

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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June 10, 2019

**USPS PRIORITY MAIL
SIGNATURE CONFIRMATION**

**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**

Attn: Document Control Desk:

On June 5, 2019, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-21, the multiple parameter upper control limits (MCL) for alkalinity and conductivity were exceeded. As required by License Condition 11.1.5 of Source Materials License SUA-1534, a second sample was collected within 24 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the MCL for alkalinity and conductivity.

CBO notified Mr. Ron Burrows of the excursion by voicemail on June 6, 2019, as required in License Conditions 11.1.5 and 11.1.6. Laboratory results for the sample analysis for SM8-21 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from September 26, 2018 through June 6, 2019.

The region around the CBO facility was subject to a major winter storm on March 14 and 15, 2019, in which the site received an estimated 18" of snowfall accompanied by up to 90 mph wind gusts. As a result, a significant amount of snowmelt impacted the area around the well. This was followed by a second significant winter storm on April 10 and 11, 2019. The snowmelt from this storm provided additional impact to this part of the well field. Wet conditions have persisted since that time, and the site believes that these conditions are the cause of this excursion. This well was placed on excursion status twice in 2015 during similar wet spring conditions.

NMSS20

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Document Control Desk Director

June 10, 2019

Page 2

In accordance with License Condition 11.1.5, CBO has increased the sampling frequency for SM8-21 to weekly until three consecutive weekly samples are below the exceeded UCLs. CBO will continue weekly sampling for an additional three weeks after this goal has been achieved as required by CBO's NDEQ Class III UIC Permit requirements. If the well has not exceeded the UCLs after these samples, it will be returned to normal status.

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: NRC – Deputy Director
CBO – File

cc: CR – Electronic File



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 06/05/2019

Analysis Date: 06/05/2019

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	210	323	269	567	932	776	10	41	34
SM05-008	206	312	260	555	840	700	12	32	27
SM08-017	241	331	276	572	848	707	9.3	24	20
SM08-018	233	317	264	552	816	680	10	25	21
SM08-019	239	340	283	558	827	689	8.5	25	21
SM08-020	224	314	262	546	806	672	8.6	25	21
SM08-021	272	317	264	699	706	588	12	25	21
SM08-022	255	324	270	728	829	691	12	25	20
SM08-023	227	317	264	560	808	673	8.9	27	23
SM08-024	237	317	264	650	720	600	11	24	20
SM08-025	259	324	270	770	720	600	14	24	20
SM08-028	310	328	274	757	801	667	12	24	20
SM10-030	244	359	299	542	778	648	7	25	21
SM10-031	241	340	283	548	734	612	7.1	25	21
SM10-032	241	340	283	534	734	612	5.9	23	20



Crow Butte Project

Monitor Well Laboratory Report

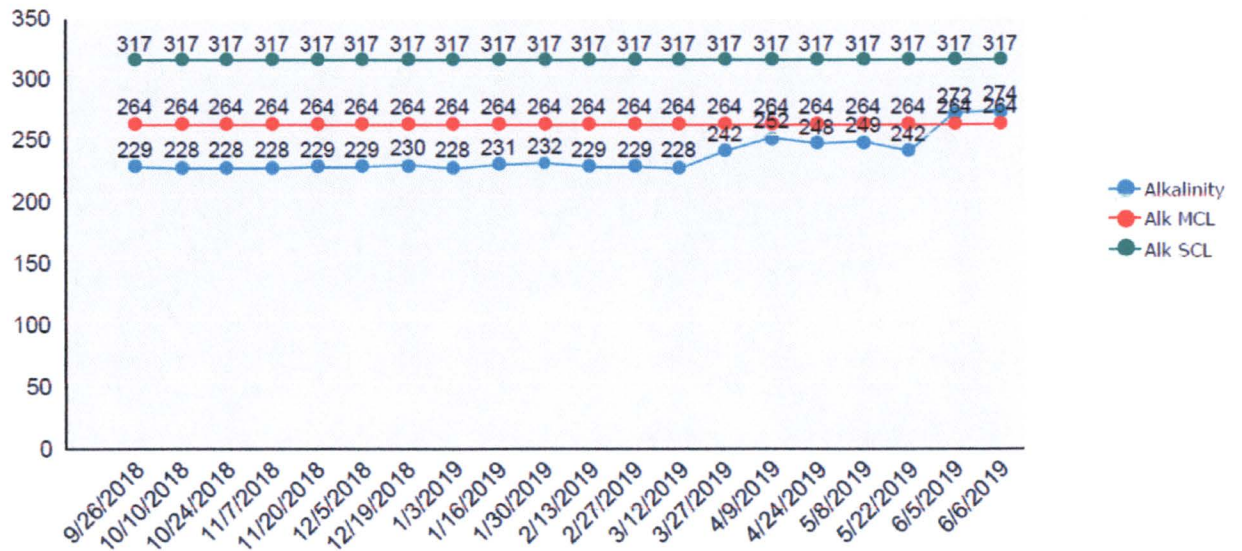
Sample Date: 06/06/2019

Analysis Date: 06/06/2019

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM05-012	299	456	380	1908	2982	2485	185	323	269
CM05-013	298	373	311	1914	3149	2624	183	386	322
CM06-001	295	432	360	1877	3168	2640	178	334	278
CM06-002	296	436	364	1922	2822	2352	182	279	233
CM06-003	296	441	367	1922	2808	2340	180	269	224
CM06-004	299	441	367	1926	2837	2364	181	289	241
CM06-005	290	416	347	1948	2923	2436	182	294	245
CM06-006	299	444	370	1928	2894	2412	181	301	251
CM06-007	282	403	336	1964	2822	2352	180	281	234
CM06-008	293	445	371	1937	2923	2436	182	305	254
CM07-010	302	454	378	1884	2877	2398	184	297	247
CM09-012	301	444	370	1807	2866	2388	178	321	268
CM09-013	299	442	368	1809	2707	2256	176	279	233
CM09-014	303	461	384	1816	2923	2436	180	327	272
CM09-015	300	432	360	1811	2736	2280	175	279	233
CM09-016	299	444	370	1817	2678	2232	175	268	223
CM09-017	300	441	367	1826	2678	2232	176	268	223
CM09-018	298	445	371	1829	2794	2328	179	294	245
CM09-019	300	454	378	1839	2952	2460	179	315	263
CM09-020	294	431	359	1850	2779	2316	180	279	233
SM06-001	210	325	271	545	903	752	7.5	47	39
SM06-002	206	291	242	550	1008	840	10	85	71
SM06-003	202	295	246	544	844	703	10	43	36
SM06-004	205	310	258	525	804	670	8.2	32	27
SM06-005	212	314	262	517	770	642	7.2	26	22
SM06-006	223	334	278	479	711	593	3.3	24	20
SM06-007	224	343	286	501	779	649	7	39	32
SM06-008	206	311	259	500	770	642	9.6	36	30
SM06-009	222	336	280	497	815	679	6.8	51	42
SM06-010	205	317	264	502	838	698	8.7	35	29
SM06-017	234	353	294	488	798	665	4.2	42	35
SM08-021	274	317	264	697	706	588	12	25	21

SM08-021

Alkalinity



Chloride

