

CAMECO RESOURCES
CROW BUTTE OPERATION

86 Crow Butte Road
P.O. Box 169
Crawford, Nebraska 69339-0169



(308) 665-2215
(308) 665-2341 – FAX

July 30, 2015

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

ATTN: Document Control Desk Director,
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Source Materials License SUA-1534
Docket No. 40-8943
Monitor Well Excursion – SM8-21

Dear Document Control Desk Director:

On July 9, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-21, exceeded the multiple parameter upper control limit (MCL) for alkalinity and the single parameter upper control limit (SCL) for conductivity. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM8-21 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the MCL for alkalinity and conductivity.

In accordance with License Condition 11.5, CBO increased the sampling frequency for SM8-21 to weekly. Weekly samples were obtained from July 8, 2015, to July 29, 2015. The samples collected on July 15, 22, and 29, 2015, were below the excursion criteria from License Condition 11.5. Based on these results, CBO is removing SM8-21 from excursion status. In accordance with the requirements of Nebraska Department of Environmental Quality (NDEQ) Underground Injection Permit NE0122611, Section B.1, weekly sampling will continue for an additional three weeks. If the excursion monitoring parameters are not exceeded then biweekly sampling will resume. Attached are copies of the analytical data for each of the last three weekly samples and graphs for each parameter covering the period of February 4, 2015 to July 29, 2015.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext 114.

NM5501

CAMECO RESOURCES
CROW BUTTE OPERATION



Document Control Desk Director
July 30, 2015
Page 2

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Larry Teahon

Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: NRC – Deputy Director
CBO - File
cc: CR – Casper



Sample Date: 07/15/2015

Analysis Date: 07/15/2015

Crow Butte Project
Monitor Well Laboratory Report

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM08-010	316	441	367	1829	3038	2532	174	315	263
CM08-011	320	446	372	1835	3053	2544	173	325	271
CM08-012	324	461	384	1850	3038	2532	171	305	254
CM10-001	325	469	391	1841	2822	2352	174	305	254
CM10-002	323	474	395	1850	2707	2256	174	262	218
CM10-003	322	474	395	1851	2736	2280	185	266	222
CM10-004	324	468	390	1851	2794	2328	175	288	240
CM10-005	355	464	386	1984	3082	2568	192	389	324
CM10-006	323	482	402	1829	2750	2292	169	281	234
CM10-007	322	482	402	1833	2765	2304	170	278	232
CM11-001	305	438	365	1847	2808	2340	175	297	247
CM11-002A	310	442	368	1864	2794	2328	176	285	238
CM11-003	312	439	366	1866	2693	2244	179	272	227
CM11-004	303	464	386	1833	2678	2232	173	268	223
CM11-005	306	451	376	1822	2664	2220	173	274	228
CM11-006	339	436	364	1944	2707	2256	182	269	224
CM11-007	297	432	360	1817	2707	2256	172	272	227
CM11-008	311	462	385	1855	2678	2232	177	274	228
CM11-009	299	439	366	1827	2765	2304	173	276	230
CM11-010	300	436	364	1829	2707	2256	173	284	236
CM11-011	321	433	361	1899	2736	2280	179	278	232
SM04-003	189	361	301	628	1251	1043	12	38	32
SM04-004	211	266	222	628	1099	916	12	62	52
SM08-021	243	317	264	630	706	588	11	25	21
SM10-001	290	469	391	702	994	828	14	37	31
SM10-002	233	338	282	538	763	636	8.6	24	20
SM10-003	250	386	322	560	821	684	8.9	24	20
SM10-004	242	346	288	533	778	648	7	24	20
SM10-005	245	350	292	538	763	636	6.8	23	19
SM10-006	316	501	418	752	1123	936	14	33	28
SM10-007	300	403	336	717	965	804	14	33	27
SM10-008	281	403	336	655	907	756	13	31	26



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 07/22/2015

Analysis Date: 07/22/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM05-007	216	323	269	574	932	776	9.7	41	34
SM05-008	208	312	260	562	840	700	12	32	27
SM08-017	239	331	276	547	848	707	7.9	24	20
SM08-018	231	317	264	535	816	680	9	25	21
SM08-019	233	340	283	536	827	689	7.9	25	21
SM08-020	223	314	262	539	806	672	8.2	25	21
SM08-021	236	317	264	613	706	588	11	25	21
SM08-022	239	324	270	649	829	691	11	25	20
SM08-023	225	317	264	563	808	673	9.3	27	23
SM08-024	233	317	264	616	720	600	11	24	20
SM08-025	255	324	270	681	720	600	14	24	20
SM10-021	234	360	300	605	806	672	25	27	23
SM10-030	243	359	299	538	778	648	6.9	25	21
SM10-031	236	340	283	534	734	612	7.4	25	21
SM10-032	238	340	283	524	734	612	6.1	23	20



Crow Butte Project
Monitor Well Laboratory Report

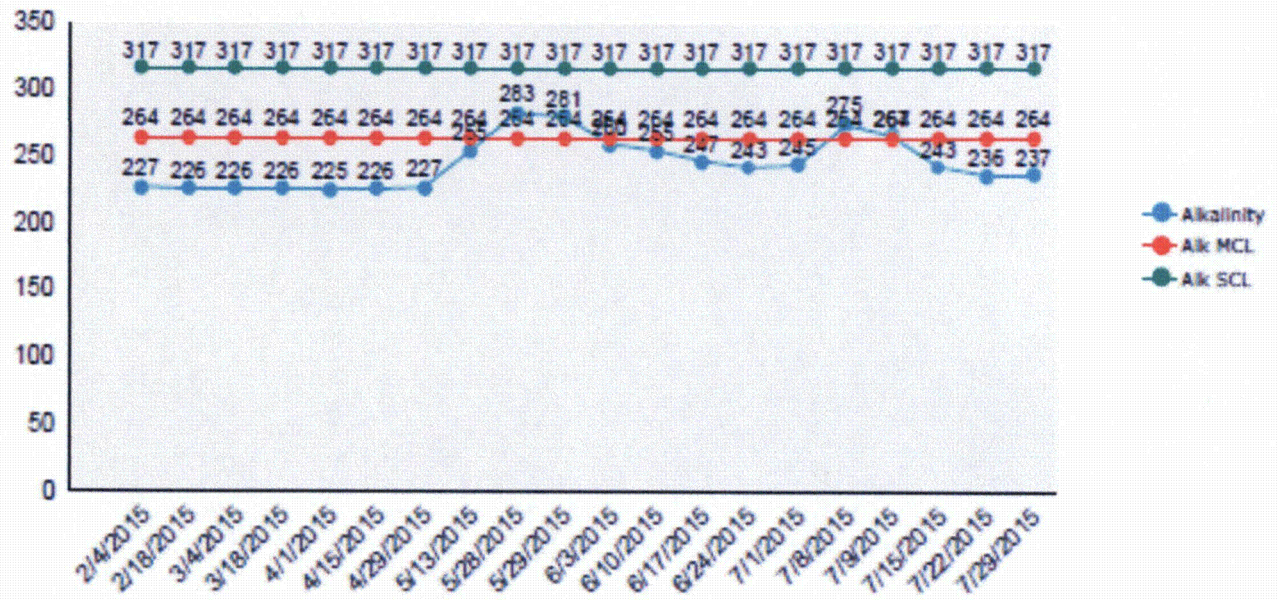
Sample Date: 07/29/2015

Analysis Date: 07/29/2015

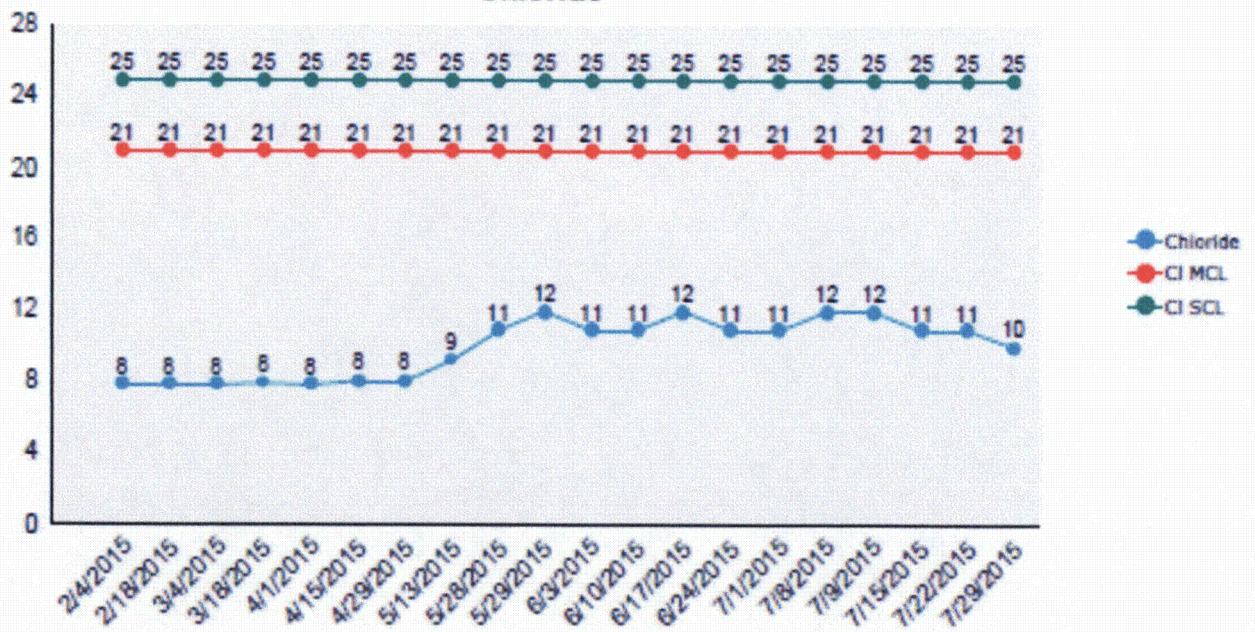
Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM08-010	315	441	367	1844	3038	2532	176	315	263
CM08-011	321	446	372	1846	3053	2544	177	325	271
CM08-012	322	461	384	1859	3038	2532	176	305	254
CM10-001	326	469	391	1856	2822	2352	175	305	254
CM10-002	323	474	395	1862	2707	2256	174	262	218
CM10-003	320	474	395	1865	2736	2280	177	266	222
CM10-004	323	468	390	1862	2794	2328	178	288	240
CM10-005	354	464	386	1994	3082	2568	197	389	324
CM10-006	319	482	402	1836	2750	2292	175	281	234
CM10-007	321	482	402	1840	2765	2304	171	278	232
CM11-001	306	438	365	1840	2808	2340	176	297	247
CM11-002A	308	442	368	1855	2794	2328	175	285	238
CM11-003	312	439	366	1865	2693	2244	180	272	227
CM11-004	308	464	386	1833	2678	2232	174	268	223
CM11-005	301	451	376	1821	2664	2220	172	274	228
CM11-006	338	436	364	1940	2707	2256	186	269	224
CM11-007	301	432	360	1816	2707	2256	171	272	227
CM11-008	309	462	385	1851	2678	2232	178	274	228
CM11-009	299	439	366	1818	2765	2304	173	276	230
CM11-010	299	436	364	1827	2707	2256	176	284	236
CM11-011	316	433	361	1885	2736	2280	177	278	232
SM04-003	190	361	301	624	1251	1043	12	38	32
SM04-004	212	266	222	624	1099	916	12	62	52
SM08-021	237	317	264	605	706	588	10	25	21
SM10-001	292	469	391	702	994	828	13	37	31
SM10-002	234	338	282	533	763	636	8.7	24	20
SM10-003	251	386	322	557	821	684	9	24	20
SM10-004	243	346	288	530	778	648	7.7	24	20
SM10-005	245	350	292	535	763	636	6.7	23	19
SM10-006	324	501	418	759	1123	936	14	33	28
SM10-007	307	403	336	717	965	804	14	33	27
SM10-008	284	403	336	662	907	756	14	31	26

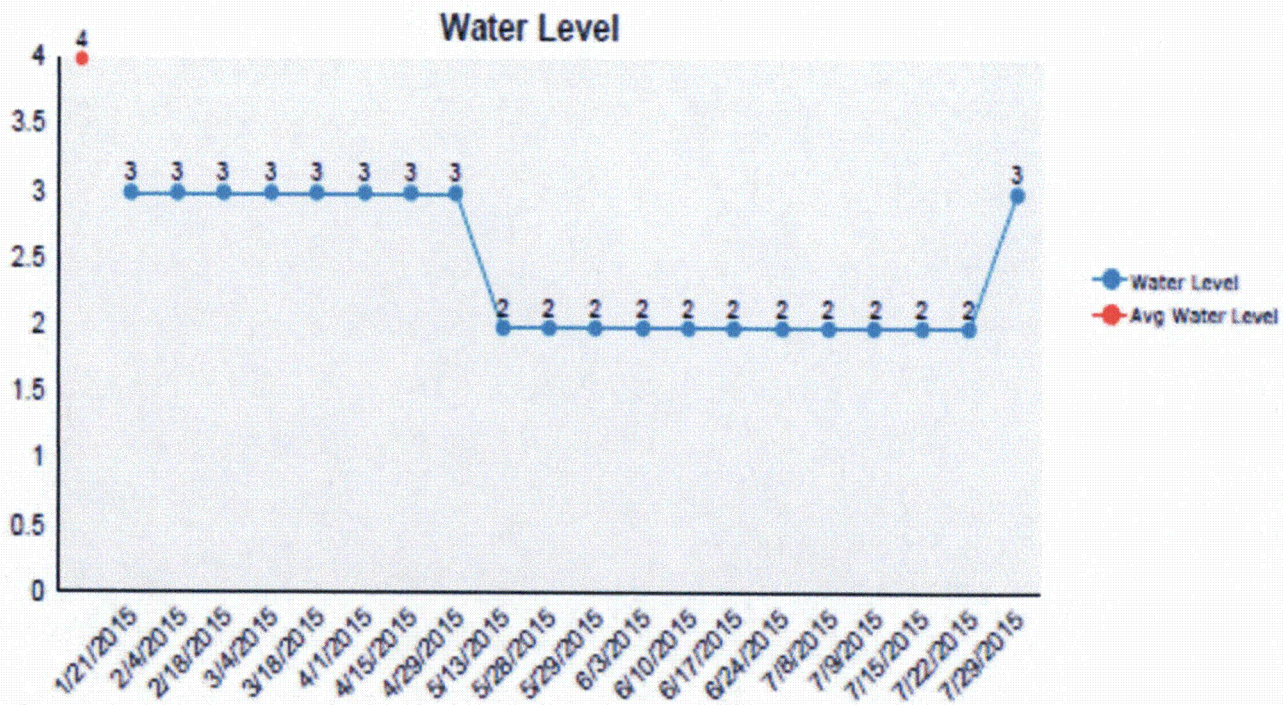
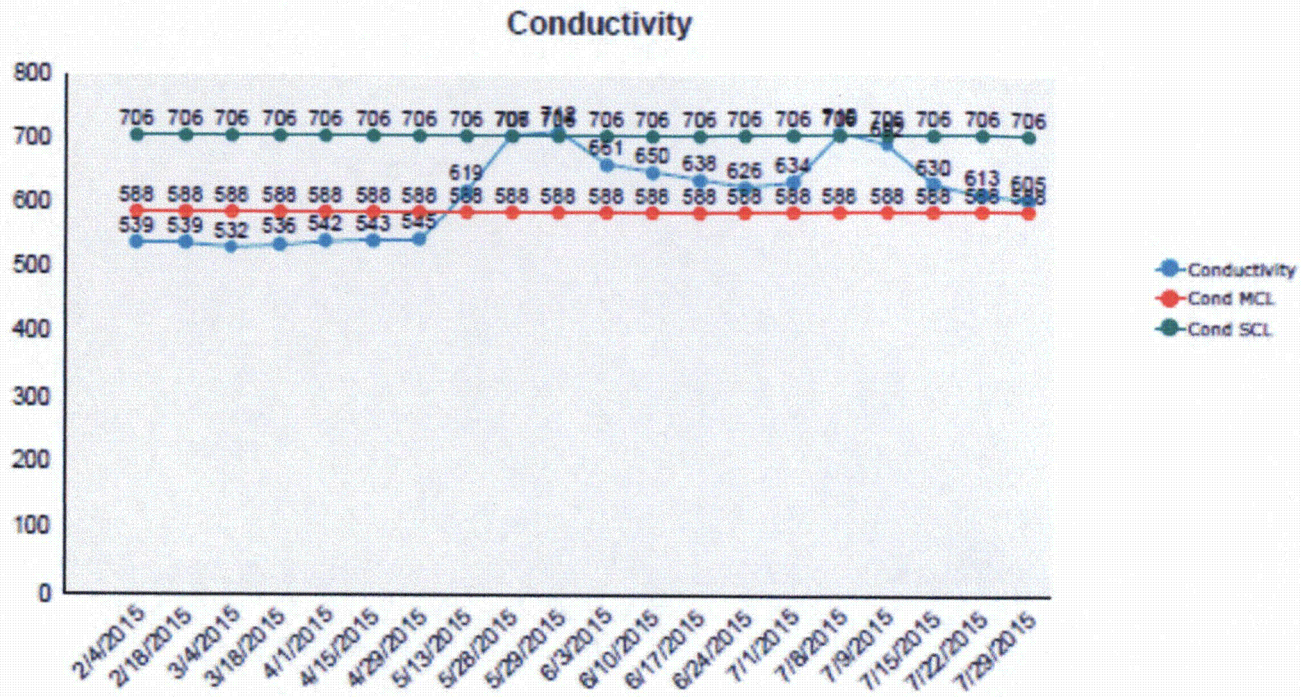
SM08-021

Alkalinity



Chloride





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ATTN: Document Control Desk Director,
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Source Materials License SUA-1534
 Docket No. 40-8943
 Monitor Well Excursion – SM10-21

Dear Document Control Desk Director:

On May 27, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM10-21, the single parameter upper control limit (SCL) for chloride was exceeded. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM10-21 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the SCL for chloride.

In accordance with License Condition 11.5, CBO increased the sampling frequency for SM10-21 to weekly. Weekly samples were obtained from May 27, 2015, to July 29, 2015. The samples collected on July 15, 22, and 29, 2015, were below the excursion criteria from License Condition 11.5. Based on these results, CBO is removing SM10-21 from excursion status. In accordance with the requirements of Nebraska Department of Environmental Quality (NDEQ) Underground Injection Permit NE0122611, Section B.1, weekly sampling will continue for an additional three weeks. If the excursion monitoring parameters are not exceeded then biweekly sampling will resume. Attached are copies of the analytical data for each of the last three weekly samples and graphs for each parameter covering the period of February 17, 2015 to July 29, 2015.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext 114.

CAMECO RESOURCES
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Document Control Desk Director
July 30, 2015
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Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Larry Teahon

Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: NRC – Deputy Director
CBO - File
cc: CR – Casper



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 07/15/2015

Analysis Date: 07/15/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM10-009	261	389	324	580	835	696	9.5	28	23
SM10-010	247	353	294	550	792	660	8.1	30	25
SM10-011	270	373	311	645	835	696	12	30	25
SM10-012	273	415	346	655	850	708	12	31	26
SM10-013	240	350	292	544	778	648	8.7	30	25
SM10-014A	248	366	305	575	806	672	9.9	29	24
SM10-015	256	353	294	582	763	636	9.9	28	23
SM10-021	233	360	300	612	806	672	27	27	23
SM11-007	145	207	173	315	475	396	2.1	26	22
SM11-009	154	226	188	316	461	384	1.1	20	16
SM11-010	159	233	194	327	478	398	1.4	21	18
SM11-011	153	236	197	355	504	420	2.7	21	17
SM11-012	146	219	182	336	518	432	3	27	22
SM11-013	144	215	179	303	461	384	1.9	25	21
SM11-014	140	207	173	304	475	396	2.2	26	21
SM11-015	141	203	169	315	490	408	2.6	31	26



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 07/22/2015

Analysis Date: 07/22/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM05-007	216	323	269	574	932	776	9.7	41	34
SM05-008	208	312	260	562	840	700	12	32	27
SM08-017	239	331	276	547	848	707	7.9	24	20
SM08-018	231	317	264	535	816	680	9	25	21
SM08-019	233	340	283	536	827	689	7.9	25	21
SM08-020	223	314	262	539	806	672	8.2	25	21
SM08-021	236	317	264	613	706	588	11	25	21
SM08-022	239	324	270	649	829	691	11	25	20
SM08-023	225	317	264	563	808	673	9.3	27	23
SM08-024	233	317	264	616	720	600	11	24	20
SM08-025	255	324	270	681	720	600	14	24	20
SM10-021	234	360	300	605	806	672	25	27	23
SM10-030	243	359	299	538	778	648	6.9	25	21
SM10-031	236	340	283	534	734	612	7.4	25	21
SM10-032	238	340	283	524	734	612	6.1	23	20



Crow Butte Project
Monitor Well Laboratory Report

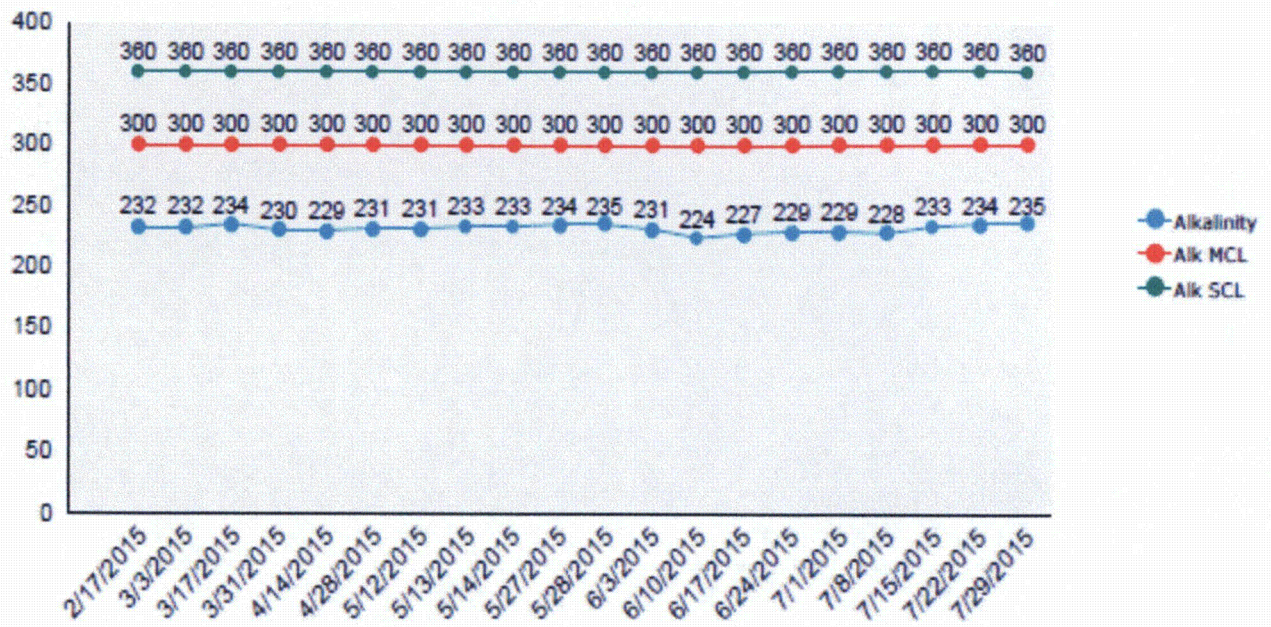
Sample Date: 07/29/2015

Analysis Date: 07/29/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM10-009	256	389	324	565	835	696	8.9	28	23
SM10-010	247	353	294	544	792	660	8.2	30	25
SM10-011	272	373	311	636	835	696	11	30	25
SM10-012	275	415	346	650	850	708	12	31	26
SM10-013	241	350	292	536	778	648	8.6	30	25
SM10-014A	249	366	305	569	806	672	9.8	29	24
SM10-015	258	353	294	586	763	636	10	28	23
SM10-021	235	360	300	605	806	672	26	27	23
SM11-007	145	207	173	306	475	396	2.6	26	22
SM11-009	154	226	188	310	461	384	1.3	20	16
SM11-010	160	233	194	321	478	398	1.3	21	18
SM11-011	153	236	197	348	504	420	2.9	21	17
SM11-012	146	219	182	329	518	432	3	27	22
SM11-013	144	215	179	296	461	384	1.8	25	21
SM11-014	140	207	173	296	475	396	2.1	26	21
SM11-015	140	203	169	308	490	408	2.1	31	26

SM10-021

Alkalinity



Chloride

