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March 29th, 2016

Dr. Tomas Oberding

New Mexico Energy, Minerals, & Natural Resources Oil Conservation Division, Environmental Bureau 1220 S. St. Francis Drive Santa Fe, New Mexico 87504

RE: 2015 Annual Report Rice Operating Company BD P-26-1 and BD P-26-2 (AP-97) T21S, R37E, Sec. 26, UL P

Sent by E-mail

Dr. Oberding:

This letter summarizes progress made over the past calendar year for these sites, which are operated by Rice Operating Company (ROC). Location and site schematic maps are given in the Appendix (Figures 1 and 2, respectively). In brief:

BD P-26-1

Groundwater chloride concentrations in the near-source monitor well (MW-1) paused in their decline from previous years averaging 277 mg/l over the course of 2015 compared to 268 mg/l over 2014. Groundwater chloride concentrations in the up-gradient monitor well (MW-2) remained essentially unchanged, averaging 177 mg/l in 2015 vs 190 mg/l in 2014. Groundwater chloride concentrations in the down-gradient monitor well (MW-3) continued the general decline that began in July 2013, averaging 253 mg/l over 2015 compared to 341 mg/l over 2014. BTEX concentrations remained below the limits of laboratory detection, as they have since they were first sampled in 2007. The depth to groundwater across this location averaged approximately 52 ft bgs in 2015. This is summarized in the Appendix – Figure 3, Table 1.

BD P-26-2

Groundwater chloride concentrations in the near-source monitor well (MW-1) paused in their decline from previous years averaging 562 mg/l over 2015 compared to 521 mg/l over 2014. Chloride concentrations in the down-gradient well (MW-2) averaged 1,160 mg/l over 2015 compared to an average value of 955 mg/l over 2014. Groundwater chloride concentrations in the second, down-gradient monitor well, MW-3, averaged 868 mg/l in 2015 compared to 705 mg/l in 2014. BTEX concentrations remained below the limits of laboratory detection, as they have since the wells were installed. The depth to groundwater

BD P-26 1&2 Annual Report

averaged approximately 52 ft bgs in 2015. This is summarized in the Appendix – Figure 4, Table 2.

Taken together, these data indicate that the decline in groundwater chloride levels observed and reported for 2014 has essentially leveled off. We plan to continue to monitor groundwater for chlorides during 2016 and use this data to elucidate trends.

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

Please do not hesitate to contact either Rice Operating Company or myself if you have any questions or need additional information.

Thank you for your consideration.

Sincerely,

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

Copy: Rice Operating Company

Attachments: Appendix





Figure 3



Table 1

	Depth to	Total	Well	Volume						Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
1	50.37	58.6	1.3	6	11/12/2007	4350	8396	<0.002	<0.002	<0.002	<0.006	347	Clear No odor
1	49.8	58.65	1.4	6	1/14/2008	3900	7655	<0.001	<0.001	<0.001	<0.003	355	Clear No odor
1	50	58.65	1.4	6	4/4/2008	3000	6340	<0.001	<0.001	<0.001	<0.003	304	Sand to clear No odor
1	50.28	58.65	1.3	6	7/16/2008	2160	4930	<0.001	<0.001	<0.001	<0.003	299	Sand to clear No odor
1	50.89	58.65	1.2	6	10/6/2008	2560	5940	<0.001	<0.001	<0.001	<0.003	309	Sand to clear No odor
1	50.56	58.61	1.3	6	1/16/2009	2160	4300	<0.001	<0.001	<0.001	<0.003	310	Sand to clear No odor
1	50.48	58.61	1.3	6	4/15/2009	1700	3420	<0.001	<0.001	<0.001	<0.003	289	Sand to clear No odor
1	49.43	58.61	1.5	6	7/15/2009	650	1740	<0.001	<0.001	<0.001	<0.003	233	Sand to clear No odor
1	49.13	58.61	1.5	6	10/9/2009	540	1520	<0.001	<0.001	<0.001	<0.003	230	Sand to clear No odor
1	49.63	58.67	1.4	6	1/15/2010	560	1400	<0.001	<0.001	<0.001	<0.003	216	Sand to clear No odor
1	50.15	58.67	1.4	6	4/13/2010	220	941	<0.001	<0.001	<0.001	<0.003	223	Sand to clear No odor
1	49.93	58.67	1.4	6	7/13/2010	316	1120	<0.001	<0.001	<0.001	<0.003	205	Sand to clear No odor
1	48.57	58.67	1.6	6	10/8/2010	232	920	<0.001	<0.001	<0.001	<0.003	182	Sand to clear No odor
1	48.23	58.68	1.7	6	1/18/2011	1640	3880	<0.001	<0.001	<0.001	<0.003	348	Sand to clear No odor
1	48.12	58.68	1.7	6	4/14/2011	1670	3270	<0.001	<0.001	<0.001	<0.003	347	Sand to clear No odor
1	48.33	58.68	1.7	6	7/21/2011	1300	2740	<0.001	<0.001	<0.001	<0.003	279	Sand to clear No odor
1	48.58	58.68	1.6	6	10/17/2011	980	2290	<0.001	<0.001	<0.001	<0.003	215	Sand to clear No odor
1	48.59	58.68	1.6	6	1/20/2012	1040	2280	<0.001	<0.001	<0.001	<0.003	243	Sand to clear No odor
1	48.63	58.68	1.6	6	4/19/2012	1180	2580	<0.001	<0.001	<0.001	<0.003	226	Sand to clear No odor
1	53.31	58.68	0.9	6	7/17/2012	920	1900	<0.001	<0.001	<0.001	<0.003	152	Sand to clear No odor
1	51.89	58.68	1.1	6	10/15/2012	700	1720	<0.001	<0.001	<0.001	<0.003	245	Sand to clear No odor
1	54.1	58.68	0.7	6	1/9/2013	920	1960	<0.001	<0.001	<0.001	<0.003	165	Sand to clear No odor
1	53.98	58.68	0.8	6	4/22/2013	630	1580	<0.001	<0.001	<0.001	<0.003	228	Sand to clear No odor
1	52.84	58.68	0.9	6	7/18/2013	590	1610	<0.001	<0.001	<0.001	<0.003	183	Sand to clear No odor
1	54.23	58.68	0.7	6	10/18/2013	280	1060	< 0.001	< 0.001	< 0.001	< 0.003	177	Sand to clear No odor
1	55.72	58.68	0.5	6	1/24/2014	392	1260	< 0.001	< 0.001	<0.001	< 0.003	184	Sand to clear No odor

	Depth to	Total	Well	Volume						Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
1	56.54	58.68	0.3	6	4/8/2014	232	940	<0.001	<0.001	<0.001	<0.003	199	Sand to clear No odor
1	57.14	58.68	0.2	6	7/22/2014	244	980	<0.001	<0.001	<0.001	<0.003	196	Sand to clear No odor
1	52.63	58.68	1	3	10/24/2014	204	904	<0.001	<0.001	<0.001	<0.003	173	Sand to clear No odor
1	52.95	58.68	0.9	3	2/4/2015	235	1010	<0.001	<0.001	<0.001	<0.003	103	Sand to clear No odor
1	54.25	58.68	0.7	3	4/22/2015	224	1000	< 0.001	<0.001	< 0.001	<0.003	163	Sand to clear No odor
1	54.85	58.68	0.61	3	7/30/2015	224	1010	<0.001	<0.001	<0.001	<0.003	139	Sand to clear No odor
1	53.45	58.68	0.84	3	10/23/2015	424	1330	<0.001	<0.001	<0.001	<0.003	179	Sand to clear No odor
	Depth to	Total	Well	Volume						Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
2	49.51	64.39	2.4	10	7/16/2008	196	968	<0.001	<0.001	<0.001	<0.003	187	Sand to clear No odor
2	50.14	64.39	2.3	10	10/6/2008	184	933	<0.001	<0.001	<0.001	<0.003	216	Sand to clear No odor
2	49.72	64.87	2.4	10	1/16/2009	192	913	<0.001	<0.001	<0.001	<0.003	207	Sand to clear No odor
2	49.71	64.87	2.4	10	4/15/2009	188	932	<0.001	<0.001	<0.001	<0.003	186	Sand to clear No odor
2	48.62	65.03	2.6	10	7/15/2009	192	887	<0.001	<0.001	<0.001	<0.003	180	Sand to clear No odor
2	48.46	65.03	2.7	10	10/9/2009	180	895	<0.001	<0.001	<0.001	<0.003	182	Sand to clear No odor
2	48.62	65.08	2.6	10	1/15/2010	328	1040	<0.001	<0.001	<0.001	<0.003	185	Sand to clear No odor
2	49.13	65.08	2.6	10	4/13/2010	192	896	<0.001	<0.001	<0.001	<0.003	210	Sand to clear No odor
2	48.97	65.08	2.6	10	7/13/2010	196	848	<0.001	<0.001	<0.001	<0.003	203	Sand to clear No odor
2	48.01	65.08	2.7	10	10/8/2010	168	888	<0.001	<0.001	<0.001	<0.003	167	Sand to clear No odor
2	47.68	65.1	2.8	10	1/18/2011	164	881	<0.001	<0.001	<0.001	<0.003	191	Sand to clear No odor
2	47.61	65.1	2.8	10	4/14/2011	168	867	<0.001	<0.001	<0.001	<0.003	189	Sand to clear No odor
2	47.76	65.1	2.8	10	7/21/2011	180	825	<0.001	<0.001	<0.001	<0.003	170	Sand to clear No odor
2	48.06	65.1	2.7	10	10/17/2011	172	813	< 0.001	< 0.001	<0.001	< 0.003	136	Sand to clear No odor
2	48.08	65.1	2.7	10	1/20/2012	176	924	<0.001	< 0.001	<0.001	< 0.003	189	Sand to clear No odor
2	48.12	65.1	2.7	10	4/19/2012	168	868	< 0.001	< 0.001	< 0.001	< 0.003	187	Sand to clear No odor
2	52.33	65.1	2	10	7/17/2012	204	968	<0.001	<0.001	<0.001	<0.003	194	Sand to clear No odor
2	51.02	65.1	2.3	10	10/15/2012	192	937	< 0.001	<0.001	<0.001	<0.003	220	Sand to clear No odor

	Depth to	Total	Well	Volume						Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
2	53.14	65.1	1.9	10	1/9/2013	196	862	<0.001	<0.001	<0.001	<0.003	193	Sand to clear No odor
2	53.02	65.1	1.9	10	4/22/2013	196	894	<0.001	<0.001	<0.001	<0.003	186	Sand to clear No odor
2	52.09	65.1	2.1	10	7/18/2013	208	946	<0.001	<0.001	<0.001	<0.003	185	Sand to clear No odor
2	53.29	65.1	1.9	10	10/18/2013	188	878	<0.001	<0.001	<0.001	<0.003	160	Sand to clear No odor
2	54.61	65.1	1.7	10	1/24/2014	192	868	<0.001	<0.001	<0.001	<0.003	193	Sand to clear No odor
2	55.48	65.1	1.5	10	4/8/2014	204	878	<0.001	<0.001	<0.001	<0.003	180	Sand to clear No odor
2	56.04	65.1	1.4	10	7/22/2014	192	934	<0.001	<0.001	<0.001	<0.003	190	Sand to clear No odor
2	51.93	65.1	2.1	10	10/24/2014	172	882	<0.001	<0.001	<0.001	<0.003	165	Sand to clear No odor
2	52.13	65.1	2.1	10	2/4/2015	176	870	<0.001	<0.001	<0.001	<0.003	149	Sand to clear No odor
2	52.82	65.1	2	10	4/22/2015	188	938	<0.001	<0.001	<0.001	<0.003	129	Sand to clear No odor
2	53.33	65.1	1.88	10	7/30/2015	172	912	<0.001	<0.001	<0.001	<0.003	140	Sand to clear No odor
2	51.95	65.1	2.1	10	10/23/2015	172	884	<0.001	<0.001	<0.001	< 0.003	152	Sand to clear No odor

	Depth to	Total	Well	Volume						Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
3	49.2	64.6	2.5	10	7/16/2008	212	926	<0.001	<0.001	<0.001	<0.003	174	Sand to clear No odor
3	49.61	64.6	2.3	10	10/6/2008	188	936	<0.001	<0.001	<0.001	<0.003	190	Sand to clear No odor
3	49.33	64.59	2.4	10	1/16/2009	208	896	<0.001	<0.001	<0.001	<0.003	207	Sand to clear No odor
3	49.31	64.59	2.4	10	4/15/2009	204	924	<0.001	<0.001	<0.001	<0.003	190	Sand to clear No odor
3	48.06	64.49	2.6	10	7/15/2009	176	895	<0.001	<0.001	<0.001	<0.003	169	Sand to clear No odor
3	48.02	64.49	2.6	10	10/9/2009	204	930	<0.001	<0.001	<0.001	<0.003	169	Sand to clear No odor
3	48.36	64.46	2.6	10	1/15/2010	328	1150	<0.001	<0.001	<0.001	<0.003	176	Sand to clear No odor
3	49.12	64.46	2.5	10	4/13/2010	460	1290	<0.001	<0.001	<0.001	<0.003	197	Sand to clear No odor
3	48.91	64.46	2.5	10	7/13/2010	450	1170	<0.001	<0.001	<0.001	<0.003	189	Sand to clear No odor
3	47.22	64.46	2.8	10	10/8/2010	830	1840	<0.001	<0.001	<0.001	<0.003	142	Sand to clear No odor
3	46.9	64.63	2.8	10	1/18/2011	1800	3670	<0.001	<0.001	<0.001	<0.003	259	Sand to clear No odor
3	46.77	64.63	2.9	10	4/14/2011	2450	4430	<0.001	<0.001	<0.001	< 0.003	329	Sand to clear No odor
3	46.96	64.63	2.8	10	7/21/2011	1860	3700	<0.001	<0.001	<0.001	< 0.003	323	Sand to clear No odor

	Depth to	Total	Well	Volume						Ethyl	Total		
MW	Water	Depth	Volume	Purged	Sample Date	Cl	TDS	Benzene	Toluene	Benzene	Xylenes	Sulfate	Comments
3	47.26	64.63	2.8	10	10/17/2011	1240	2870	<0.001	<0.001	<0.001	<0.003	252	Sand to clear No odor
3	47.21	64.63	2.8	10	1/20/2012	1040	2600	<0.001	<0.001	<0.001	<0.003	322	Sand to clear No odor
3	47.31	64.63	2.8	10	4/19/2012	920	2340	<0.001	<0.001	<0.001	<0.003	268	Sand to clear No odor
3	52.36	64.63	2	10	7/17/2012	1950	3760	<0.001	<0.001	<0.001	<0.003	297	Sand to clear No odor
3	50.53	64.63	2.3	10	10/15/2012	910	2100	<0.001	<0.001	<0.001	<0.003	234	Sand to clear No odor
3	52.98	64.63	1.9	10	1/9/2013	2020	3800	<0.001	<0.001	<0.001	<0.003	323	Sand to clear No odor
3	53.04	64.63	1.9	10	4/22/2013	1240	2620	<0.001	<0.001	<0.001	<0.003	286	Sand to clear No odor
3	51.82	64.63	2	10	7/18/2013	500	1440	<0.001	<0.001	<0.001	<0.003	199	Sand to clear No odor
3	53.16	64.63	1.8	10	10/18/2013	600	1640	<0.001	<0.001	<0.001	<0.003	234	Sand to clear No odor
3	54.68	64.63	1.6	10	1/24/2014	390	854	<0.001	<0.001	<0.001	<0.003	196	Sand to clear No odor
3	55.62	64.63	1.4	10	4/8/2014	390	1220	<0.001	<0.001	<0.001	<0.003	238	Sand to clear No odor
3	56.18	64.63	1.4	10	7/22/2014	380	1270	<0.001	<0.001	<0.001	<0.003	225	Sand to clear No odor
3	51.36	64.63	2.1	10	10/24/2014	204	968	<0.001	<0.001	<0.001	<0.003	189	Sand to clear No odor
3	51.41	64.63	2.1	10	2/4/2015	304	1120	<0.001	<0.001	<0.001	<0.003	195	Sand to clear No odor
3	52.77	64.63	1.9	10	4/22/2015	236	1030	<0.001	<0.001	<0.001	<0.003	151	Sand to clear No odor
3	53.28	64.63	1.82	10	7/30/2015	212	950	<0.001	< 0.001	<0.001	< 0.003	128	Sand to clear No odor
3	51.89	64.63	2.04	10	10/23/2015	260	1280	<0.001	<0.001	<0.001	<0.003	227	Sand to clear No odor

Figure 4



Table 2

мw	Depth to	Total	Well	Volume	Sample	Cl	TDS	Benzene	Toluene	Ethyl	Total	Sulfate	Comments
	Water	Depth	Volume	Purged	Date					Benzene	Xylenes		
1	47.84	59.43	1.9	6	11/12/2007	5000	9415	<0.002	<0.002	<0.002	<0.006	430	Clear No odor
1	47.39	59.45	1.9	8	1/14/2008	5100	9453	<0.001	<0.001	<0.001	<0.003	469	Clear No odor
1	47.45	59.45	1.9	8	4/4/2008	5300	10100	<0.001	<0.001	<0.001	<0.003	437	Sand to clear No odor
1	48.07	59.45	1.8	8	7/16/2008	5300	9870	<0.001	<0.001	<0.001	<0.003	448	Sand to clear No odor
1	48.35	59.45	1.8	8	10/6/2008	5600	10700	<0.001	<0.001	<0.001	<0.003	473	Sand to clear No odor
1	48.76	59.43	1.7	8	1/16/2009	4000	7680	<0.001	<0.001	<0.001	<0.003	497	Sand to clear No odor
1	47.94	59.43	1.8	6	4/15/2009	4500	8190	<0.001	<0.001	<0.001	<0.003	462	Sand to clear No odor
1	47.23	59.43	2	6	7/15/2009	3050	6000	<0.001	<0.001	<0.001	<0.003	403	Sand to clear No odor
1	46.92	59.43	2	6	10/9/2009	2100	4360	<0.001	<0.001	<0.001	<0.003	516	Sand to clear No odor
1	47.18	59.45	2	6	1/15/2010	2120	4600	<0.001	<0.001	<0.001	<0.003	410	Sand to clear No odor
1	47.42	59.45	1.9	6	4/13/2010	2850	5530	<0.001	<0.001	<0.001	<0.003	489	Sand to clear No odor
1	47.25	59.45	2	6	7/13/2010	2300	4750	<0.001	<0.001	<0.001	<0.003	453	Sand to clear No odor
1	46.5	59.45	2.1	6	10/8/2010	920	2540	<0.001	<0.001	<0.001	<0.003	437	Sand to clear No odor
1	46.15	59.45	2.1	6	1/18/2011	820	2140	<0.001	<0.001	<0.001	<0.003	319	Sand to clear No odor
1	46.03	59.45	2.1	6	4/14/2011	800	2100	<0.001	<0.001	<0.001	<0.003	356	Sand to clear No odor
1	46.19	59.45	2.1	6	7/19/2011	1320	2760	<0.001	<0.001	<0.001	<0.003	327	Sand to clear No odor
1	46.51	59.45	2.1	6	10/17/2011	1480	3260	<0.001	<0.001	<0.001	<0.003	281	Sand to clear No odor
1	46.49	59.45	2.1	6	1/20/2012	2370	4630	<0.001	<0.001	<0.001	<0.003	392	Sand to clear No odor
1	46.53	59.45	2.1	6	4/19/2012	2100	4190	<0.001	<0.001	<0.001	<0.003	384	Sand to clear No odor
1	51.57	59.45	1.3	6	7/17/2012	2220	3810	<0.001	<0.001	<0.001	<0.003	376	Sand to clear No odor
1	49.56	59.45	1.6	6	10/15/2012	1620	3480	<0.001	<0.001	<0.001	<0.003	427	Sand to clear No odor
1	51.04	59.45	1.3	6	1/9/2013	1780	4100	<0.001	<0.001	<0.001	<0.003	370	Sand to clear No odor
1	52.03	59.45	1.2	6	4/22/2013	1900	3800	<0.001	<0.001	<0.001	<0.003	368	Sand to clear No odor
1	51.04	59.45	1.3	6	7/18/2013	840	2190	<0.001	<0.001	<0.001	<0.003	284	Sand to clear No odor
1	52.31	59.45	1.1	6	10/18/2013	740	2110	< 0.001	< 0.001	< 0.001	< 0.003	312	Sand to clear No odor
1	53.98	59.45	0.9	6	1/24/2014	600	1760	< 0.001	< 0.001	<0.001	< 0.003	284	Sand to clear No odor

N // N/	Depth to	Total	Well	Volume	Sample	CL	TDC	Ponzono	Toluono	Ethyl	Total	Sulfato	Commonts
	Water	Depth	Volume	Purged	Date	CI	103	Delizerie	roluelle	Benzene	Xylenes	Sunate	comments
1	54.91	59.45	0.7	6	4/8/2014	620	1710	<0.001	<0.001	<0.001	<0.003	276	Sand to clear No odor
1	55.52	59.45	0.6	6	7/22/2014	490	1570	<0.001	<0.001	<0.001	<0.003	307	Sand to clear No odor
1	50.6	59.45	1.4	6	10/24/2014	372	1260	<0.001	<0.001	<0.001	<0.003	188	Sand to clear No odor
1	50.94	59.45	1.4	6	2/4/2015	460	1560	<0.001	<0.001	<0.001	<0.003	270	Sand to clear No odor
1	51.13	59.45	1.3	6	4/22/2015	540	1640	<0.001	<0.001	<0.001	<0.003	245	Sand to clear No odor
1	52.18	59.45	1.16	6	7/30/2015	749	2140	<0.001	<0.001	<0.001	<0.003	252	Sand to clear No odor
1	50.98	59.45	1.36	6	10/23/2015	500	1600	<0.001	<0.001	<0.001	<0.003	192	Sand to clear No odor
												-	
N/1\A/	Depth to	Total	Well	Volume	Sample	CL	тос	Bonzono	Toluono	Ethyl	Total	Sulfato	Comments
	Water	Depth	Volume	Purged	Date	CI	103	Delizelle	Toluelle	Benzene	Xylenes	Sunate	comments
2	47.11	59.92	3	10	7/16/2008	432	1470	<0.001	<0.001	<0.001	<0.003	253	Sand to clear No odor
2	47.38	59.92	2	10	10/6/2008	384	1350	<0.001	<0.001	<0.001	<0.003	289	Sand to clear No odor
2	47.83	60.39	2	10	1/16/2009	400	1360	<0.001	<0.001	<0.001	<0.003	262	Sand to clear No odor
2	46.99	60.39	2.1	10	4/15/2009	412	1370	<0.001	<0.001	<0.001	<0.003	259	Sand to clear No odor
2	46.47	60.39	2.2	10	7/15/2009	432	1420	<0.001	<0.001	<0.001	<0.003	268	Sand to clear No odor
2	46.11	60.39	2.3	10	10/9/2009	480	1470	<0.001	< 0.001	< 0.001	< 0.003	237	Sand to clear No odor
2	46.35	60.52	2.3	10	1/15/2010	590	1660	<0.001	<0.001	<0.001	<0.003	215	Sand to clear No odor
2	46.52	60.52	2.2	10	4/13/2010	690	1720	<0.001	<0.001	<0.001	<0.003	261	Sand to clear No odor
2	46.37	60.52	2.3	10	7/13/2010	820	1940	< 0.001	<0.001	< 0.001	<0.003	255	Sand to clear No odor
2	45.76	60.52	2.4	10	10/8/2010	690	1760	< 0.001	<0.001	< 0.001	<0.003	246	Sand to clear No odor
2	45.42	60.54	2.4	10	1/18/2011	900	2400	<0.001	<0.001	<0.001	<0.003	361	Sand to clear No odor
2	45.29	60.54	2.4	10	4/14/2011	890	2010	<0.001	<0.001	<0.001	<0.003	319	Sand to clear No odor
2	45.46	60.54	2.4	10	7/19/2011	810	1900	<0.001	<0.001	<0.001	<0.003	283	Sand to clear No odor
2	45.78	60.54	2.4	10	10/17/2011	780	1950	<0.001	< 0.001	< 0.001	< 0.003	237	Sand to clear No odor
2	45.74	60.54	2.4	10	1/20/2012	830	1950	< 0.001	<0.001	< 0.001	< 0.003	323	Sand to clear No odor
2	45.78	60.54	2.4	10	4/19/2012	870	2100	< 0.001	< 0.001	< 0.001	< 0.003	363	Sand to clear No odor
2	50.67	60.54	1.6	10	7/17/2012	1340	2870	< 0.001	<0.001	< 0.001	<0.003	278	Sand to clear No odor
2	48.64	60.54	1.9	10	10/15/2012	1140	2470	<0.001	<0.001	<0.001	<0.003	373	Sand to clear No odor

N // \A/	Depth to	Total	Well	Volume	Sample	C	TDS	Ponzono	Toluono	Ethyl	Total	Sulfato	Commonts
	Water	Depth	Volume	Purged	Date	C	103	Delizene	Toluelle	Benzene	Xylenes	Junale	comments
2	49.78	60.54	1.7	10	1/9/2013	1090	2410	<0.001	<0.001	<0.001	<0.003	298	Sand to clear No odor
2	51.11	60.54	1.5	10	4/22/2013	1340	2700	<0.001	<0.001	<0.001	<0.003	284	Sand to clear No odor
2	50.24	60.54	1.6	10	7/18/2013	980	2400	<0.001	<0.001	<0.001	<0.003	222	Sand to clear No odor
2	51.45	60.54	1.5	10	10/18/2013	1120	2560	<0.001	<0.001	<0.001	<0.003	304	Sand to clear No odor
2	52.98	60.54	1.2	10	1/24/2014	1000	2580	<0.001	<0.001	<0.001	<0.003	251	Sand to clear No odor
2	53.92	60.54	1.1	10	4/8/2014	1160	2510	<0.001	<0.001	<0.001	<0.003	229	Sand to clear No odor
2	54.57	60.54	1	10	7/22/2014	970	2390	<0.001	<0.001	<0.001	<0.003	245	Sand to clear No odor
2	49.96	60.54	1.7	10	10/24/2014	690	1890	<0.001	<0.001	<0.001	<0.003	196	Sand to clear No odor
2	50.17	60.54	1.7	10	2/4/2015	1140	2510	<0.001	<0.001	<0.001	<0.003	285	Sand to clear No odor
2	51.08	60.54	1.5	10	4/22/2015	1300	2810	<0.001	<0.001	<0.001	<0.003	296	Sand to clear No odor
2	51.41	60.54	1.46	10	7/30/2015	980	2770	<0.001	<0.001	<0.001	<0.003	162	Sand to clear No odor
2	50.28	60.54	1.64	10	10/23/2015	1220	2680	<0.001	<0.001	<0.001	<0.003	205	Sand to clear No odor

N // N/	Depth to	Total	Well	Volume	Sample	C	TDS	Ponzono	Toluono	Ethyl	Total	Sulfato	Commonts
10100	Water	Depth	Volume	Purged	Date	C	103	Delizene	Toluelle	Benzene	Xylenes	Junale	comments
3	51.08	62.13	1.8	8	7/18/2013	670	1640	<0.001	<0.001	<0.001	<0.003	204	Sand to clear No odor
3	52.19	62.13	1.6	8	10/18/2013	740	1710	<0.001	<0.001	<0.001	<0.003	216	Sand to clear No odor
3	53.64	62.13	1.4	8	1/24/2014	680	1780	<0.001	<0.001	<0.001	<0.003	213	Sand to clear No odor
3	54.53	62.13	1.2	8	4/8/2014	820	1760	<0.001	<0.001	<0.001	<0.003	223	Sand to clear No odor
3	55.17	62.13	1.1	8	7/22/2014	500	1980	<0.001	<0.001	<0.001	<0.003	201	Sand to clear No odor
3	50.87	62.13	1.8	8	10/24/2014	820	2190	<0.001	<0.001	<0.001	<0.003	224	Sand to clear No odor
3	50.97	62.13	1.8	8	2/4/2015	820	1970	<0.001	<0.001	<0.001	<0.003	214	Sand to clear No odor
3	51.82	62.13	1.6	8	4/22/2015	870	2100	<0.001	<0.001	<0.001	<0.003	213	Sand to clear No odor
3	52.28	62.13	1.58	8	7/30/2015	910	2360	<0.001	<0.001	<0.001	<0.003	163	Sand to clear No odor
3	51.13	62.13	1.76	8	10/23/2015	870	2170	<0.001	< 0.001	<0.001	<0.003	221	Sand to clear No odor



November 02, 2015

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

RE: BD P-26-1 VENT

Enclosed are the results of analyses for samples received by the laboratory on 10/26/15 13:44.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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:	10/26/2015	Sampling Date:	10/23/2015
Reported:	11/02/2015	Sampling Type:	Water
Project Name:	BD P-26-1 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T21S R37E SEC26 P-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H502787-01)

BTEX 8260B	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	10/28/2015	ND	0.019	97.4	0.0200	5.83	
Toluene	< 0.001	0.001	10/28/2015	ND	0.016	82.0	0.0200	8.13	
Ethylbenzene	< 0.001	0.001	10/28/2015	ND	0.017	83.6	0.0200	8.42	
Total Xylenes	<0.003	0.003	10/28/2015	ND	0.051	84.9	0.0600	9.39	
Total BTEX	<0.006	0.006	10/28/2015	ND					
Surrogate: Dibromofluoromethane	121	% 88.3-11	3						
Surrogate: Toluene-d8	96.6	% 90.3-11	5						
Surrogate: 4-Bromofluorobenzene	98.5	% 87.2-11	4						
Chloride, SM4500Cl-B	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	424	4.00	11/02/2015	ND	104	104	100	0.00	
Sulfate 375.4	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	179	50.0	10/28/2015	ND	19.5	97.3	20.0	4.77	
TDS 160.1	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1330	5.00	10/30/2015	ND	516	97.9	527	3.68	

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:	10/26/2015	Sampling Date:	10/23/2015
Reported:	11/02/2015	Sampling Type:	Water
Project Name:	BD P-26-1 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T21S R37E SEC26 P-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H502787-02)

BTEX 8260B	mg	Έ	Analyze	d By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene	< 0.001	0.001	10/28/2015	ND	0.019	97.4	0.0200	5.83	
Toluene	< 0.001	0.001	10/28/2015	ND	0.016	82.0	0.0200	8.13	
Ethylbenzene	< 0.001	0.001	10/28/2015	ND	0.017	83.6	0.0200	8.42	
Total Xylenes	<0.003	0.003	10/28/2015	ND	0.051	84.9	0.0600	9.39	
Total BTEX	<0.006	0.006	10/28/2015	ND					
Surrogate: Dibromofluoromethane	129	88.3-11	3						
Surrogate: Toluene-d8	92.3	% 90.3-11	5						
Surrogate: 4-Bromofluorobenzene	99.9	% 87.2-11	4						
Chloride, SM4500Cl-B	mg	Έ	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	172	4.00	11/02/2015	ND	104	104	100	0.00	
Sulfate 375.4	mg	′L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	152	25.0	11/02/2015	ND	20.9	104	20.0	5.00	
TDS 160.1	mg	Έ.	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	884	5.00	10/30/2015	ND	516	97.9	527	3.68	

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:	10/26/2015	Sampling Date:	10/23/2015
Reported:	11/02/2015	Sampling Type:	Water
Project Name:	BD P-26-1 VENT	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T21S R37E SEC26 P-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H502787-03)

BTEX 8260B	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	10/28/2015	ND	0.019	97.4	0.0200	5.83	
Toluene	< 0.001	0.001	10/28/2015	ND	0.016	82.0	0.0200	8.13	
Ethylbenzene	< 0.001	0.001	10/28/2015	ND	0.017	83.6	0.0200	8.42	
Total Xylenes	<0.003	0.003	10/28/2015	ND	0.051	84.9	0.0600	9.39	
Total BTEX	<0.006	0.006	10/28/2015	ND					
Surrogate: Dibromofluoromethane	125	% 88.3-11	3						
Surrogate: Toluene-d8	91.9	% 90.3-11	5						
Surrogate: 4-Bromofluorobenzene	98.3	% 87.2-11	4						
Chloride, SM4500Cl-B	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	260	4.00	11/02/2015	ND	104	104	100	0.00	
Sulfate 375.4	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	227	50.0	11/02/2015	ND	20.9	104	20.0	5.00	
TDS 160.1	mg,	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1280	5.00	10/30/2015	ND	516	97.9	527	3.68	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- ND
 Analyte NOT DETECTED at or above the reporting limit

 RPD
 Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

Cardinal Laboratories

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

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October 30, 2015

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

RE: BD JUNCTION P-26-2

Enclosed are the results of analyses for samples received by the laboratory on 10/26/15 13:44.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/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:	10/26/2015	Sampling Date:	10/23/2015
Reported:	10/30/2015	Sampling Type:	Water
Project Name:	BD JUNCTION P-26-2	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T21S R37E SEC26 P-LEA CTY., NM		

Sample ID: MONITOR WELL #1 (H502786-01)

BTEX 8260B	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	10/28/2015	ND	0.019	97.4	0.0200	5.83	
Toluene	<0.001	0.001	10/28/2015	ND	0.016	82.0	0.0200	8.13	
Ethylbenzene	<0.001	0.001	10/28/2015	ND	0.017	83.6	0.0200	8.42	
Total Xylenes	<0.003	0.003	10/28/2015	ND	0.051	84.9	0.0600	9.39	
Total BTEX	<0.006	0.006	10/28/2015	ND					
Surrogate: Dibromofluoromethane	124	% 88.3-11	3						
Surrogate: Toluene-d8	93.7	% 90.3-11	5						
Surrogate: 4-Bromofluorobenzene	96.7	% 87.2-11	4						
Chloride, SM4500Cl-B	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	500	4.00	10/29/2015	ND	104	104	100	0.00	
Sulfate 375.4	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	192	50.0	10/28/2015	ND	19.5	97.3	20.0	4.77	
TDS 160.1	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	1600	5.00	10/30/2015	ND	516	97.9	527	3.68	

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:	10/26/2015	Sampling Date:	10/23/2015
Reported:	10/30/2015	Sampling Type:	Water
Project Name:	BD JUNCTION P-26-2	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T21S R37E SEC26 P-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H502786-02)

BTEX 8260B	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	10/28/2015	ND	0.019	97.4	0.0200	5.83	
Toluene	< 0.001	0.001	10/28/2015	ND	0.016	82.0	0.0200	8.13	
Ethylbenzene	< 0.001	0.001	10/28/2015	ND	0.017	83.6	0.0200	8.42	
Total Xylenes	<0.003	0.003	10/28/2015	ND	0.051	84.9	0.0600	9.39	
Total BTEX	<0.006	0.006	10/28/2015	ND					
Surrogate: Dibromofluoromethane	125	% 88.3-11	3						
Surrogate: Toluene-d8	91.0	% 90.3-11	5						
Surrogate: 4-Bromofluorobenzene	95.4	% 87.2-11	4						
Chloride, SM4500Cl-B	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	1220	4.00	10/29/2015	ND	104	104	100	0.00	
Sulfate 375.4	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	205	50.0	10/28/2015	ND	19.5	97.3	20.0	4.77	
TDS 160.1	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	2680	5.00	10/30/2015	ND	516	97.9	527	3.68	

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:	10/26/2015	Sampling Date:	10/23/2015
Reported:	10/30/2015	Sampling Type:	Water
Project Name:	BD JUNCTION P-26-2	Sampling Condition:	Cool & Intact
Project Number:	NOT GIVEN	Sample Received By:	Celey D. Keene
Project Location:	T21S R37E SEC26 P-LEA CTY., NM		

Sample ID: MONITOR WELL #3 (H502786-03)

BTEX 8260B	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	10/28/2015	ND	0.019	97.4	0.0200	5.83	
Toluene	< 0.001	0.001	10/28/2015	ND	0.016	82.0	0.0200	8.13	
Ethylbenzene	< 0.001	0.001	10/28/2015	ND	0.017	83.6	0.0200	8.42	
Total Xylenes	<0.003	0.003	10/28/2015	ND	0.051	84.9	0.0600	9.39	
Total BTEX	<0.006	0.006	10/28/2015	ND					
Surrogate: Dibromofluoromethane	120	% 88.3-11	3						
Surrogate: Toluene-d8	91.2	% 90.3-11	5						
Surrogate: 4-Bromofluorobenzene	96.5	% 87.2-11	4						
Chloride, SM4500Cl-B	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride*	870	4.00	10/29/2015	ND	104	104	100	0.00	
Sulfate 375.4	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Sulfate*	221	50.0	10/28/2015	ND	19.5	97.3	20.0	4.77	
TDS 160.1	mg	/L	Analyze	d By: AP					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
TDS*	2170	5.00	10/30/2015	ND	516	97.9	527	3.68	

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager



Notes and Definitions

- ND
 Analyte NOT DETECTED at or above the reporting limit

 RPD
 Relative Percent Difference
- ** Samples not received at proper temperature of 6°C or below.
- *** Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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Celeg D. Keine

Celey D. Keene, Lab Director/Quality Manager

Page 1 of 1

												CHAIN-OF-CUSTODY AND ANALYSIS REQUEST																					
101 East Marland - Hobbs, NM 88240 Tel (575) 393-2326 Fax (575) 393-2476 Cardinal Laboratories, Inc.											- 9	LAB Order ID #														0							
Company Name:		BILL TO Company: PO#																															
RICE Operating Company				RICE Operating Company									(Circle or Specify Method No.)																				
Project Manager:				Address: (Street, City, Zip)															1	, sh	I	I	I	1							, L		
Katie Jones		122 W Taylor Street ~ Hobbs, New Mexico 88240																															
Address: (Street, City, Zip)			Phone#: Fax#:																														
122 W Taylor Street ~ Hobbs, New Mexico 88240			(575) 393-9174							(575)397-1471								8															
Phone #:		Fax #:															6	C/BC															
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Project Location: T21S R37E	Sec26 P ~ Lea County New Me	exico	/	1	Sam	pler S	ignatur	h	Roza	anne .	John	nson (5	75)631-	9310			05 Exte	Ph O	Cr Pb					625					CO3)				lours
			MATRIX					PRESERVA METHO				IVE	SAM	SAMPLING			/ TX10	C P C P C	Ba Cd				P C C	3270C/		80			103, H	la, K)	lids		~ 24 H
LAB #	FIELD CODE	G)rab or (C)omp	<pre> # CONTAINERS</pre>	NATER	SOIL	AIR	SLUDGE	HCL (2 40mi VOA)	HNO ₃	VaHSO4	H2SO4	CE (1-1Liter HDPE) NONE	DATE (2015)	TIME	MTBE 8021B/602	3TEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	TCLP Metals Ag As	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	CCIME Vol 8260B/	GC/MS Semi Vol 8	PCB's 8082/608	Pesticides 8081A/6	BOD, TSS, pH	Moisture Content	Anions (Cl, SO4, C	Cations (Ca, Mg, N Sulfates (SOA)	Total Dissolved So	Chlorides	Turn Around Time
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