

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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January 22, 2019

**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
CM11-11 Monitor Well Excursion - 60 Day Report**

Dear Document Control Desk:

On November 28, 2018 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) commercial monitor well CM11-11, the single parameter upper control limit (SCL) for alkalinity was exceeded as well as the multiple parameter upper control limit (MCL) for conductivity. As required by License Condition 11.1.5 of Source Materials License SUA-1534, a second sample was collected within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the SCL for alkalinity and MCL for conductivity.

CBO notified Mr. Ron Burrows of the excursion by phone on November 29, 2018 as required in License Conditions 11.1.5 and 11.1.6.

The excursion indicator parameters in CM11-11 indicated a slight upward trend on October 17, 2018. In response, CBO adjusted wellfield flows in order to correct the trend. On November 28, 2018, the parameters spiked sharply, placing the well on excursion status. In response, CBO increased production flow in the area.

In accordance with License Condition 11.1.5, CBO increased the sampling frequency for CM11-11 to weekly until three consecutive weekly samples were below the exceeded UCLs. The weekly excursion monitoring samples collected on December 26, 2018, and January 2 and 9, 2019, were below the excursion UCL's, which removed CM11-11 from excursion status. CBO continued

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Document Control Desk, Director

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weekly sampling on January 16, 2019, and will continue to sample the well weekly until six consecutive weekly samples are below the excursion UCL's as required by CBO's NDEQ Class III UIC Permit. If the well has not exceeded the UCLs after these samples, it will be returned to normal status. Attached are copies of the analytical data for each of the last four weekly samples and graphs for each parameter covering the period of June 27, 2018 through January 16, 2019.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext. 117.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Walt Nelson
SHEQ Coordinator

Enclosures: As Stated

cc: Mr. Ronald Burrows -- Project Manager
 CBO - File
ec: CBO



WD

Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 12/26/2018

Analysis Date: 12/26/2018

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM03-005	304	433	361	1901	2814	2345	194	318	265
CM03-006	303	441	367	1896	2799	2333	192	300	250
CM05-018	307	441	367	1875	2916	2430	187	315	263
CM05-019	308	425	354	1789	2916	2430	173	320	266
CM05-020	346	445	371	2040	2929	2441	208	310	258
CM05-021	306	441	367	1880	2910	2425	186	275	229
CM05-022	307	435	362	1877	2903	2419	187	302	252
CM05-023	304	433	361	1869	2916	2430	185	317	264
CM05-024	305	383	319	1892	2887	2406	184	317	264
CM05-025	297	438	365	1889	2982	2485	174	314	262
CM05-026	305	433	361	1896	2900	2417	188	302	252
CM05-027	306	445	371	1905	2974	2478	187	320	266
CM06-012	308	436	364	1886	2794	2328	185	279	233
CM06-013	306	446	372	1886	2866	2388	188	285	238
CM06-014	298	436	364	1879	2909	2424	184	297	247
CM06-015	303	444	370	1898	2779	2316	184	287	239
CM06-016A	302	418	348	1881	3082	2568	183	338	282
CM06-017	308	442	368	1882	2779	2316	184	275	229
CM06-018	308	442	368	1875	2909	2424	184	302	252
CM06-019	310	452	377	1865	2880	2400	184	295	246
CM11-011	422	433	361	2225	2736	2280	210	278	232
SM05-009	207	314	262	531	870	726	12	36	30
SM05-010	210	324	270	536	901	751	10	36	30
SM05-011	219	341	284	555	942	785	11	41	34
SM05-012	212	327	272	541	920	767	11	43	36
SM05-013	202	314	262	533	880	733	13	39	32
SM05-014	186	304	253	474	854	712	9.1	31	26
SM05-015	206	311	259	530	973	811	12	60	50
SM05-016	185	285	238	438	732	610	5.5	30	25
SM05-017	169	264	220	401	694	578	1.5	27	23
SM05-018	175	259	216	417	707	589	3.2	31	26
SM05-019	187	285	238	466	757	631	4.8	27	22



WD

Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 01/02/2019

Analysis Date: 01/02/2019

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM07-011	297	432	360	1865	2817	2347	184	281	234
CM07-012	297	422	352	1862	2794	2328	185	289	241
CM07-013	296	436	364	1884	2841	2368	190	287	239
CM07-014	296	422	352	1902	2772	2310	186	274	228
CM07-015	303	432	360	1896	2822	2352	190	284	236
CM07-016	315	441	367	1940	2831	2359	193	281	234
CM10-008	329	475	396	1820	2707	2256	185	265	221
CM10-009	323	468	390	1804	2693	2244	179	269	224
CM10-010	380	475	396	2056	2736	2280	210	275	229
CM10-011	331	481	401	1785	2808	2340	171	288	240
CM10-012	348	446	372	1812	2923	2436	177	327	272
CM10-013	358	481	401	1734	2779	2316	172	287	239
CM10-014	357	490	408	1719	2578	2148	171	251	209
CM10-015	335	504	420	1758	2491	2076	165	253	211
CM10-016	317	484	403	1804	2650	2208	166	253	211
CM10-017	327	475	396	1813	2664	2220	171	248	206
CM11-011	391	433	361	2112	2736	2280	202	278	232
IJ013P	327	415	346	1300	2900	2417	109	278	232
PR008	326	484	403	1249	2866	2388	98	282	235
PR015	293	444	370	1098	2792	2327	85	268	223
SM03-001	207	374	312	648	1122	935	12	85	71
SM03-002	179	305	254	429	805	671	3.7	40	34
SM03-003	178	297	247	442	729	607	5.8	30	25
SM04-010A	298	354	295	687	1053	877	12	36	30
SM04-011A	290	554	462	673	1469	1224	11	139	115
SM07-015	144	200	167	315	495	413	3.4	24	20
SM07-016	142	199	166	316	451	376	3	24	20
SM07-017	181	209	174	397	539	449	3.6	30	25
SM07-018	140	217	181	322	513	427	3	23	19
SM07-019	144	212	176	334	599	499	3.6	38	31
SM07-020	148	228	190	328	583	486	1.3	28	23
SM07-021	145	216	180	330	534	445	2.4	27	23



N.C.

Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 01/09/2019

Analysis Date: 01/09/2019

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	1799	3038	2532	175	315	263
CM08-011	319	446	372	1811	3053	2544	177	325	271
CM08-012	324	461	384	1829	3038	2532	174	305	254
CM10-001	321	469	391	1819	2822	2352	172	305	254
CM10-002	320	474	395	1826	2707	2256	173	262	218
CM10-003	316	474	395	1824	2736	2280	177	266	222
CM10-004	327	468	390	1869	2794	2328	186	288	240
CM10-005	342	464	386	1961	3082	2568	202	389	324
CM10-006	321	482	402	1811	2750	2292	172	281	234
CM10-007	322	482	402	1807	2765	2304	172	278	232
CM11-001	304	438	365	1810	2808	2340	178	297	247
CM11-002A	302	442	368	1805	2794	2328	179	285	238
CM11-003	320	439	366	1866	2693	2244	182	272	227
CM11-004	303	464	386	1795	2678	2232	173	268	223
CM11-005	303	451	376	1794	2664	2220	177	274	228
CM11-006	302	436	364	1784	2707	2256	173	269	224
CM11-007	301	432	360	1781	2707	2256	173	272	227
CM11-008	308	462	385	1821	2678	2232	174	274	228
CM11-009	299	439	366	1787	2765	2304	168	276	230
CM11-010	302	436	364	1780	2707	2256	172	284	236
CM11-011	372	433	361	2030	2736	2280	189	278	232
SM04-003	184	361	301	599	1251	1043	12	38	32
SM04-004	207	266	222	605	1099	916	13	62	52
SM10-001	312	469	391	720	994	828	14	37	31
SM10-002	232	338	282	527	763	636	8.5	24	20
SM10-003	246	386	322	540	821	684	8.3	24	20
SM10-004	239	346	288	518	778	648	7.3	24	20
SM10-005	239	350	292	516	763	636	7.1	23	19
SM10-006	350	501	418	770	1123	936	14	33	28
SM10-007	322	403	336	722	965	804	15	33	27
SM10-008	289	403	336	661	907	756	14	31	26
SM10-009	239	389	324	524	835	696	8.5	28	23



WN

Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 01/16/2019

Analysis Date: 01/16/2019

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
BOW96-001	227	314	262	501	791	659	7.6	24	20
CM05-001	317	462	385	1752	2884	2404	159	304	253
CM05-002	309	448	373	1811	2860	2383	177	297	247
CM05-003	312	449	374	1813	2949	2458	180	324	270
CM05-004	315	454	378	1825	2896	2413	181	305	254
CM05-005	309	455	379	1821	2880	2400	179	297	247
CM05-006	308	458	382	1818	2844	2370	179	292	244
CM05-007	309	433	361	1820	2870	2392	179	288	240
CM05-008	312	448	373	1844	2876	2396	179	289	241
CM05-009	307	433	361	1831	2864	2387	178	289	241
CM05-010	297	403	336	1856	2943	2453	178	333	277
CM05-011	312	438	365	1882	2897	2414	180	307	256
CM08-019	320	461	384	1788	2909	2424	170	278	232
CM08-020	322	467	389	1784	3038	2532	170	305	254
CM08-021	321	449	374	1790	2952	2460	170	261	217
CM08-022	323	461	384	1796	2966	2472	170	266	222
CM08-026	319	467	389	1790	2650	2208	170	266	222
CM10-028	319	461	384	1798	2736	2280	170	265	221
CM10-029	321	461	384	1806	2808	2340	171	281	234
CM10-030	325	454	378	1805	2678	2232	171	253	211
CM10-031	321	446	372	1797	2678	2232	170	253	211
CM11-011	359	433	361	1983	2736	2280	192	278	232
SM02-001	190	305	254	514	865	721	14	56	47
SM02-002	169	314	262	449	1210	1008	11	63	53
SM02-003	199	344	287	527	969	808	16	37	31
SM04-006	271	361	301	636	1103	919	14	34	28
SM04-008	288	389	324	664	1109	924	12	27	23
SM05-001	235	363	302	574	1032	860	12	57	47
SM05-002	194	287	239	436	714	595	5.5	27	22
SM05-003	229	351	293	568	1048	874	12	81	68
SM05-004	211	327	272	540	973	811	15	66	55
SM05-005	237	367	306	581	1041	868	11	65	54

CM11-11
1/22/2019

CM11-011



