001	<0.001	<0.001	<0.003	46	Sand to clear No odor
3	123.7	127.7	0.6	3.0	9/17/2018	28	276	<0.001	<0.001	<0.001	<0.003	41	Sand to clear No odor
3	123.9	127.7	0.6	3.0	11/29/2018	32	285	<0.001	<0.001	<0.001	<0.003	45	Sand to clear No odor
3	123.8	127.7	0.6	3.0	3/19/2019	48	261	<0.001	<0.001	<0.001	<0.003	37	Sand to clear No odor
3	123.8	127.7	0.6	3.0	6/14/2019	28	303	<0.001	<0.001	<0.001	<0.003	40	Sand to clear No odor
3	124.1	127.7	0.6	3.0	9/18/2019	28	266	<0.001	<0.001	<0.001	<0.003	42	Sand to clear No odor
3	124.2	127.7	0.6	3.0	12/3/2019	32	160	<0.001	<0.001	<0.001	<0.003	43	Sand to clear No odor

Groundwater Analyte Concentrations (mg/l)

MW Depth to Water Total Depth Well Volume Volume Purged Date Date C TDS Benzere Tolere Ethyl Benzere Suitate Comments 4 115.5 126.0 1.7 10.0 10/18/2006 38 288 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.003 <0.001 <0.003 <0.001 <0.003 <0.001 <0.003 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001	Gioun	uwaler An	alyte of		ions (mg/	/								
4 115.5 126.0 1.7 10.0 101/19/2006 38 288 <0.001 <0.001 <0.001 45 Clear 4 115.6 125.3 1.5 8.0 3/7/2007 39 296 <0.001	MW						CI	TDS	Benzene	Toluene			Sulfate	Comments
4 115.8 125.3 1.5 8.0 5/7/2007 33 296 <0.001 <0.001 <0.001 <0.001 40.003 50.5110 50.001 40.001 40.003 50.5110 50.001 40.001 40.003 50.5110 50.001 50.001 40.001 40.003 50.5110 50.001 50.001 40.001 40.003 50.5110 50.001 50.001 50.001 50.001 50.001 50.003 50.5110 50.001 50.001 40.001 40.003 52.5110 50.001 40.001 40.003 49.5110 50.001 40.003 45.5110 50.001 40.001 40.003 45.5110 50.001 40.003 45.5110 50.001 40.003 45.5110 50.001 40.003 47.7 40.001	4	115 5	•		-		38	288	<0.001	<0.001			45	Clear
4 115.9 125.2 1.5 8.0 5729/2007 37 316 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001 <0.003 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03 <0.03														
4 116.1 125.2 1.5 6.0 9/25/2007 44 338 <0.002 <0.002 <0.002 <0.003 48 Silt to clear No odor 4 116.1 125.2 1.5 6.0 10/17/2007 44 337 <0.001														
4 116.1 125.2 1.5 6.0 10/17/2007 44 337 <0.001 <0.001 <0.001 <0.003 48 Sitt to clear No odor 4 116.4 125.0 1.4 6.0 1/31/2008 40 297 <0.001														
4 116.2 125.0 1.4 6.0 1131/2008 40 326 <0.001 <0.001 <0.003 40 Silt to clear No odor 4 116.4 125.0 1.3 6.0 87/2008 44 357 <0.001														
4 116.4 125.0 1.4 6.0 4/2/2/008 4/0 297 <0.001 <0.001 <0.003 40 Silt to clear No odor 4 116.6 125.0 1.3 6.0 8/7/2008 44 357 <0.001					6.0									
4 116.6 125.0 1.3 6.0 87/2008 44 357 <0.001 <0.001 <0.003 52 Sitt to clear No odor 4 116.8 125.0 1.3 6.0 10/30/2008 40 358 <0.001		116.4			6.0		40	297	<0.001	<0.001	<0.001	<0.003		
4 116.9 124.5 1.2 6.0 1/23/2009 36 354 <0.001 <0.001 <0.003 45 Slit to clear No odor 4 117.1 124.5 1.2 6.0 4/29/2009 40 247 <0.001	4	116.6			6.0		44	357	<0.001	<0.001	<0.001	<0.003		
4 116.9 124.5 1.2 6.0 1/23/2009 36 354 <0.001 <0.001 <0.003 45 Slit to clear No odor 4 117.1 124.5 1.2 6.0 4/29/2009 40 247 <0.001	4	116.8			6.0			358	<0.001	<0.001	<0.001	<0.003	49	Silt to clear No odor
4 117.3 124.5 1.2 6.0 8/7/2009 24 351 <0.001 <0.001 <0.003 37 Silt to clear No odor 4 117.2 124.5 1.2 6.0 10/22/2009 36 362 <0.001	4	116.9	124.5	1.2	6.0		36	354	<0.001	<0.001	<0.001	<0.003		
4 117.2 124.5 1.2 6.0 10/22/2009 36 362 <0.001 <0.001 <0.003 42 Silt to clear No odor 4 117.8 125.0 1.2 6.0 4/26/2010 36 330 <0.001	4	117.1	124.5	1.2	6.0	4/29/2009	40	247	<0.001	<0.001	<0.001	<0.003	45	Silt to clear No odor
4 117.8 125.0 1.2 6.0 4/26/2010 36 330 <0.001 <0.001 <0.003 71 Silt to clear No odor 4 117.5 125.0 1.2 6.0 2/11/2010 36 325 <0.001	4	117.3	124.5	1.2	6.0	8/7/2009	24	351	<0.001	<0.001	<0.001	<0.003	37	Silt to clear No odor
4 117.5 125.0 1.2 6.0 2/11/2010 36 325 <0.001 <0.001 <0.003 50 Silt to clear No odor 4 117.9 125.0 1.1 6.0 8/5/2010 40 284 <0.001	4	117.2	124.5	1.2	6.0	10/22/2009	36	362	<0.001	<0.001	<0.001	<0.003	42	Silt to clear No odor
4 117.9 125.0 1.1 6.0 8/5/2010 40 284 <0.001 <0.001 <0.003 44 Silt to clear No odor 4 118.0 125.0 1.1 6.0 10/28/2010 40 246 <0.001	4	117.8	125.0	1.2	6.0	4/26/2010	36	330	<0.001	<0.001	<0.001	<0.003	71	Silt to clear No odor
4 118.0 125.0 1.1 6.0 10/28/2010 40 246 <0.001 <0.001 <0.003 41 Sitt to clear No odor 4 118.2 125.9 1.2 6.0 2/21/2011 40 338 <0.001	4	117.5	125.0	1.2	6.0	2/11/2010	36	325	<0.001	<0.001	<0.001	<0.003	50	Silt to clear No odor
4 118.2 12.5.9 1.2 6.0 2/21/2011 40 338 <0.001 <0.001 <0.003 41 Sitt to clear No odor 4 118.4 125.9 1.2 6.0 6/6/2011 40 321 <0.001	4	117.9	125.0	1.1	6.0	8/5/2010	40	284	<0.001	<0.001	<0.001	<0.003	44	Silt to clear No odor
4 118.4 125.9 1.2 6.0 6/6/2011 40 321 <0.001 <0.001 <0.003 50 Silt to clear No odor 4 118.6 125.9 1.2 6.0 9/2/2011 24 268 <0.001 <0.001 <0.003 44 Silt to clear No odor 4 118.8 125.9 1.1 6.0 12/4/2011 44 304 <0.001 <0.001 <0.003 63 Silt to clear No odor 4 118.8 125.9 1.1 6.0 2/24/2012 36 323 <0.001 <0.001 <0.003 51 Silt to clear No odor 4 118.9 125.9 1.1 6.0 8/31/2012 36 302 <0.001 <0.001 <0.003 43 Silt to clear No odor 4 119.3 125.9 1.0 6.0 11/16/2012 40 340 <0.001 <0.001 <0.003 43 Silt to clear No odor 4 119.4 125.9 1.0	4	118.0	125.0	1.1	6.0	10/28/2010	40	246	<0.001	<0.001	<0.001	<0.003	41	Silt to clear No odor
4 118.6 125.9 1.2 6.0 9/2/2011 24 268 <0.001 <0.001 <0.003 44 Silt to clear No odor 4 118.8 125.9 1.1 6.0 12/4/2012 36 323 <0.001	4	118.2	125.9	1.2	6.0	2/21/2011	40	338	<0.001	<0.001	<0.001	<0.003	41	Silt to clear No odor
4 118.8 125.9 1.1 6.0 12/4/2011 44 304 <0.001 <0.001 <0.003 63 Silt to clear No odor 4 118.8 125.9 1.1 6.0 2/24/2012 36 323 <0.001	4	118.4	125.9	1.2	6.0	6/6/2011	40	321	<0.001	<0.001	<0.001	<0.003	50	Silt to clear No odor
4 118.8 125.9 1.1 6.0 2/24/2012 36 323 <0.001 <0.001 <0.003 39 Silt to clear No odor 4 118.9 125.9 1.1 6.0 6/1/2012 40 349 <0.001	4	118.6	125.9	1.2	6.0	9/2/2011	24	268	<0.001	<0.001	<0.001	<0.003	44	Silt to clear No odor
4 118.9 125.9 1.1 6.0 6/1/2012 40 349 <0.001 <0.001 <0.003 51 Silt to clear No odor 4 119.2 125.9 1.1 6.0 8/31/2012 36 302 <0.001	4	118.8	125.9	1.1	6.0	12/4/2011	44	304	<0.001	<0.001	<0.001	<0.003	63	Silt to clear No odor
4 119.2 125.9 1.1 6.0 8/31/2012 36 302 <0.001 <0.001 <0.003 43 Silt to clear No odor 4 119.3 125.9 1.0 6.0 11/16/2012 40 340 <0.001	4	118.8	125.9	1.1	6.0	2/24/2012	36	323	<0.001	<0.001	<0.001	<0.003	39	Silt to clear No odor
4 119.3 125.9 1.0 6.0 11/16/2012 40 340 <0.001	4	118.9	125.9	1.1	6.0	6/1/2012	40	349	<0.001	<0.001	<0.001	<0.003	51	Silt to clear No odor
4 119.4 125.9 1.0 6.0 2/14/2013 44 317 <0.001	4	119.2	125.9	1.1	6.0	8/31/2012	36	302	<0.001	<0.001	<0.001	<0.003	43	Silt to clear No odor
4 119.5 125.9 1.0 6.0 5/23/2013 28 265 <0.001	4	119.3			6.0			340	<0.001	<0.001	<0.001	<0.003	43	Silt to clear No odor
4 119.8 125.9 1.0 6.0 9/4/2013 24 296 <0.001	4	119.4	125.9	1.0	6.0	2/14/2013		317	<0.001	<0.001	<0.001	<0.003	52	Silt to clear No odor
4 119.8 125.9 1.0 6.0 11/13/2013 28 283 <0.001	4	119.5	125.9	1.0	6.0	5/23/2013			<0.001	<0.001	<0.001	<0.003	43	Silt to clear No odor
4 120.0 125.9 0.9 6.0 3/14/2014 40 316 <0.001	4	119.8	125.9	1.0	6.0	9/4/2013	24	296	<0.001	<0.001	<0.001	<0.003	33	Silt to clear No odor
4 120.1 125.9 0.9 6.0 6/24/2014 20 216 <0.001	4	119.8	125.9	1.0	6.0	11/13/2013	28	283	<0.001	<0.001	<0.001	<0.003	44	Silt to clear No odor
4 120.2 125.9 0.9 6.0 8/22/2014 28 294 <0.001	4	120.0							<0.001	<0.001	<0.001	< 0.003	46	Silt to clear No odor
4 119.6 125.9 1.0 6.0 12/12/2014 60 400 <0.001 <0.001 <0.003 27 Silt to clear No odor 4 120.4 125.9 0.9 6.0 3/9/2015 36 338 <0.001	4	120.1			6.0	6/24/2014		216	<0.001	<0.001	< 0.001	< 0.003	38	Silt to clear No odor
4 120.4 125.9 0.9 6.0 3/9/2015 36 338 <0.001 <0.001 <0.003 25 Silt to clear No odor 4 120.4 125.9 0.9 6.0 6/8/2015 32 264 <0.001	4	120.2			6.0				<0.001	< 0.001	< 0.001	<0.003	34	Silt to clear No odor
4 120.4 125.9 0.9 6.0 6/8/2015 32 264 <0.001 <0.001 <0.003 36 Silt to clear No odor 4 120.5 125.9 0.9 6.0 8/25/2015 24 318 <0.001	4	119.6			6.0	12/12/2014			<0.001	<0.001	<0.001	< 0.003		
4 120.5 125.9 0.9 6.0 8/25/2015 24 318 <0.001 <0.001 <0.001 <0.003 36 Silt to clear No odor	4	120.4	125.9	0.9	6.0	3/9/2015		338	<0.001	< 0.001	<0.001	< 0.003	25	Silt to clear No odor
	4	120.4	125.9	0.9	6.0	6/8/2015	32	264	<0.001	< 0.001	<0.001	< 0.003	36	Silt to clear No odor
4 120 7 125 9 0.8 6.0 11/17/2015 28 210 < 0.001 < 0.001 < 0.001 < 0.003 36 Sitt to clear No odor	4	120.5	125.9	0.9	6.0	8/25/2015			<0.001	<0.001	< 0.001	< 0.003	36	Silt to clear No odor
	4	120.7	125.9	0.8	6.0	11/17/2015	28	210	<0.001	<0.001	<0.001	<0.003	36	Silt to clear No odor

4	120.8	125.9	0.8	6.0	3/21/2016	60	356	<0.001	<0.001	<0.001	<0.003	43	Silt to clear No odor
4	120.9	125.9	0.8	5.0	6/3/2016	40	286	<0.001	<0.001	<0.001	<0.003	20	Silt to clear No odor
4	121.3	125.9	0.7	6.0	9/21/2016	32	250	<0.001	<0.001	<0.001	<0.003	59	Silt to clear No odor
4	121.4	125.9	0.7	6.0	11/28/2016	40	336	<0.001	<0.001	<0.001	<0.003	44	Silt to clear No odor
4	121.6	125.9	0.7	5.0	3/8/2017	32	314	<0.001	<0.001	<0.001	<0.003	41	Silt to clear No odor
4	121.7	125.9	0.7	5.0	6/8/2017	36	338	<0.001	<0.001	<0.001	<0.003	39	Silt to clear No odor
4	121.6	125.9	0.7	5.0	9/20/2017	24	472	<0.001	<0.001	<0.001	<0.003	54	Silt to clear No odor
4	121.6	125.9	0.7	5.0	12/11/2017	56	332	<0.001	<0.001	<0.001	<0.003	49	Silt to clear No odor
4	121.8	125.9	0.7	5.0	3/13/2018	60	348	<0.001	<0.001	<0.001	<0.003	44	Silt to clear No odor
4	122.0	125.9	0.6	5.0	6/8/2018	44	286	<0.001	<0.001	<0.001	<0.003	41	Silt to clear No odor
4	122.3	125.9	0.6	3.0	9/17/2018	28	244	<0.001	<0.001	<0.001	<0.003	40	Silt to clear No odor
4	122.3	125.9	0.6	3.0	11/29/2018	32	253	<0.001	<0.001	<0.001	<0.003	42	Silt to clear No odor
4	122.3	125.9	0.6	3.0	3/19/2019	48	333	<0.001	<0.001	<0.001	<0.003	48	Silt to clear No odor
4	122.3	125.9	0.6	3.0	6/14/2019	24	311	<0.001	<0.001	<0.001	<0.003	43	Silt to clear No odor
4	122.5	125.9	0.6	3.0	9/18/2019	28	308	<0.001	<0.001	<0.001	<0.003	41	Silt to clear No odor
4	123.7	125.9	0.4	3.0	12/3/2019	28	283	<0.001	<0.001	<0.001	<0.003	42	Silt to clear No odor

Groundwater Analyte Concentrations (mg/l)

	amator / ar		licentiat	ions (mg/i	/								
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	CI	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
RW-1	116.2	143.3	17.6	70.0	6/20/2007	4,220	8,110	0.0022	<0.001	<0.001	<0.002	119	Silt to clear Slight odor
RW-1	116.3	143.3	17.6	60.0	9/25/2007	5,398	9,775	<0.002	<0.002	<0.002	<0.006	67	Silt to clear Slight odor
RW-1	XXX	XXX	XXX	60.0	10/17/2007	5,400	9,071	<0.001	0.004	<0.001	<0.003	57	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	1/31/2008	5,300	9,320	<0.001	<0.001	<0.001	<0.003	55	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	4/24/2008	3,900	6,870	<0.001	<0.001	<0.001	<0.003	45	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	8/7/2008	3,800	7,180	<0.001	<0.001	<0.001	<0.003	68	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	10/30/2008	5,850	13,700	<0.001	<0.001	<0.001	<0.003	83	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	1/26/2009	5,600	10,700	<0.001	<0.001	<0.001	<0.003	83	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	4/29/2009	4,050	7,700	<0.001	<0.001	<0.001	<0.003	54	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	8/7/2009	3,000	5,450	<0.001	<0.001	<0.001	<0.003	54	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	10/22/2009	3,550	5,820	<0.001	<0.001	<0.001	<0.003	56	Clear Slight odor
RW-1	XXX	XXX	XXX	XXX	4/26/2010	4,200	7,240	<0.001	<0.001	<0.001	<0.003	71	Clear Slight odor
RW-1	XXX	XXX	XXX	80.0	2/11/2010	3,900	6,600	<0.001	<0.001	<0.001	<0.003	89	Clear Slight odor
RW-1	XXX	XXX	XXX	Running	8/5/2010	3,800	6,480	<0.001	<0.001	<0.001	<0.003	62	Clear Slight odor
RW-1	XXX	XXX	XXX	Running	10/28/2010	3,200	6,970	<0.001	<0.001	<0.001	<0.003	54	Clear Slight odor
RW-1	xxx	XXX	ххх	Running	5/23/2013	2,550	4,480	<0.001	<0.001	<0.001	<0.003	67	Purged with Solar Pump Clear Slight odor
RW-1	XXX	XXX	XXX	80.0	2/21/2011	4,800	8,430	<0.001	<0.001	<0.001	<0.003	78	Clear Slight odor
RW-1	XXX	XXX	XXX	80.0	6/6/2011	4,200	5,850	<0.001	<0.001	<0.001	<0.003	62	Clear Slight odor
RW-1	XXX	XXX	XXX	Running	9/2/2011	3,250	4,850	<0.001	<0.001	<0.001	<0.003	63	Clear Slight odor
RW-1	XXX	XXX	XXX	Running	12/4/2011	2,800	4,790	<0.001	<0.001	<0.001	<0.003	62	Clear Slight odor
RW-1	XXX	XXX	XXX	Running	2/24/2012	3,250	5,170	<0.001	<0.001	<0.001	<0.003	60	Clear Slight odor
RW-1	xxx	xxx	xxx	Running	6/1/2012	2,550	4,960	<0.001	<0.001	<0.001	<0.003	60	Purged with Solar Pump Clear Slight odor
RW-1	xxx	xxx	xxx	Running	8/31/2012	2,270	4,150	<0.001	<0.001	<0.001	<0.003	59	Purged with Solar Pump Clear Slight odor
RW-1	ххх	XXX	ххх	Running	11/16/2012	3,900	6,800	<0.001	<0.001	<0.001	<0.003	78	Purged with Solar Pump Clear Slight odor
RW-1	Pump in Well	XXX	ххх	100.0	2/14/2013	4,200	6,840	<0.001	<0.001	<0.001	<0.003	72	Purged with Solar Pump Clear Slight odor
RW-1	xxx	XXX	ххх	Running	9/4/2013	1,880	3,730	<0.001	<0.001	<0.001	<0.003	65	Purged with Solar Pump Clear Slight odor

RW-1	xxx	xxx	ххх	Running	11/13/2013	1,800	3,550	<0.001	<0.001	<0.001	<0.003	60	Purged with Solar Pump Clear Slight odor
RW-1	XXX	XXX	XXX	100.0	3/14/2014	2,070	3,900	<0.001	<0.001	<0.001	<0.003	67	Purged with Solar Pump
RW-1	XXX	XXX	XXX	Running	6/24/2014	1,640	3,730	<0.001	<0.001	<0.001	<0.003	60	Purged with Solar Pump
RW-1	xxx	xxx	XXX	Running	8/22/2014	1,400	3,180	<0.001	<0.001	<0.001	<0.003	52	Purged with Solar Pump Clear Slight odor
RW-1	120.3	143.3	14.9	60.0	12/12/2014	1,500	3,140	<0.001	<0.001	<0.001	<0.003	54	Clear Slight odor
RW-1	120.4	143.3	14.9	60.0	3/10/2015	1,300	2,960	<0.001	<0.001	<0.001	<0.003	61	Clear Slight odor
RW-1	120.5	143.3	14.8	50.0	6/8/2015	1,020	2,670	<0.001	<0.001	<0.001	<0.003	49	Clear Slight odor
RW-1	120.7	143.5	14.7	50.0	8/25/2015	1,100	2,070	<0.001	<0.001	<0.001	<0.003	37	Clear Slight odor
RW-1	120.9	143.3	14.6	50.0	11/17/2015	880	1,780	<0.001	<0.001	<0.001	<0.003	53	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	3/21/2016	840	1,690	<0.001	<0.001	<0.001	<0.003	39	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	6/3/2016	1,040	2,100	<0.001	<0.001	<0.001	<0.003	57	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	9/21/2016	2,130	4,110	<0.001	<0.001	<0.001	<0.003	77	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	11/28/2016	1,930	3,690	<0.001	<0.001	<0.001	<0.003	75	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	3/8/2017	1,930	3,680	<0.001	<0.001	<0.001	<0.003	78	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	6/8/2017	1,740	3,560	<0.001	<0.001	<0.001	<0.003	70	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	9/20/2017	1,580	3,850	<0.001	<0.001	<0.001	<0.003	88	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	12/11/2017	1,580	2,740	<0.001	<0.001	<0.001	<0.003	72	Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	3/12/2018	1,580	2,700	<0.001	<0.001	<0.001	<0.003	71	Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	6/8/2018	1,480	2,740	<0.001	<0.001	<0.001	<0.003	69	Clear Slight odor
RW-1	XXX	143.3	XXX	50.0	9/17/2018	1,500	2,370	<0.001	<0.001	<0.001	<0.003	63	Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	11/30/2018	880	1,870	<0.001	<0.001	<0.001	<0.003	93	Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	3/20/2019	870	1,770	<0.001	<0.001	<0.001	<0.003	76	Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	6/14/2019	710	1,410	<0.001	<0.001	<0.001	<0.003		Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	9/18/2019	650	1,450	<0.001	<0.001	<0.001	<0.003		Clear Slight odor
RW-1	XXX	143.3	XXX	100.0	12/4/2019	620	1,420	<0.001	<0.001	<0.001	<0.003	72	Clear Slight odor



March 29, 2019

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

RE: VACUUM N-6-1

Enclosed are the results of analyses for samples received by the laboratory on 03/22/19 14:25.

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/ga/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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	03/22/2019	Sampling Date:	03/19/2019
Reported:	03/29/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H901114-01)

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	03/27/2019	ND	0.022	109	0.0200	5.98		
Toluene*	<0.001	0.001	03/27/2019	ND	0.020	101	0.0200	2.19		
Ethylbenzene*	<0.001	0.001	03/27/2019	ND	0.020	100	0.0200	7.43		
Total Xylenes*	<0.003	0.003	03/27/2019	ND	0.061	102	0.0600	0.670		
Total BTEX	<0.006	0.006	03/27/2019	ND						
Surrogate: 4-Bromofluorobenzene (PID	86.7 9	81.3-12	8							
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	730	4.00	03/25/2019	ND	104	104	100	0.00		
Sulfate 375.4	mg/	L	Analyze	d By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	70.4	10.0	03/27/2019	ND	23.4	117	20.0	3.74		
TDS 160.1	mg/	L	Analyze	d By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	1540	5.00	03/27/2019	ND	470	89.2	527	1.68		

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	03/22/2019	Sampling Date:	03/19/2019
Reported:	03/29/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H901114-02)

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	03/27/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/27/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	<0.001	0.001	03/27/2019	ND	0.020 100		0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/27/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	86.0 9	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	44.0	4.00	03/25/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	47.7	10.0	03/27/2019	ND	23.4	117	20.0	3.74	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result Reporting Limit Analyzed		Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	338	5.00	03/27/2019	ND	470	89.2	527	1.68	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	03/22/2019	Sampling Date:	03/19/2019
Reported:	03/29/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H901114-03)

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	03/27/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/27/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	<0.001	0.001	03/27/2019	ND	0.020 100		0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/27/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	85.7 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	48.0	4.00	03/25/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	36.9	10.0	03/27/2019	ND	23.4	117	20.0	3.74	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte			Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	261	5.00	03/27/2019	ND	470	89.2	527	1.68	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	03/22/2019	Sampling Date:	03/19/2019
Reported:	03/29/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H901114-04)

		, ,	A						
BTEX 8021B	mg/	L	Апагузе	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	03/27/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/27/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	<0.001	0.001	03/27/2019	ND	0.020	100	0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/27/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	88.0 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	48.0	4.00	03/25/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	48.1	10.0	03/27/2019	ND	23.4	117	20.0	3.74	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	333	5.00	03/27/2019	ND	470	89.2	527	1.68	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	03/22/2019	Sampling Date:	03/20/2019
Reported:	03/29/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Jodi Henson
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: RECOVERY WELL #1 (H901114-05)

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	03/27/2019	ND	0.022	109	0.0200	5.98	
Toluene*	<0.001	0.001	03/27/2019	ND	0.020	101	0.0200	2.19	
Ethylbenzene*	< 0.001	0.001	03/27/2019	ND	0.020	100	0.0200	7.43	
Total Xylenes*	<0.003	0.003	03/27/2019	ND	0.061	102	0.0600	0.670	
Total BTEX	<0.006	0.006	03/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	93.0	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	870 4.00		03/25/2019 ND		104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	76.1	10.0	03/27/2019	ND	23.4	117	20.0	3.74	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1770	5.00	03/27/2019	ND	470	89.2	527	1.68	

Cardinal Laboratories

*=Accredited Analyte

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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

101 East Marland - H Tel (575) 39		na	1 T	9	h	0 P	ิจ	to	ri	00	ų	In		1		l		CHA	AIN	-OF	-CL	JST	OD	YA	ND	AN	IAL	YSI	S RI	EQU	ES	Т	
Fax (575) 39	3-2476	114		101		UI	a	UU.		CD	9			•					L	AB (Orde	r ID :	#										
Company Name:	ting Company		BILL 1			pany:	0-				F	PO#									AN	ALY	(SIS	S RI	EQL	JES	ST	1.0					
Project Manager:	ting Company		RIC	= 0	Addr		0	mpa	пу	(Stre	et. C	City, Zip	2)								Circle												
Katie Jones			122 W	Tavlo			Hobb	s, Nev	v Me	•			-,				1	T.	E I	1	I		Î.	ΪĨ		Ĭ	Ĩ	Ĩ	Î.		Ĩ	Ĩ	1
Address: (S	Street, City, Zip)			1.	Phor							Fax#:							2														
	eet ~ Hobbs, New Mexico 88240		(575) 39	3-9	174						(575)	397	7-14	71				/200														
Phone #:	171	Fax #:	207	4 47													351		10B														
(575) 393-9 Project #:	Project Name:	(575)) 397-	-14/	1	_	_												9 60	5													
	Vacuum N-6-1					/	1	11	7)							opue		e Hç	Se H													
Project Location:					Sam	pler S	ignat	ure:	Roz	anne	Joh	nson (575)6	631-93	810		1×1		S dc	P										3)			
T17S-R35E	-Sec 6 N ~ Lea County New Me	xico	-	4	1	D	1	r	/	_							005		5	5 P					;/62£					20			
			1	1	M	ATRI				SER			SA	AMPL	ING		BTEX 8021B/602 TPH 418 4/TY4005 / TY4005 Extended (C35)		Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.	aC				24	GC/MS Semi. Vol. 8270C/625				Ŕ,	Anions (CI, SO4, CO3, HCO3)	4		Turp Around Time ~ 24 Hours
		d	RS	6	-	П	T					1	1	Т		N	2		As B	As B	iles			GC/MS Vol. 8260B/624	1. 82		Pesticides 8081A/608	+	Cations (Ca, Mg, Na, K)	8	Juliates Total Dissolved Solids		2
LAB #	FIELD CODE	(G)rab or (C)omp	CONTAINERS					(NOA)				H H		-		B/60	3/60:		Ag /	Ag	/olat	des		826	۰ ۲ ٥	608	081/	T	Mg	304	her		ļ
	THEED OODE	r (C	TAI	m l			Щ.	40ml		04		Liter	010			021	021E	202	tals	etals	mi/	stici		lol.	Semi	082/	s 8(S, p	(Ca,	5 Ú	Nos	000	
(LAB USE ONLY		ab c	NO	Ē	_		ž	2	°0	Sc C	O4	휜빌	L L		ы	е В	X 8	82	Me	× ×	Se	o Pe		1SV	NS SI	s 8	cide	TS TS	suc) su	Die	ride	Aro
H900114'		(G)	0 #	WATER	SOIL	AIR	SLUDGE	HCL (2 40ml VOA)	HNO ₃	NaHSO4	H ₂ SO ₄	ICE (1-1Liter HDPE) NONE	DATE (2019)		TIME	MTBE 8021B/602	BTEX 8021B/602 TPH 418 1/TX100	PAH 8270C	Fotal	22	TCLP Semi Volatiles	TCLP Pesticides	RCI	SCA	SCA	PCB's 8082/608	esti	BOD, TSS, pH Moisture Content	Catic	Anio	Total Dis	Chlorides	5
1	Monitor Well #1R	G	3	X				2				1		_	4:40	\rightarrow	X	1	Ľ I	1	1	1	-	Ŭ		-	-				x x	-	-
2	Monitor Well #2	G	3	X				2				1	3/		2:30		x		\square				\vdash								x x		_
3	Monitor Well #3	G	3	x				2				1	1		1:00	\rightarrow	x		П		+		\vdash				1	+			x x	-	_
4	Monitor Well #4	G	3	X				2				1	3/	19 9	9:20		x				1	1					+	+			x x	-	-
5	Recovery Well #1	G	3	X		\square		2				1	3/	20 1	0:45		x		\square				\vdash					+		-	x x		-
*						П							1						\square									+					+
																		\top	П		\top							+		+	1	+	+
P				Π																				\square	\neg	1					1	+-	+
2				Π		П													П			1				1	1	+				+	+
//						П													П			T					1				+		+
///			1			\square													\square												1	+	+
Relinquished by:	Date: Time:	Recei	ved by						D	ate:		Time	e:			Pho	ne Re	sults		Y	'es	T	No									-	_
Rozanne Johnso	3/22/2019 14:25															Fax	Resu	ts		Y	'es	1	No		Add	ition	al Fi	ax Nu	mbe				
Refinquished by:	Date: Time:	Recei	ved By	: (La	abora	atory	Staf	f)	D	ate:		Time	:			REN	IARK	S:												-			-
C			nd			W.		D	1		2	100	21	0		-																	
		4	Va	L	V	41	M	sc	4		. /	122	-11	JK	4:2	5	Emai	Res	ults		ion												
Delivered By:	(Circle One)	Sample	e Condi			. trapes as are		СН	ECK	ED B	Y:									ŗ	oza	nne	e11(@w	ind	stre	am	.net					
\frown				Cool	/	Intact	1			1	L	4	-																				
Sampler - l	JPS - Bus - Other:		Yes No	4	Yes No	4		(Ini	tials)	67	V	1																					
			NO		140					4			_					_	_		_	_	_	_				-					



June 27, 2019

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

RE: VACUUM N-6-1

Enclosed are the results of analyses for samples received by the laboratory on 06/19/19 12:05.

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/ga/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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	06/19/2019	Sampling Date:	06/14/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H902107-01)

BTEX 8021B	mg/	L	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	06/21/2019	ND	0.021	107	0.0200	0.177	
Toluene*	< 0.001	0.001	06/21/2019	ND	0.022	109	0.0200	1.39	
Ethylbenzene*	<0.001	0.001	06/21/2019	ND	0.020	102	0.0200	2.50	
Total Xylenes*	<0.003	0.003	06/21/2019	ND	0.062	103	0.0600	2.49	
Total BTEX	<0.006	0.006	06/21/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	81.3-12	3-128						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	450	4.00	06/19/2019	ND	100	100	100	4.08	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	38.5	10.0	06/21/2019	ND	20.8	104	20.0	8.09	
TDS 160.1	mg/	L	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/19/2019	Sampling Date:	06/14/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H902107-02)

	i ,								
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	06/21/2019	ND	0.021	107	0.0200	0.177	
Toluene*	< 0.001	0.001	06/21/2019	ND	0.022	109	0.0200	1.39	
Ethylbenzene*	< 0.001	0.001	06/21/2019	ND	0.020	102	0.0200	2.50	
Total Xylenes*	<0.003	0.003	06/21/2019	ND	0.062	103	0.0600	2.49	
Total BTEX	<0.006	0.006	06/21/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 9	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	28.0	4.00	06/19/2019	ND	100	100	100	4.08	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	44.0	10.0	06/21/2019	ND	20.8	104	20.0	8.09	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	330	5.00	06/24/2019	ND	523	99.2	527	11.3	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/19/2019	Sampling Date:	06/14/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H902107-03)

•									
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	06/21/2019	ND	0.021	107	0.0200	0.177	
Toluene*	< 0.001	0.001	06/21/2019	ND	0.022	109	0.0200	1.39	
Ethylbenzene*	< 0.001	0.001	06/21/2019	ND	0.020	102	0.0200	2.50	
Total Xylenes*	<0.003	0.003	06/21/2019	ND	0.062	103	0.0600	2.49	
Total BTEX	<0.006	0.006	06/21/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	104 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	28.0	4.00	06/19/2019	ND	100	100	100	4.08	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	40.4	10.0	06/21/2019	ND	20.8	104	20.0	8.09	
TDS 160.1	mg/	L	06/21/2019 ND Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	303	5.00	06/24/2019	ND	523	99.2	527	11.3	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/19/2019	Sampling Date:	06/14/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H902107-04)

•									
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	06/22/2019	ND	0.021	107	0.0200	0.177	
Toluene*	< 0.001	0.001	06/22/2019	ND	0.022	109	0.0200	1.39	
Ethylbenzene*	< 0.001	0.001	06/22/2019	ND	0.020	102	0.0200	2.50	
Total Xylenes*	<0.003	0.003	06/22/2019	ND	0.062	103	0.0600	2.49	
Total BTEX	<0.006	0.006	06/22/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	105 9	% 81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	24.0	4.00	06/19/2019	ND	100	100	100	4.08	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	43.4	10.0	06/21/2019	ND	20.8	104	20.0	8.09	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	311	5.00	06/24/2019	ND	523	99.2	527	11.3	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	06/19/2019	Sampling Date:	06/14/2019
Reported:	06/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: RECOVERY WELL #1 (H902107-05)

BTEX 8021B	mg/	L	Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	06/22/2019	ND	0.021	107	0.0200	0.177	
Toluene*	<0.001	0.001	06/22/2019	ND	0.022	109	0.0200	1.39	
Ethylbenzene*	<0.001	0.001	06/22/2019	ND	0.020	102	0.0200	2.50	
Total Xylenes*	<0.003	0.003	06/22/2019	ND	0.062	103	0.0600	2.49	
Total BTEX	<0.006	0.006	06/22/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	ne (PID 105 % 81.3-128								
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	710	4.00	06/19/2019	ND	100	100	100	4.08	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	79.5	10.0	06/21/2019	ND	20.8	104	20.0	8.09	
TDS 160.1	mg/	L	Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1410	5.00	06/24/2019	ND	523	99.2	527	11.3	

Cardinal Laboratories

*=Accredited Analyte

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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

3ge 8 of 8	d																												Pa	age	1		of	1	_
101 East Marland - Ho		no	1 T	ດ	h		•••1		ri		R	T.	n	0				C	HAI	N-C)F-(CUS	STO	יסכ	Y A	ND	AN	AL	YS	IS I	REQ	2UE	ST	0	
Tel (575) 393 Fax (575) 393	3-2326 Calu	.11 a		a	U	JI	a	U.	11		3,			L .						LA	3 Or	der	ID #	۱ <u> </u>				_							
Company Name:	ting Company		BILL T									PO#				1					A	NA	LY	SIS	R	EQL	JES	т							
Project Manager:	ting Company		RICE Operating Company Address: (Street, City, Zip)																		120100		/letho												
Katie Jones			122 W	Taylo	or Str	eet ~	Hobbs	s, Nev	w Me	and the second second									Ť	1	T				1		T		I	1	1				
Address: (S	Street, City, Zip)				Phor							Fax#		overtiest. It	- APR 120000-7.5 of	1			I																
122 W Taylor Stre Phone #:	eet ~ Hobbs, New Mexico 88240	Fax #:	(575)) 39	3-9	174	_	_				(57	5)3	97-1	471				000	8/20															
(575) 393-91	174) 397-	147	1		/	7	/	7 -						D D D BTEX 8021B/602 BTEX 8021B/602 BTEX 8021B/602 TPH 418.1/TX1005 / TX1005 Extended (C35) PAH 8270C For the standard (C35) Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7 Total Metals Ag As Ba Cd Cr Pb Se Hg For the standard (C35) TCLP Metals Ag As Ba Cd Cr Pb Se Hg TCLP Volatiles TCLP Volatiles For the standard (C35) TCLP Pesticides TCLP Pesticides For the standard (C35) For the standard (C35) RCI GC/MS Vol. 8260B/624 GC/MS Semi. Vol. 8270C/625 For the standard (C35) PCB's 8082/608 Pesticides 8081A/608 Pesticides 8081A/608 For the standard (C3, Mg, K) BOD, TSS, pH Moisture Content Cations (Ca, Mg, Na, K) Anions (Cl, SO4, CO3, HCO3) Sulfates Sulfates Sulfates Sulfates Sulfates																			
Project #:	Project Name:			10.00		1	/	1	1		/					MTBE 8021B/602 BTEX 8021B/602 TPH 418.1/TX1005 Extended (C35) PAH 82.70C Total Metals Ag As Ba Cd Cr Pb Se Hg 6010 TCLP Metals Ag As Ba Cd Cr Pb Se Hg 6010 TCLP Volatiles TCLP Volatiles TCLP Volatiles TCLP Pesticides CMS Vol. 8260B/624 GC/MS Vol. 8270C/625 PCB's 8082/608 Pesticides 8081A/608 Pesticides 8081A/603 Pesticides 8081A/6																			
Project Location:	Vacuum N-6-1				5 dm	plant	/	1	Dá	/		/	- /	IN COM	0210			xtend	0	Se															
	-Sec 6 N ~ Lea County New Me	exico		_	Sam	4	Signatu	le.	2		e or	nnsor	n (57	5)631	-9310			05 E)	ā							325					03)				ours
				P	M	ATRI	x				RVA			SAM	PLING	0		X10							4	GC/MS Semi. Vol. 8270C/625				5	Cations (Ca, Mg, Na, K) Anions (Cl, SO4, CO3, HCO3)				Turn Around Time ~ 24 Hours
H902107			5	4	1			4		MET	HOL	1	_	Univi				12 / 1	4	I otal metals Ag As Ba (TCLP Metals Ag As Ba		es			GC/MS Vol. 8260B/624	827		608		1	CO3		Total Dissolved Solids		~ 5
LAB #		(G)rab or (C)omp	# CONTAINERS		/			(VO				ICE (1-1Liter HDPE)		_		8021B/602	/602	X100		A DA A	s	TCLP Semi Volatiles	les		3260	Vol.	80	Pesticides 8081A/608	_]	Moisture Content	Mg,		ed S		Ţ
	FIELD CODE	r (C)	TAIN	~			щ	1mo		4		iter H		019		021E	021B	11	00	tals /	latile	mi V	sticic		ol.	emi.	382/	s 80	S, pt	S	CI, S		solv	~	pun
(LAB USE)		ab o	NO	WATER	_		SLUDGE	HCL (2 40ml VOA)	ő	NaHSO ₄	H ₂ SO ₄	(1-11	Щ	DATE (2019)	ш	E 8	BTEX 8021B/602	418	PAH 8270C	P Me	TCLP Volatiles	P Se	TCLP Pesticides		VSV	MS S	PCB's 8082/608	icide	BOD, TSS, pH	sture	ns ((Sulfates	I Dis	Chlorides	Aro
`		(G)r	# C	M	SOIL	AIR	SLI	오	HNO ₃	Nał	H ₂ S	빙	NONE	DAT	TIME	MTBE	BTE	됩	PAH	TCL	TCL	TCL	ICL	RCI	GCI	GC/I	PCB	Pest		Mois	Anio	Sulfa	Tota	Chlo	Turn
1	Monitor Well #1R	G	3	X	0 V			2				1		6/14	12:45		X											T		T		x		х	
2	Monitor Well #2	G	3	x				2				1		6/14	12:05		X															X	X	Х	
	Monitor Well #3	G	3	X				2				1		6/14	10:45		X															X	X	Х	
	Monitor Well #4	G	3	X			_	2	-			1	-	6/14	9:10		X		_									_		\downarrow		X		X	
5	Recovery Well #1	G	3	X	1	Ц		2				1	_	6/14	14:30		X	_		+									\downarrow	_	\perp	X	X	X	
							_	-	-			_	_		<u> </u>			_	_	_	1			_				\rightarrow	+	+	+	\vdash			
							-	+	\vdash				_					-	+	_	-		-	_	_	-	+	-	+	+	+	\vdash			
				\vdash		$\left \right $	+	+-	\vdash		\vdash	-					\vdash	+	+	-	+	\square	_	-	-		+	+	+	+	+	\vdash			
			-	\vdash	_	\vdash	+	-	+		\vdash		-		-	-	\vdash	+	+	+	+		-		\neg	\neg	+	+	+	+	+	+	\square		
		(+	+	+		\square							+	\rightarrow	+	+		\neg				+	+	+	+	+	+			
Relinquished by:	Pater Time:	Receiv	ved by:	-			11	1.	1	Date	:	Tir	me:			Pho	one F	Resu	lts		Ye	s		No											
Rozanne Johnson	Lol 19/2019 12:05		au	ar	1	N	Mala	H	2P	1	19	-19	7	12.	205	Fax	Res	ults	1		Ye	s		No		Addi	tiona	al Fa	ax N	umł	oer:				_
Relinquished by	Date: Time:	Receiv	ved By:	(La	abora	atory	Staff)		Ē	Date:		Tin		/		RE	MAR	KS:																	
le v																																			
Delivered But	(Circle One)		0		_			011	FO								Ema	il R	esu	lts:						vd.c									
Delivered By: ((Circle One)	Sample	Sample Condition CHECKED BY: Cool Intact												ro	zar	ine	11(UW	inas	strea	am.	net	1											
$\left \right\rangle$		Yes Yes (Initials) No No								- A																									
Sampler - L	JPS - Bus - Other:		No		No			Y	0	1											_	_													



September 27, 2019

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

RE: VACUUM N-6-1

Enclosed are the results of analyses for samples received by the laboratory on 09/23/19 13:25.

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/ga/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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	09/23/2019	Sampling Date:	09/18/2019
Reported:	09/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H903267-01)

BTEX 8021B	mg/	L	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	<0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	<0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	88.2 %	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	428	4.00	09/24/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	40.4	10.0	09/25/2019	ND	21.4	107	20.0	0.558	
TDS 160.1	mg/L		Analyze	Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	966	5.00	09/24/2019	ND	532	101	527	0.269	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	09/23/2019	Sampling Date:	09/18/2019
Reported:	09/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H903267-02)

BTEX 8021B	mg/	L	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	<0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	<0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	89.8 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	32.0	4.00	09/24/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	45.9	10.0	09/25/2019	ND	21.4	107	20.0	0.558	
TDS 160.1	mg/L		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	276	5.00	09/24/2019	ND	532	101	527	0.269	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	09/23/2019	Sampling Date:	09/18/2019
Reported:	09/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H903267-03)

BTEX 8021B	mg/	L	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	< 0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	< 0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	88.2 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	28.0	4.00	09/24/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	42.3	10.0	09/25/2019	ND	21.4	107	20.0	0.558	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	266	5.00	09/24/2019	ND	532	101	527	0.269	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	09/23/2019	Sampling Date:	09/18/2019
Reported:	09/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H903267-04)

BTEX 8021B	mg/	L	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	< 0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	< 0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	< 0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	87.4 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	28.0	4.00	09/24/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	41.2	10.0	09/25/2019	ND	21.4	107	20.0	0.558	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	308	5.00	09/24/2019	ND	532	101	527	0.269	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	09/23/2019	Sampling Date:	09/18/2019
Reported:	09/27/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: RECOVERY WELL #1 (H903267-05)

BTEX 8021B	mg/	L	Analyze	d By: BF					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.001	0.001	09/27/2019	ND	0.020	98.4	0.0200	0.209	
Toluene*	<0.001	0.001	09/27/2019	ND	0.019	95.5	0.0200	1.14	
Ethylbenzene*	<0.001	0.001	09/27/2019	ND	0.019	93.9	0.0200	1.57	
Total Xylenes*	<0.003	0.003	09/27/2019	ND	0.056	94.1	0.0600	2.12	
Total BTEX	<0.006	0.006	09/27/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	87.7 9	81.3-12	8						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	650	4.00	09/24/2019	ND	100	100	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	74.4	10.0	09/25/2019	ND	21.4	107	20.0	0.558	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1450	5.00	09/24/2019	ND	532	101	527	0.269	

Cardinal Laboratories

*=Accredited Analyte

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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

ge 8 of 8	βq																												Pa	age	1		of	1	
101 East Marland - Tel (575) 3 Fax (575) 3	93-2326 ardi	na	1 L	a	b	or	a	to	r	ie	s,	,]	In	c.				С	HA				ST(Y A	ND) Al	NAI	YS	ISI	REC	QUE	ST		
Company Name:	ating Company		BILL 1 RICE					mp	any			PC)#								A		LY	SIS		0.000000						-	_		
Project Manager: Katie Jone:	S		122 W		Addr	ess:				(S [.]			y, Zip)		1	1		I	1	(C	ircle	or S	Spec	ify N	/leth	iod I	No.)		1	T		Ĩ	1	ŕ
122 W Taylor S	(Street, City, Zip) treet ~ Hobbs, New Mexico 88240		(575		Phor 3-91							Fa: (5		397-1	1471	1				200.7															
Phone #: (575) 393-9		Fax #: (575)) 397-	147	1					/	/	2		-				(C35)		6010B/															
Project #: Project Location:	Project Name: Vacuum N-6-1				Sam	pler S	ignat	luro		1				75)624	0210			xtended		Se Hg	BL DO D														
2	E-Sec 6 N ~ Lea County New Me	xico		1		-	>	K	1	<	1	1	Int	75)631	~	L		(1005 E		od Cr Pb						C/625					HCO3)				Hours
H903267 LAB # (LAB USE ONLY	FIELD CODE	(G)rab or (C)omp	# CONTAINERS	WATER		ATRI	SLUDGE ×		HNO ₃	Da	H ₂ SO ₄ H	-iter HDPE)	1	DATE (2019) S	PLING	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 דכו P Metals את מא Ba Cd Cr Ph Se Hn	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 (Cd, Nig, Na, N) Anions (Cl, SO4, CO3, HCO3)	Sulfates	Total Dissolved Solids	Chlorides	Turn Around Time ~ 24 Hours
1	Monitor Well #1R	G	3	X					2			1		9/18		-	X	F	<u>a</u>		- <u> </u>	F	-	œ	0	0	٩.	٩.		2 0	2 4	S X	⊢ X	x	H
2	Monitor Well #2	G	3	X				1	2			1		9/18	1	1	X															x	x	X	
3	Monitor Well #3	G	3	X				1	2			1		9/18	10:30		X														T	X	x	x	
4	Monitor Well #4	G	3	X				1	2			1		9/18	8:45		X														Τ	X	x	x	
5	Recovery Well #1	G	3	X					2			1		9/18	14:10		x		-	_					_					+	Ŧ	x	x	x	
				\square				+				-								-					_	_	_		_	+	-			_	
								+	+									_	_										-	-	+		+	_	
																					T										T		T		
Relinquished by	1 Applance 12 of	Receiv	ved by:	110	1	N	11	1	1	Date			lime:		100	-		Resu	00000		Ye			No								_			
Rozanne Johnso Relinquished by:	Date: Time:	Receiv	ved By:	(La	ibora	atory	Staff	5	[]	9 Date			ime:	13	. 45			sults RKS:			Ye	S		No		Add	ition	al F	ax N	umb	er:			_	_
Delivered By:	(Circle One) UPS - Bus - Other:	Sample	e Condit Yes No	Cool	Yes	Intact		(Ir	HECI nitials	.)	BY:						Em	ail R	esu	lts:			s@ ine						.net						



December 12, 2019

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

RE: VACUUM N-6-1

Enclosed are the results of analyses for samples received by the laboratory on 12/06/19 13:50.

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/ga/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. Keine

Celey D. Keene Lab Director/Quality Manager



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

Received:	12/06/2019	Sampling Date:	12/03/2019
Reported:	12/12/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #1R (H904092-01)

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	12/11/2019	ND	0.022	109	0.0200	1.83	
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64	
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13	
Total Xylenes*	<0.003	0.003	12/11/2019	ND	0.063	105	0.0600	0.783	
Total BTEX	<0.006	0.006	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	103 %	58.2-13.	3						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	404	4.00	12/09/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	39.7	10.0	12/09/2019	ND	20.9	105	20.0	4.15	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	828	5.00	12/10/2019	ND	540	102	527	2.96	

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and clent'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, whother bits ubsidiaries, affiliates 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



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

Received:	12/06/2019	Sampling Date:	12/03/2019
Reported:	12/12/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H904092-02)

•	•	,							
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	12/11/2019	ND	0.022	109	0.0200	1.83	
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64	
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13	
Total Xylenes*	<0.003	0.003	12/11/2019	ND	0.063	105	0.0600	0.783	
Total BTEX	<0.006	0.006	12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID	102 %	58.2-13	3						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	32.0	4.00	12/09/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	42.7	10.0	12/09/2019	ND	20.9	105	20.0	4.15	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	311	5.00	12/10/2019	ND	540	102	527	2.96	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	12/06/2019	Sampling Date:	12/03/2019
Reported:	12/12/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H904092-03)

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		12/11/2019	ND	0.022	109	0.0200	1.83	
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64	
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13	
Total Xylenes*	<0.003 0.003 12		12/11/2019	ND	0.063	105	0.0600	0.783	
Total BTEX	<0.006 0.006 12/1		12/11/2019	ND					
Surrogate: 4-Bromofluorobenzene (PID		6 58.2-13	3						
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	32.0	4.00	12/09/2019	ND	104	104	100	0.00	
Sulfate 375.4	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	42.6	10.0	12/09/2019	ND	20.9	105	20.0	4.15	
TDS 160.1	mg/	L	Analyze	d By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	160	5.00	12/10/2019	ND	540	102	527	2.96	

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



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

Received:	12/06/2019	Sampling Date:	12/03/2019
Reported:	12/12/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: MONITOR WELL #4 (H904092-04)

•	•	•									
BTEX 8021B	mg/	L	Analyze	d By: MS							
Analyte			Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Benzene*	<0.001 0.001		12/11/2019	ND	0.022	109	0.0200	1.83	GC-NC		
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64			
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13			
Total Xylenes*	<0.003 0.003 1		12/11/2019	.2/11/2019 ND		105	0.0600	0.783			
Total BTEX	<0.006 0.006 12/2		12/11/2019	ND							
Surrogate: 4-Bromofluorobenzene (PID	91.5 %	58.2-13	3								
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride*	28.0	4.00	12/09/2019	ND	104	104	100	0.00			
Sulfate 375.4	mg/	L	Analyze	d By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Sulfate*	41.2	10.0	12/09/2019	ND	20.9	105	20.0	4.15			
TDS 160.1	mg/	L	Analyze	d By: AC							
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
TDS*	283	5.00	12/10/2019	0/2019 ND		102	527	2.96			

Cardinal Laboratories

*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and clent'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, whother bits ubsidiaries, affiliates 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



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

Received:	12/06/2019	Sampling Date:	12/04/2019
Reported:	12/12/2019	Sampling Type:	Water
Project Name:	VACUUM N-6-1	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	T17S-R35E-SEC6 N-LEA CTY., NM		

Sample ID: RECOVERY WELL #1 (H904092-05)

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		12/11/2019	ND	0.022	109	0.0200	1.83				
Toluene*	<0.001	0.001	12/11/2019	ND	0.022	109	0.0200	1.64				
Ethylbenzene*	<0.001	0.001	12/11/2019	ND	0.022	108	0.0200	1.13				
Total Xylenes*	<0.003 0.003 1		12/11/2019	ND	0.063	105	0.0600	0.783				
Total BTEX	< 0.006 0.006 12/		12/11/2019	ND								
Surrogate: 4-Bromofluorobenzene (PID	105 %	6 58.2-13	3									
Chloride, SM4500Cl-B	mg/	L	Analyze	d By: AC								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier			
Chloride*	620	4.00	12/09/2019	ND	104	104	100	0.00				
Sulfate 375.4	mg/	L	Analyze	d By: AC								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier			
Sulfate*	72.1	10.0	12/09/2019	ND	20.9	105	20.0	4.15				
TDS 160.1	mg/	L	Analyze	d By: AC								
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier			
TDS*	1420	5.00	12/10/2019	ND	540	102	527	2.96				

Cardinal Laboratories

*=Accredited Analyte

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

GC-NC	8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
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

Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

s 10 8 90 8	d																											F	Pag	e	1	of	1	
101 East Marland - H	lobbs, NM 88240	100	1 T	0	h	~ 1		4	~ =		~~		T					С	HAI	IN-C	DF-	CU	STC	DY	AN	DA	NA	LY	SIS	RE	QU	ES'	Г	
Tel (575) 39 Fax (575) 39		b11	11	٦ď	IJ	UI	6				es	9		IC.		Г				LA	во	rder	ID #									-		
Company Name: RICE Opera	ating Company		BILL			npany		om	nar			F	PO#								A	NA	LYS	SIS	REC	QUE	ST	-						
RICE Operating Company RICE Operating Company Project Manager: Address: (Street, City, Zip)								-					(Ci	rcle	or Sp	becif	y Me	thod	No.)														
Katie Jones		122 W Taylor Street ~ Hobbs, New Mexico 88240																		1														
	Street, City, Zip) reet ~ Hobbs, New Mexico 88240		1575	5) 20		ne#:	i i						Fax#:	007	4.474	1																		
Phone #:	Teel ~ Hobbs, New Mexico 88240	Fax #:	(575	5) 33	30-8	174	+					((575)	397	-1471																			
(575) 393-9		(575) 397	-147	71			~/	1									(C35		6010							1							
Project #:	Project Name: Vacuum N-6-1				/	/	/	77										ded		문 문	2							a -						
Project Location:	Vacuum N-0-1			/	Sán	npler	Sigh	ature	:>	Roza	nne J	lohr	nson (575)63	31-9310	-		Exter	0	b Se														
T17S-R35E	-Sec 6 N ~ Lea County New Me	exico	-	9	/	C	f	N	N	_		-						005 F		5 5					625					000	3			
10211000	7		C	T	M	ATR	IX		P		ERV.			SA	MPLING	;		TPH 418.1/TX1005 / TX1005 Extended (C35)	Ċ	a Cd				2	GC/MS Semi Vol 8270C/625					Cations (Ca, Mg, Na, K)	3, 1	s	í.	
H904012	4	du	RS		1				2	T	T	T	1	1	1	5	5	005/		As F As F		tiles					A/60		1	, Na	5	Solic		
LAD #	FIELD CODE	C)or	CONTAINERS						I VO				L HDP	(6		1B/6	B/60	TXI		s Ag	les	Vola	cides	000		2/608	3081	F	onter	W.	5 S	ved		E F
LAB USE		o or (NT	E			GE		2 40n		Č	4	-1Lite	(201		802	802	18.1	2700	Metal	/olat	Semi	estic	1711	Sen Vol.	8082	les (SS,	e O	2 (C	j,	isso	es	
ONLY	1	(G)rab or (C)omp	8	WATER	SOIL	AIR	SLUDGE		HCL (2 40ml VOA)	HNO ₃	H ₂ SO,		ICE (1-1Liter HDPE) NONE	DATE (2019)	TIME	MTBE 8021B/602	BTEX 8021B/602	H 4	PAH 8270C	CLP 1	LP .	TCLP Semi Volatiles	TCLP Pesticides	RUI	SIMIS	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Moisture Content	Cations (Ca, Mg, Na, K)	Sulfates	Total Dissolved Solids	Chlorides	
1	Monitor Well #1R	G	#	X	-	A	S		工 2	<u> </u>		-	<u>≌ </u> Z 1	-	F 3 15:50		m X	Ë	21		ΙĔ	Ĕ			5 0	15	Pe		ž	ů ł	-	-	1	1
2	Monitor Well #2	G	3	X	\vdash	\square			2	+	+		1	12/		-	x		+	+	+	\vdash	+	+	+	+	\vdash	+	\vdash	+	-	XX		-
3	Monitor Well #3	G	3	X					2		\uparrow		1	12/		-	X	-	+	+	+	\vdash	+	+	+	+	\vdash	+	\vdash	+	_	x x x x	_	+
4	Monitor Well #4	G	3	X					2			-	1	12/		1-	X		+	+	\top		+	+	+	+	\vdash	Η	\vdash	+		x x	-	-
5	Recovery Well #1	G	3	X					2				1	12/	4 12:4	5	x								\top	\uparrow		\square	Ħ	\top	_	x x	-	-
																												\square	\square		T	T		T
		<u> </u>			<u> </u>				_	_																								
	1		 	+	<u> </u>	\square			-	_	+	+	_	-				_	_	+		Ц	_	_	_			\square	Ц	\perp	4	\perp		
	7			+	-	+	\square		+	-		+	+-		+			_	_	+		\square	_	-	+	+	1	\vdash	Ц	+	+	\perp	\vdash	╞
	F/			+		\vdash	\vdash		+	+	+	+	+	-				+	_	+	+		+	+	+	+	┢	\vdash	\vdash	+	+	+	-	+
Relinquished by:	Date; Time:	Recei	ved by:	:	L		20	1		Da	te:	_	Time	:		Pho	one F	Resu	Its	╈	Ye	s	N	0								_		
Rozanne Johnson	12/4/2019 13:50		Autora Macker 12-6-19 13:50 Fa						-		_	-	$^{+}$	Ye		N		Ac	ditio	nal (Fav	Num	ber.				_							
Relinquished by:	Date: Time:	Recei	ved By	: (L	abor	atory	/ Sta	aff)	1	Dat			Time		1.00		MAR			_	Lic	5		0	7.0	unio	nai i		Num	Der.				
	<u>k</u>																																	
Delivered By:	(Circle One)	Samel	Condi	tion			-	-									Ema	ail R	esul	ts:						.con								
Converce by.		Sample	e Condi	tion Coo	1	Intact			JHE	UKE	O BY:					rozanne11@windstream.net																		
$\left \right\rangle$			Yes	-	Yes		-	(Initia	als)																								
Sampler - L	JPS - Bus - Other:		No		No				1.0																									