

March 31, 2016

Tomáš Oberding, PhD

Environmental Bureau, Oil Conservation Division

New Mexico Energy, Minerals, & Natural Resources Department

1220 S. St. Francis Drive

Santa Fe, New Mexico 87505

**RE: 2015 Annual Groundwater Monitoring Report
Rice Operating Company – Hobbs SWD System
Hobbs F-29 SWD (AP-64): UL/F, Sec. 29, T18S, R38E**

Dr. Oberding:

The site is located in Hobbs, New Mexico at UL/F, Sec. 29, T18S, R38E as shown on the Site Location Map. Groundwater sampling at the site indicated that the depth to groundwater is located at 58 +/- feet.

On July 6th, 2012, groundwater recovery began from RW-1. Since that time, the system has removed approximately 13,597 bbls, which equated to approximately 545 Kg of chloride. The purpose of this pumping program is to determine if groundwater may be restored within a short period of time and assist in the evaluation of groundwater restoration methods. Water removed from RW-1 was utilized for makeup water for 10 lb brine water. Groundwater pumping has since been suspended. ROC will continue semi-annual sampling in 2016 and evaluate the need for additional groundwater removal.

Attached is the Appendix, which contains:

1. A Site Location Map.
2. A map showing well locations.
3. A table and graph presenting all laboratory results and depth to groundwater for each well at the site.
4. The laboratory analytical results for the most recent sampling event.

Basin appreciates the opportunity to work with you on this project. Please contact me at (575) 393-2967 or Katie Jones Davis at (575) 393-9174 if you have any questions or wish to further discuss this site. Thank you for your time and consideration.

Sincerely,

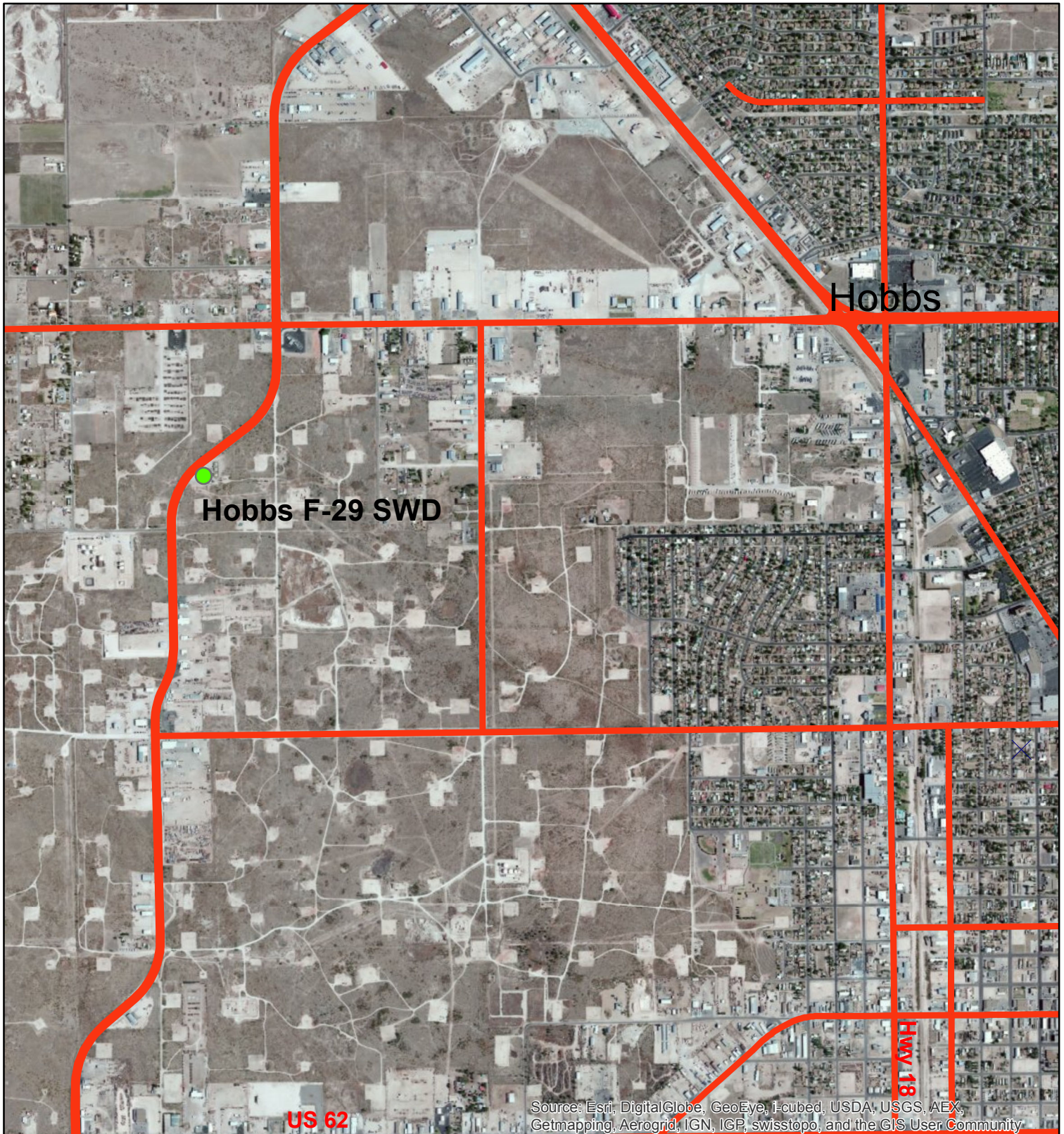
A handwritten signature in black ink that reads "Kyle Norman". The signature is written in a cursive style with a long horizontal line extending to the right.

Kyle Norman
Basin Environmental Service Technologies
Project Manager

Cc – Katie Jones Davis (ROC)

appendix

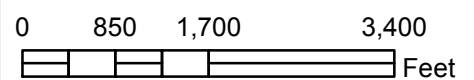
Site Map



Hobbs F-29 SWD

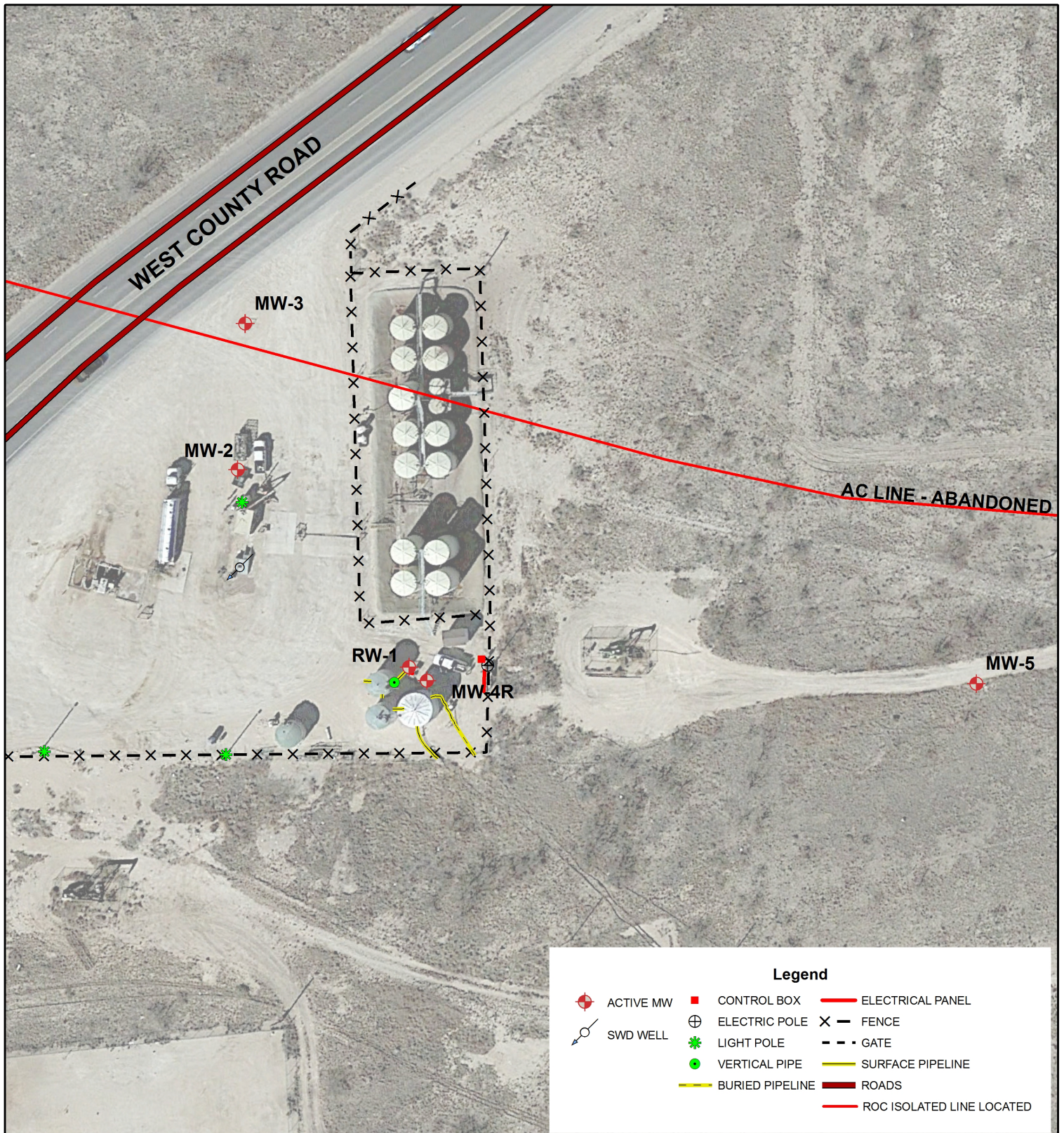
Unit Letter F, Section 29,
T18S, R38E

NMOCD Case #: AP-64



Drawing date: 3/12/14
Drafted by: L. Flores

Site Map



HOBBS F-29 SWD

UL F SECTION 29
T-18-S R-38-E
LEA COUNTY, NM

GPS: 32.720389 -103.173578

Underground facilities are
spatially projected
and need to be field verified.

0 50 100 Feet

GPS date: 10/8/14 TG
Drawing date: 3/28/16
Drafted by: T. Grieco



ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	XXX	XXX	XXX	XXX	3/21/2000	2564	6660	XXX	XXX	XXX	XXX	XXX	
2	49	XXX	XXX	XXX	7/10/2000	1829	3470	<0.002	<0.002	<0.002	<0.006	XXX	
2	49.26	XXX	XXX	XXX	9/27/2000	1748	3032	<0.002	<0.002	<0.002	<0.006	XXX	
2	49.61	XXX	XXX	XXX	12/12/2000	1027	2586	<0.002	<0.002	<0.002	<0.006	XXX	
2	XXX	XXX	XXX	XXX	1/4/2001	308	1114	XXX	XXX	XXX	XXX	XXX	
2	XXX	XXX	XXX	XXX	3/16/2001	396	1373	XXX	XXX	XXX	XXX	XXX	
2	XXX	XXX	XXX	XXX	3/23/2001	368	1312	XXX	XXX	XXX	XXX	XXX	
2	XXX	XXX	XXX	XXX	5/7/2001	365	1272	XXX	XXX	XXX	XXX	XXX	
2	XXX	XXX	XXX	XXX	6/8/2001	513	1796	XXX	XXX	XXX	XXX	XXX	
2	XXX	XXX	XXX	XXX	8/14/2001	340	1385	XXX	XXX	XXX	XXX	XXX	
2	51.13	59.41	XXX	XXX	12/29/2001	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
2	51.16	59.15	XXX	XXX	1/4/2002	308	1114	XXX	XXX	XXX	XXX	XXX	
2	XXX	XXX	XXX	XXX	6/6/2002	221	XXX	<0.001	<0.001	<0.001	<0.001	135	
2	52.07	59.93	XXX	20.5	8/14/2002	186	806	<0.001	<0.001	<0.001	<0.001	144	
2	52.58	59.82	4.71	14.12	12/11/2002	172	738	<0.002	<0.002	<0.002	<0.006	106	
2	52.94	59.76	4.43	13.29	3/21/2003	230	XXX	<0.001	<0.001	<0.001	<0.001	140	
2	53.15	59.74	4.28	12.85	5/28/2003	257	804	<0.001	<0.001	<0.001	<0.001	138	
2	53.71	69.77	10.48	31.46	9/22/2003	151	700	<0.001	<0.001	<0.001	<0.001	173	
2	54.1	59.86	3.76	11.28	12/18/2003	208	815	<0.002	0.003	<0.002	0.014	71	
2	54.33	59.89	3.63	10.89	3/15/2004	186	607	<0.001	<0.001	<0.001	<0.001	103	
2	XXX	XXX	XXX	XXX	5/27/2004	213	830	<0.001	<0.001	<0.001	<0.001	138	
2	54.6	59.8	3.38	10.14	9/8/2004	248	946	0.00464	0.00041	0.000979	0.0012	129	Clear No odor
2	54.2	59.8	3.64	10.9	11/23/2004	139	888	0.00448	<0.001	<0.001	0.00071	125	Clear No odor
2	53.39	59.8	4.17	12.5	3/22/2005	214	914	<0.001	<0.001	<0.001	<0.001	196	Clear No odor
2	53.35	59.8	4.19	12.6	5/18/2005	223	930	<0.001	<0.001	<0.001	<0.001	131	
2	53.55	59.8	4.06	12.2	8/8/2005	210	799	<0.001	<0.001	<0.001	<0.001	130	
2	53.81	59.8	5.99	12	10/31/2005	185	762	<0.001	<0.001	<0.001	<0.001	100	Clear No odor
2	53.89	59.8	3.8	15	1/30/2006	198	904	<0.001	<0.001	<0.001	<0.001	89.4	Clear No odor
2	53.91	59.8	3.8	15	5/1/2006	212	904	<0.001	<0.001	<0.001	<0.001	91.3	

ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	54.13	59.8	3.7	15	10/16/2006	258	1040	<0.001	j[0.000790]	j[0.000356]	j[0.000940]	116	Clear
2	54.08	60.05	3.9	15	2/5/2007	299	908	<0.001	<0.001	<0.001	<0.001	112	Clear No odor
2	54.17	60.05	3.8	15	5/16/2007	236	898	<0.001	<0.001	<0.001	<0.001	102	Clear No odor
2	54.37	60.05	3.7	15	7/31/2007	272	1040	<0.001	<0.001	<0.001	0.0033	41.9	Clear No odor
2	54.43	60.05	3.7	15	10/18/2007	292	1047	<0.001	<0.001	<0.001	<0.003	113	Clear No odor
2	54.19	60.05	3.8	15	2/18/2008	300	1040	<0.002	<0.002	<0.002	<0.006	132	Clear No odor
2	54.53	60.05	3.6	15	4/25/2008	320	1070	<0.002	<0.002	<0.002	<0.006	185	Clear No odor
2	54.69	60.05	3.5	15	7/24/2008	172	773	<0.001	<0.001	<0.001	<0.003	104	Clear No odor
2	54.89	60.05	3.4	15	11/12/2008	296	1130	<0.001	<0.001	<0.001	<0.003	131	Clear No odor
2	54.97	59.98	3.3	15	2/3/2009	248	1100	XXX	XXX	XXX	XXX	109	Clear No odor
2	55.05	59.98	3.2	15	5/4/2009	344	1330	XXX	XXX	XXX	XXX	120	Clear No odor
2	55.21	59.98	3.1	15	8/28/2009	280	1220	XXX	XXX	XXX	XXX	102	Clear No odor
2	55.33	59.98	3	15	10/27/2009	240	1000	XXX	XXX	XXX	XXX	105	Clear No odor
2	55.53	59.98	2.9	15	3/12/2010	312	1290	XXX	XXX	XXX	XXX	132	Clear No odor
2	55.52	59.98	2.9	15	6/10/2010	260	1100	XXX	XXX	XXX	XXX	111	Clear No odor
2	55.55	59.98	2.9	15	8/31/2010	288	1080	XXX	XXX	XXX	XXX	115	Clear No odor
2	55.68	59.98	2.8	15	12/6/2010	240	1010	XXX	XXX	XXX	XXX	104	Clear No odor
2	55.76	59.98	2.7	15	3/11/2011	256	1080	XXX	XXX	XXX	XXX	109	Clear No odor
2	55.89	59.98	2.7	15	6/17/2011	404	1350	XXX	XXX	XXX	XXX	121	Clear No odor
2	55.89	59.98	2.7	15	9/19/2011	560	1720	XXX	XXX	XXX	XXX	143	Clear No odor
2	56.26	59.98	2.4	15	12/16/2011	480	1350	XXX	XXX	XXX	XXX	226	Clear No odor
2	56.39	59.98	2.3	15	3/16/2012	308	1100	XXX	XXX	XXX	XXX	47.7	Clear No odor
2	56.67	59.98	2.2	15	6/18/2012	148	886	XXX	XXX	XXX	XXX	94	Clear No odor
2	56.98	59.98	2	15	9/7/2012	200	1130	XXX	XXX	XXX	XXX	130	Clear No odor
2	56.56	59.98	2.2	15	12/11/2012	408	1350	XXX	XXX	XXX	XXX	217	Clear No odor
2	56.68	59.98	2.1	15	3/8/2013	512	1300	XXX	XXX	XXX	XXX	67	Clear No odor
2	56.96	59.98	2	10	6/18/2013	164	1010	XXX	XXX	XXX	XXX	114	Clear No odor
2	57.74	59.98	1.5	10	9/17/2013	356	1060	XXX	XXX	XXX	XXX	68.2	Clear No odor

ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
2	57.93	59.98	1.3	10	12/13/2013	440	1380	XXX	XXX	XXX	XXX	187	Clear No odor
2	57.93	59.98	1.3	10	3/19/2014	412	1270	XXX	XXX	XXX	XXX	162	Clear No odor
2	58.06	59.98	1.2	5	6/23/2014	372	1370	XXX	XXX	XXX	XXX	170	Clear No odor
2	58.44	59.98	1	5	9/25/2014	410	1440	XXX	XXX	XXX	XXX	201	Clear No odor
2	58.53	59.98	0.9	5	12/19/2014	450	1370	XXX	XXX	XXX	XXX	176	Clear No odor
2	58.64	59.98	0.9	5	3/16/2015	510	1460	XXX	XXX	XXX	XXX	128	Clear No odor
2	58.66	59.98	0.9	5	9/24/2015	530	1730	XXX	XXX	XXX	XXX	228	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	XXX	XXX	XXX	XXX	1/4/2001	136	1013	XXX	XXX	XXX	XXX	XXX	
3	51.2	60.95	XXX	XXX	12/29/2001	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
3	51.24	53.5	XXX	XXX	1/4/2002	136	1013	XXX	XXX	XXX	XXX	XXX	
3	XXX	XXX	XXX	XXX	5/24/2002	137	917	<0.001	<0.001	<0.001	<0.001	158	
3	52.12	66.33	XXX	9	8/14/2002	151	998	<0.001	<0.001	<0.001	<0.001	284	
3	52.64	64.65	1.92	5.76	12/11/2002	136	1069	0.005	<0.002	<0.002	<0.006	201	
3	52.98	64.47	1.83	5.51	3/21/2003	133	XXX	<0.001	<0.001	<0.001	<0.001	266	
3	53.7	62.58	1.42	4.26	5/28/2003	301	1120	<0.001	<0.001	<0.001	<0.001	240	
3	53.74	63.15	1.53	4.6	9/22/2003	120	881	<0.001	<0.001	<0.001	<0.001	238	
3	54.59	62.43	1.27	3.83	12/18/2003	124	852	<0.002	<0.002	<0.002	<0.006	73	
3	54.35	63.08	1.42	4.26	3/15/2004	115	1140	<0.001	<0.001	<0.001	<0.001	248	
3	XXX	XXX	XXX	XXX	5/27/2004	111	810	<0.001	<0.001	<0.001	<0.001	171	
3	54.6	62.7	1.3	3.89	9/8/2004	230	937	<0.001	<0.001	<0.001	<0.001	186	Clear No odor; retrieved bailer
3	54.4	62.7	1.33	4	11/23/2004	115	925	<0.001	<0.001	<0.001	<0.001	183	Clear No odor
3	53.4	62.7	1.49	4.5	3/22/2005	162	796	<0.001	<0.001	<0.001	<0.001	126	Clear No odor
3	53.38	62.7	1.29	4.5	5/18/2005	272	1050	<0.001	<0.001	<0.001	<0.001	92	
3	53.9	62.7	1.46	4.4	8/8/2005	203	945	<0.001	<0.001	<0.001	<0.001	122	
3	53.57	62.7	1.5	5	10/31/2005	113	732	<0.001	<0.001	<0.001	<0.001	116	Clear No odor

ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	53.92	62.7	1.4	5	1/30/2006	97.3	650	<0.001	<0.001	<0.001	j[0.000562]	120	Clear No odor
3	53.98	62.7	1.4	15	5/1/2006	85.3	704	<0.001	<0.001	<0.001	<0.001	111	
3	54.18	62.7	1.4	8	10/16/2006	88.9	616	<0.001	j[0.000950]	j[0.000404]	0.00105	135	Clear
3	54.1	63.1	1.4	6	2/5/2007	98.3	572	<0.001	<0.001	<0.001	<0.001	128	Clear
3	54.2	63.1	1.4	6	5/16/2007	90.6	542	<0.001	<0.001	<0.001	<0.001	111	Clear No odor
3	54.23	63.1	1.4	6	7/31/2007	105	590	<0.001	<0.001	<0.001	<0.002	76.5	Clear No odor
3	54.48	63.1	1.4	6	10/18/2007	100	611	<0.001	<0.001	<0.001	<0.003	120	Clear No odor
3	54.23	63.07	1.4	6	2/18/2008	104	607	<0.002	<0.002	<0.002	<0.006	144	Clear No odor
3	54.55	63.07	1.4	6	4/25/2008	244	918	<0.002	<0.002	<0.002	<0.006	172	Clear No odor
3	54.86	63.07	1.3	6	7/24/2008	80	584	<0.001	<0.001	<0.001	<0.003	104	Clear No odor
3	54.93	63.07	1.3	6	11/12/2008	104	708	<0.001	<0.001	<0.001	<0.003	143	Clear No odor
3	54.99	62.65	1.2	6	2/3/2009	104	744	XXX	XXX	XXX	XXX	127	Clear No odor
3	55.08	62.65	1.2	6	5/4/2009	108	705	XXX	XXX	XXX	XXX	135	Clear No odor
3	55.24	62.65	1.2	6	8/28/2009	108	703	XXX	XXX	XXX	XXX	120	Clear No odor
3	55.3	62.65	1.2	6	10/27/2009	108	623	XXX	XXX	XXX	XXX	118	Clear No odor
3	55.57	62.65	1.1	5	3/12/2010	112	653	XXX	XXX	XXX	XXX	140	Clear No odor
3	55.54	62.65	1.1	5	6/10/2010	112	718	XXX	XXX	XXX	XXX	133	Clear No odor
3	55.58	62.65	1.1	5	8/31/2010	112	657	XXX	XXX	XXX	XXX	115	Clear No odor
3	55.69	62.65	1.1	5	12/6/2010	116	687	XXX	XXX	XXX	XXX	130	Clear No odor
3	55.77	62.65	1.1	5	3/21/2011	116	582	XXX	XXX	XXX	XXX	114	Clear No odor
3	55.85	62.65	1.1	5	6/17/2011	124	609	XXX	XXX	XXX	XXX	125	Clear No odor
3	55.87	62.65	1.1	5	9/19/2011	116	622	XXX	XXX	XXX	XXX	146	Clear No odor
3	56.05	62.65	1.1	5	12/16/2011	168	647	XXX	XXX	XXX	XXX	89.1	Clear No odor
3	56.18	62.65	1	5	3/16/2012	168	767	XXX	XXX	XXX	XXX	67.9	Clear No odor
3	56.42	62.65	1	5	6/18/2012	120	686	XXX	XXX	XXX	XXX	120	Clear No odor
3	56.73	62.65	0.9	5	9/7/2012	120	771	XXX	XXX	XXX	XXX	137	Clear No odor
3	56.39	62.65	1	5	12/11/2012	276	863	XXX	XXX	XXX	XXX	137	Clear No odor

ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
3	56.51	62.65	1	5	3/8/2013	152	858	XXX	XXX	XXX	XXX	198	Clear No odor
3	57.29	62.65	0.9	5	6/18/2013	124	827	XXX	XXX	XXX	XXX	146	Clear No odor
3	57.59	62.65	0.8	5	9/17/2013	56	531	XXX	XXX	XXX	XXX	128	Clear No odor
3	57.8	62.65	0.8	5	12/13/2013	188	722	XXX	XXX	XXX	XXX	102	Clear No odor
3	57.94	62.65	0.8	5	3/19/2014	220	826	XXX	XXX	XXX	XXX	174	Clear No odor
3	58.09	62.65	0.7	5	6/23/2014	256	894	XXX	XXX	XXX	XXX	66	Clear No odor
3	58.31	62.65	0.7	5	9/25/2014	212	826	XXX	XXX	XXX	XXX	160	Clear No odor
3	58.39	62.65	0.7	5	12/19/2014	196	704	XXX	XXX	XXX	XXX	170	Clear No odor
3	58.51	62.65	0.7	5	3/16/2015	212	746	XXX	XXX	XXX	XXX	70.3	Clear No odor
3	58.57	62.65	0.7	5	9/24/2015	84	587	XXX	XXX	XXX	XXX	67	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	XXX	XXX	XXX	XXX	1/4/2001	464	1781	XXX	XXX	XXX	XXX	XXX	
4	51.51	57.91	XXX	XXX	12/29/2001	XXX	XXX	XXX	XXX	XXX	XXX	XXX	
4	51.56	53.74	XXX	XXX	1/4/2002	464	1781	XXX	XXX	XXX	XXX	XXX	
4	XXX	XXX	XXX	XXX	5/24/2002	461	1520	<0.001	<0.001	<0.001	<0.001	286	
4	52.5	65.3	XXX	8.5	8/14/2002	416	1660	<0.001	<0.001	<0.001	<0.001	303	
4	53	63.59	1.69	5.08	12/11/2002	336	1302	0.003	<0.002	<0.002	<0.006	170	
4	53.41	63.31	1.58	4.75	3/21/2003	346	XXX	<0.001	<0.001	<0.001	<0.001	289	
4	53.25	63.78	1.68	5.5	5/28/2003	124	742	<0.001	<0.001	<0.001	<0.001	269	
4	54.21	62.46	1.34	4.03	9/22/2003	425	1640	<0.001	<0.001	<0.001	<0.001	271	
4	54.12	63.11	1.46	4.39	12/18/2003	660	1902	<0.002	<0.002	<0.002	<0.006	123	
4	54.84	62.55	1.25	3.77	3/15/2004	452	1510	<0.001	<0.001	<0.001	<0.001	290	
4	XXX	XXX	XXX	XXX	5/27/2004	461	1600	<0.001	<0.001	<0.001	<0.001	174	
4	54.8	62.3	1.2	3.6	9/8/2004	372	1300	<0.001	<0.001	<0.001	<0.001	260	clear; no odor; no lock (replaced)
4	54.4	62.3	1.26	3.8	11/23/2004	401	1550	<0.001	<0.001	<0.001	<0.001	217	clear; no odor
4	53.76	62.3	1.37	4.1	3/22/2005	392	1220	<0.001	<0.001	<0.001	<0.001	196	clear; no odor

ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4	53.78	62.3	1.36	4.1	5/18/2005	336	1230	<0.001	<0.001	<0.001	<0.001	169	
4	53.98	62.3	1.33	4	8/8/2005	370	1230	<0.001	<0.001	<0.001	<0.001	171	
4	53.82	62.3	1.4	5	10/31/2005	411	1560	<0.001	J[0.000774]	J[0.000385]	J[0.000842]	156	clear no odor Slow to recover from bailing
4	54.31	62.3	1.3	4	1/30/2006	523	1780	<0.001	<0.001	j[0.000332]	j[0.001064]	182	clear no odor Slow to recover from bailing
4	54.36	62.3	1.3	5	5/1/2006	501	1800	<0.001	<0.001	<0.001	<0.001	144	clear no odor Slow to recover from bailing
4	54.53	57.52	0.5	2	10/16/2006	683	2570	<0.001	<0.001	<0.001	<0.001	284	No odor/Sandy well was slow to recover from bailing
4	54.52	57.43	0.5	2	2/5/2007	653	1750	<0.001	<0.001	<0.001	<0.001	289	Total
4	54.68	61.05	1	3	6/1/2007	668	2060	<0.001	<0.001	<0.001	<0.001	254	No odor Sandy well Pumps off
4	54.83	61.05	1	3	7/31/2007	548	2380	<0.001	<0.001	<0.001	<0.002	248	No odor Sandy well Pumps off
4	54.9	61.05	1	3	10/18/2007	440	1394	<0.001	<0.001	<0.001	<0.003	211	No odor Sandy well Pumps off
4	54.71	61.02	1	3	2/18/2008	508	1680	<0.002	<0.002	<0.002	<0.002	186	No odor Sandy well Pumps off
4R	57.57	72.3	2.4	3	4/25/2008	670	1960	<0.002	<0.002	<0.002	<0.006	304	Clear No odor - replaced with 4 inch
4R	57.88	72.3	2.3	3	7/24/2008	590	1950	<0.001	<0.001	<0.001	<0.003	350	Clear No odor
4R	58.11	72.3	2.3	3	11/12/2008	476	1570	<0.001	<0.001	<0.001	<0.003	289	Clear No odor
4R	58.25	72.01	2.2	7	2/3/2009	610	2110	XXX	XXX	XXX	XXX	283	Clear No odor
4R	58.31	72.01	2.2	7	5/4/2009	640	2060	XXX	XXX	XXX	XXX	280	Clear No odor

ROC - Hobbs F-29 SWD (AP-64)

Unit Letter F, Section 29, T18S, R38E

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
4R	58.46	72.01	2.2	7	8/28/2009	780	2500	XXX	XXX	XXX	XXX	276	Clear No odor
4R	58.56	72.01	2.2	7	10/27/2009	800	2530	XXX	XXX	XXX	XXX	318	Clear No odor
4R	58.76	72.01	2.1	7	3/12/2010	580	1680	XXX	XXX	XXX	XXX	240	Clear No odor
4R	58.77	72.01	2.1	7	6/10/2010	470	1440	XXX	XXX	XXX	XXX	160	Clear No odor
4R	58.78	72.01	2.1	7	8/31/2010	840	2350	XXX	XXX	XXX	XXX	310	Clear No odor
4R	58.91	72.01	2.1	7	12/6/2010	730	2280	XXX	XXX	XXX	XXX	317	Clear No odor
4R	58.98	72.02	2.1	7	3/11/2011	700	2310	XXX	XXX	XXX	XXX	281	Clear No odor
4R	59.14	72.02	2.1	7	6/17/2011	700	2350	XXX	XXX	XXX	XXX	303	Clear No odor
4R	59.35	72.02	2	7	9/19/2011	540	1960	XXX	XXX	XXX	XXX	252	Clear No odor
4R	59.52	72.02	2	7	12/16/2011	580	1960	XXX	XXX	XXX	XXX	260	Clear No odor
4R	59.68	72.02	2	7	3/16/2012	610	2050	XXX	XXX	XXX	XXX	327	Clear No odor
4R	59.91	72.02	1.9	7	6/18/2012	550	1940	XXX	XXX	XXX	XXX	245	Clear No odor
4R	60.88	72.02	1.8	7	9/7/2012	550	2090	XXX	XXX	XXX	XXX	229	Clear No odor
4R	60.41	72.02	1.9	7	12/10/2012	568	1970	XXX	XXX	XXX	XXX	242	Clear No odor
4R	60.54	72.02	1.8	7	3/8/2013	600	1980	XXX	XXX	XXX	XXX	276	Clear No odor
4R	60.77	72.02	1.8	7	6/18/2013	410	1750	XXX	XXX	XXX	XXX	273	Clear No odor
4R	61.12	72.02	1.7	7	9/17/2013	530	1870	XXX	XXX	XXX	XXX	208	Clear No odor
4R	61.32	72.02	1.7	7	12/13/2013	530	1480	XXX	XXX	XXX	XXX	192	Clear No odor
4R	61.47	72.02	1.7	7	3/19/2014	680	1910	XXX	XXX	XXX	XXX	254	Clear No odor
4R	61.62	72.02	1.7	7	6/23/2014	450	1650	XXX	XXX	XXX	XXX	184	Clear No odor
4R	61.89	72.02	1.6	7	9/25/2014	470	1610	XXX	XXX	XXX	XXX	208	Clear No odor
4R	61.96	72.02	1.6	7	12/19/2014	470	1640	XXX	XXX	XXX	XXX	198	Clear No odor
4R	62.06	72.02	1.6	7	3/16/2015	432	1530	XXX	XXX	XXX	XXX	166	Clear No odor
4R	62.06	72.02	1.6	7	9/24/2015	730	2090	XXX	XXX	XXX	XXX	291	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	57.02	74.4	11.3	35	10/18/2007	268	983	<0.001	<0.001	<0.001	<0.003	138	Clear No odor
5	56.54	74.4	11.6	35	2/18/2008	316	1110	<0.002	<0.002	<0.002	<0.006	168	Clear No odor

ROC - Hobbs F-29 SWD (AP-64)**Unit Letter F, Section 29, T18S, R38E**

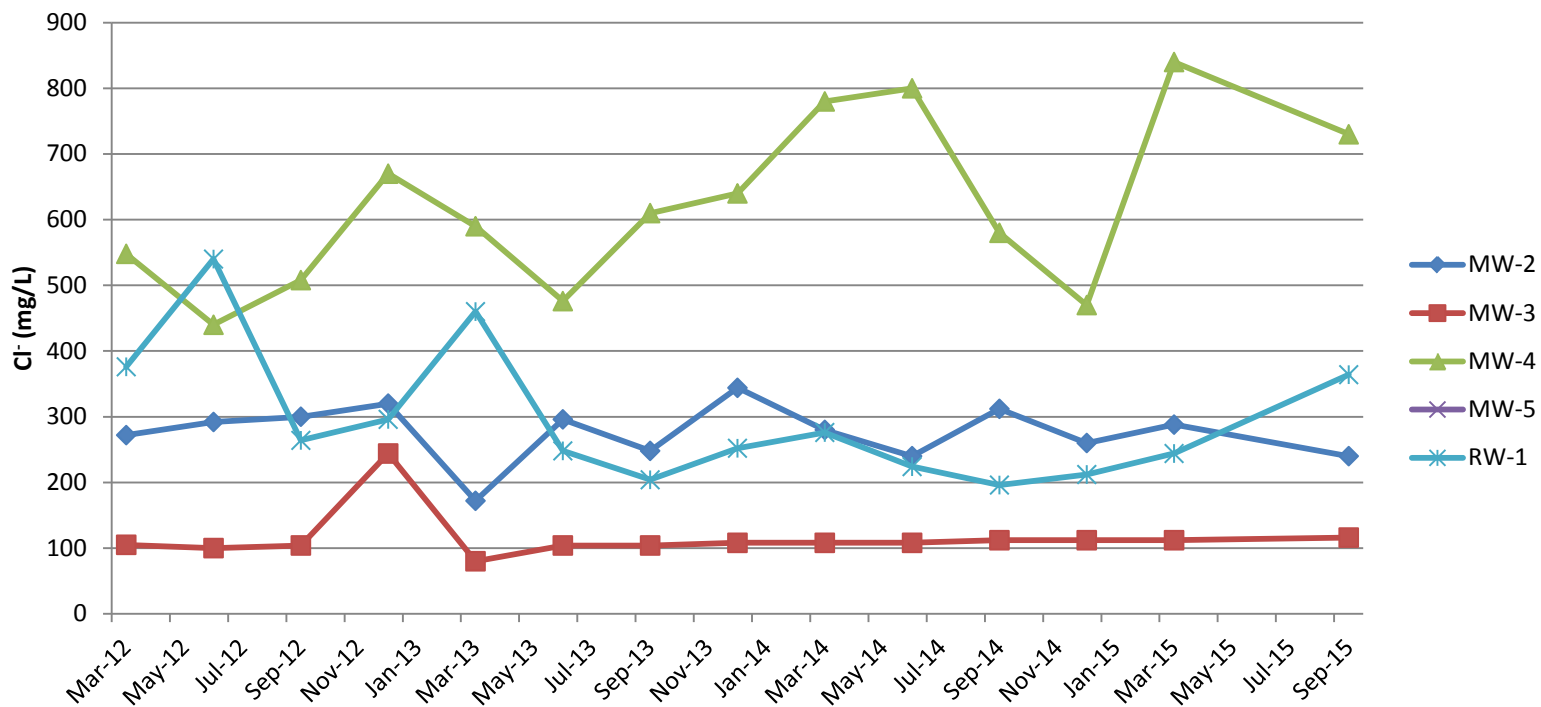
MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	56.9	74.4	11.4	35	4/25/2008	484	1530	<0.002	<0.002	<0.002	<0.006	262	Clear No odor
5	57.28	74.4	11.1	35	7/24/2008	356	1250	<0.001	<0.001	<0.001	<0.003	172	Clear No odor
5	57.46	74.4	11	35	11/12/2008	324	1190	<0.001	<0.001	<0.001	<0.003	186	Clear No odor
5	57.53	75.27	11.5	40	2/3/2009	312	1080	XXX	XXX	XXX	XXX	164	Clear No odor
5	57.61	75.27	11.5	40	5/4/2009	328	1180	XXX	XXX	XXX	XXX	172	Clear No odor
5	57.79	75.27	11.4	40	8/28/2009	308	1080	XXX	XXX	XXX	XXX	138	Clear No odor
5	57.91	75.27	11.3	40	10/27/2009	320	1040	XXX	XXX	XXX	XXX	160	Clear No odor
5	58.06	75.27	11.2	40	3/12/2010	328	1040	XXX	XXX	XXX	XXX	180	Clear No odor
5	58.09	75.27	11.2	40	6/10/2010	332	1090	XXX	XXX	XXX	XXX	168	Clear No odor
5	58.11	75.27	11.2	40	8/31/2010	272	1070	XXX	XXX	XXX	XXX	172	Clear No odor
5	58.21	75.27	11.1	40	12/6/2010	296	944	XXX	XXX	XXX	XXX	179	Clear No odor
5	58.28	75.27	11	40	3/11/2011	308	952	XXX	XXX	XXX	XXX	156	Clear No odor
5	58.42	75.27	11	40	6/17/2011	244	843	XXX	XXX	XXX	XXX	154	Clear No odor
5	58.64	75.27	10.8	40	9/19/2011	240	802	XXX	XXX	XXX	XXX	159	Clear No odor
5	58.8	75.27	10.7	40	12/16/2011	220	771	XXX	XXX	XXX	XXX	166	Clear No odor
5	58.93	75.27	10.6	40	3/16/2012	252	1010	XXX	XXX	XXX	XXX	55.4	Clear No odor
5	59.17	75.27	10.5	40	6/18/2012	224	828	XXX	XXX	XXX	XXX	115	Clear No odor
5	59.4	75.27	10.3	40	9/7/2012	216	807	XXX	XXX	XXX	XXX	111	Clear No odor
5	59.4	75.27	10.3	40	9/7/2012	216	807	XXX	XXX	XXX	XXX	111	Clear No odor
5	59.62	75.27	10.2	40	12/10/2012	292	970	XXX	XXX	XXX	XXX	136	Clear No odor
5	59.73	75.27	10.1	40	3/8/2013	172	904	XXX	XXX	XXX	XXX	204	Clear No odor
5	59.96	75.27	10	40	6/18/2013	308	1210	XXX	XXX	XXX	XXX	164	Clear No odor
5	60.18	75.27	9.8	40	9/17/2013	232	842	XXX	XXX	XXX	XXX	115	Clear No odor
5	60.52	75.27	9.6	40	12/12/2013	380	1190	XXX	XXX	XXX	XXX	192	Clear No odor
5	60.67	75.27	9.5	40	3/19/2014	256	860	XXX	XXX	XXX	XXX	150	Clear No odor
5	60.82	75.27	9.4	40	6/23/2014	236	834	XXX	XXX	XXX	XXX	165	Clear No odor
5	61.04	75.27	9.2	40	9/25/2014	264	960	XXX	XXX	XXX	XXX	183	Clear No odor
5	61.12	75.27	9.2	40	12/19/2014	180	816	XXX	XXX	XXX	XXX	185	Clear No odor
5	61.23	75.27	9.1	40	3/16/2015	216	790	XXX	XXX	XXX	XXX	138	Clear No odor

ROC - Hobbs F-29 SWD (AP-64)**Unit Letter F, Section 29, T18S, R38E**

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
5	61.3	75.27	9.1	40	9/24/2015	280	956	XXX	XXX	XXX	XXX	182	Clear No odor

MW	Depth to Water	Total Depth	Well Volume	Volume Purged	Sample Date	Cl	TDS	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Sulfate	Comments
RW-1	59.52	105.42	29.8	90	3/16/2012	376	1460	XXX	XXX	XXX	XXX	212	Clear No odor
RW-1	Pump	105.42		90	6/18/2012	540	1950	XXX	XXX	XXX	XXX	230	Clear No odor
RW-1	Pump	105.42		90	9/7/2012	264	1010	XXX	XXX	XXX	XXX	113	Clear No odor
RW-1	Pump	105.42	XXX	90	12/10/2012	296	938	XXX	XXX	XXX	XXX	132	Clear No odor
RW-1	Pump	105.42	XXX	90	3/8/2013	460	1260	XXX	XXX	XXX	XXX	108	Clear No odor
RW-1	XXX	105.42	XXX	90	6/18/2013	248	915	XXX	XXX	XXX	XXX	119	Clear No odor
RW-1	XXX	105.42	XXX	Running	9/18/2013	204	797	XXX	XXX	XXX	XXX	112	Clear No odor
RW-1	XXX	105.42	XXX	Running	12/13/2013	252	751	XXX	XXX	XXX	XXX	140	Clear No odor
RW-1	XXX	105.42	XXX	Running	3/20/2014	276	930	XXX	XXX	XXX	XXX	160	Clear No odor
RW-1	XXX	105.42	XXX	500	6/23/2014	224	918	XXX	XXX	XXX	XXX	128	Clear No odor
RW-1	XXX	105.42	XXX	500	9/25/2014	196	822	XXX	XXX	XXX	XXX	108	Clear No odor
RW-1	XXX	105.42	XXX	500	12/19/2014	212	792	XXX	XXX	XXX	XXX	184	Clear No odor
RW-1	XXX	105.42	XXX	500	3/16/2015	244	804	XXX	XXX	XXX	XXX	51	Clear No odor
RW-1	XXX	105.42	XXX	500	9/24/2015	364	1020	XXX	XXX	XXX	XXX	197	Clear No odor

Hobbs F-29 SWD (AP-64)





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

October 01, 2015

KATIE JONES

Rice Operating Company

112 W. Taylor

Hobbs, NM 88240

RE: HOBBS F-29 SWD

Enclosed are the results of analyses for samples received by the laboratory on 09/25/15 15:41.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-13-5. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

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

Received:	09/25/2015	Sampling Date:	09/24/2015
Reported:	10/01/2015	Sampling Type:	Water
Project Name:	HOBBS F-29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T18S-R38E-SEC29 F-LEA CTY., NM		

Sample ID: MONITOR WELL #2 (H502561-01)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	530	4.00	09/30/2015	ND	104	104	100	3.77		
Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	228	83.3	09/29/2015	ND	21.1	106	20.0	6.98		
TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	1730	5.00	09/30/2015	ND	502	95.3	527	0.725		

Sample ID: MONITOR WELL #3 (H502561-02)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	84.0	4.00	09/30/2015	ND	104	104	100	3.77		
Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	67.0	50.0	09/29/2015	ND	21.1	106	20.0	6.98		
TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	587	5.00	09/30/2015	ND	502	95.3	527	0.725		

Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	09/25/2015	Sampling Date:	09/24/2015
Reported:	10/01/2015	Sampling Type:	Water
Project Name:	HOBBS F-29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T18S-R38E-SEC29 F-LEA CTY., NM		

Sample ID: MONITOR WELL #4R (H502561-03)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	730	4.00	09/30/2015	ND	104	104	100	3.77		
Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	291	50.0	09/29/2015	ND	21.1	106	20.0	6.98		
TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	2090	5.00	09/30/2015	ND	502	95.3	527	0.725		

Sample ID: MONITOR WELL #5 (H502561-04)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	280	4.00	09/30/2015	ND	104	104	100	3.77		
Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	182	50.0	09/29/2015	ND	21.1	106	20.0	6.98		
TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	956	5.00	09/30/2015	ND	502	95.3	527	0.725		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

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

Received:	09/25/2015	Sampling Date:	09/24/2015
Reported:	10/01/2015	Sampling Type:	Water
Project Name:	HOBBS F-29 SWD	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Jodi Henson
Project Location:	T18S-R38E-SEC29 F-LEA CTY., NM		

Sample ID: RECOVERY WELL #1 (H502561-05)

Chloride, SM4500Cl-B		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride*	364	4.00	09/30/2015	ND	104	104	100	3.77		
Sulfate 375.4		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Sulfate*	197	50.0	09/29/2015	ND	21.1	106	20.0	6.98		
TDS 160.1		mg/L		Analyzed By: AP						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
TDS*	1020	5.00	09/30/2015	ND	502	95.3	527	0.725		

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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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Celey D. Keene, Lab Director/Quality Manager

Cardinal Laboratories, Inc.

LAB Order ID # _____

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

REMARKS:

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

#54