

**CAMECO RESOURCES  
CROW BUTTE OPERATION**



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

**(308) 665-2215  
(308) 665-2341 – FAX**

May 26, 2020

**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 – SM8-25**

**Attn: Document Control Desk:**

On May 20, 2020, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-25, the multiple parameter upper control limits (MCL) for conductivity and alkalinity were exceeded. As required by License Condition 11.5 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 MCL's for conductivity and alkalinity as well.

CBO notified Mr. Tom Lancaster of the excursion by phone on May 21, 2020, as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM8-25 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from September 11, 2019 through May 21, 2020.

SM8-25 was placed on excursion last year following a major blizzard that impacted the area in March. Following the blizzard, conditions remained abnormally wet and cool throughout most of the summer. As a consequence, water levels remained relatively high throughout 2019, on into 2020. While the excursion parameters in the well did eventually retreat below the excursion criteria, they remained somewhat elevated above "normal" levels throughout this period. For example, the mean conductivity for the Q3 Excursion Monitoring Report in 2018 was 637  $\mu\text{Mho/cm}$ , compared with 712  $\mu\text{Mho/cm}$  for the same period in 2019. Similarly, the alkalinity mean on the 2018 Q3 Excursion Monitoring Report was 256 ppm, compared with 262 ppm for the

NMSS20

**CAMECO RESOURCES  
CROW BUTTE OPERATION**



---

**Document Control Desk Director**

**May 26, 2020**

**Page 2**

same period in 2019. Conditions this spring have not been exceptionally wet, but have been sufficient to have a slight impact on the excursion parameters in SM8-25.

In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM8-25 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

A handwritten signature in black ink, appearing to read "Walter D. Nelson". The signature is fluid and cursive.

**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: 05/21/2020

Analysis Date: 05/21/2020

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	300	456	380	1893	2982	2485	177	323	269
CM05-013	293	373	311	1886	3149	2624	176	386	322
CM06-001	296	432	360	1876	3168	2640	173	334	278
CM06-002	300	436	364	1909	2822	2352	176	279	233
CM06-003	299	441	367	1921	2808	2340	176	269	224
CM06-004	302	441	367	1922	2837	2364	177	289	241
CM06-005	292	416	347	1942	2923	2436	176	294	245
CM06-006	298	444	370	1963	2894	2412	174	301	251
CM06-007	281	403	336	1963	2822	2352	174	281	234
CM06-008	294	445	371	1928	2923	2436	175	305	254
CM07-010	298	454	378	1882	2877	2398	186	297	247
CM09-012	302	444	370	1800	2866	2388	177	321	268
CM09-013	299	442	368	1809	2707	2256	177	279	233
CM09-014	304	461	384	1816	2923	2436	181	327	272
CM09-015	308	432	360	1836	2736	2280	181	279	233
CM09-016	303	444	370	1828	2678	2232	179	268	223
CM09-017	305	441	367	1834	2678	2232	179	268	223
CM09-018	302	445	371	1830	2794	2328	181	294	245
CM09-019	303	454	378	1845	2952	2460	180	315	263
CM09-020	295	431	359	1853	2779	2316	182	279	233
SM06-001	210	325	271	530	903	752	7	47	39
SM06-002	208	291	242	542	1008	840	10	85	71
SM06-003	203	295	246	537	844	703	9.6	43	36
SM06-004	209	310	258	525	804	670	8.4	32	27
SM06-005	214	314	262	512	770	642	6.9	26	22
SM06-006	226	334	278	474	711	593	3.3	24	20
SM06-007	225	343	286	493	779	649	6.7	39	32
SM06-008	207	311	259	500	770	642	9.3	36	30
SM06-009	223	336	280	488	815	679	6.7	51	42
SM06-010	204	317	264	488	838	698	8.3	35	29
SM06-017	235	353	294	482	798	665	3.8	42	35
SM08-025	275	324	270	697	720	600	12	24	20



**Crow Butte Project**  
**Monitor Well Laboratory Report**

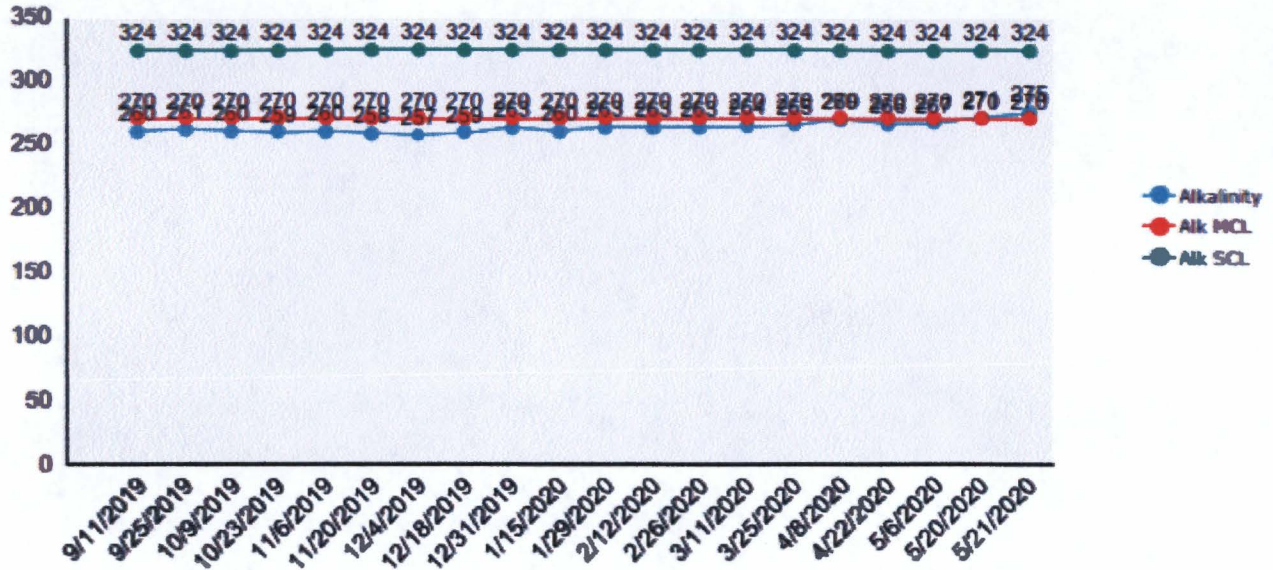
Sample Date: 05/20/2020

Analysis Date: 05/20/2020

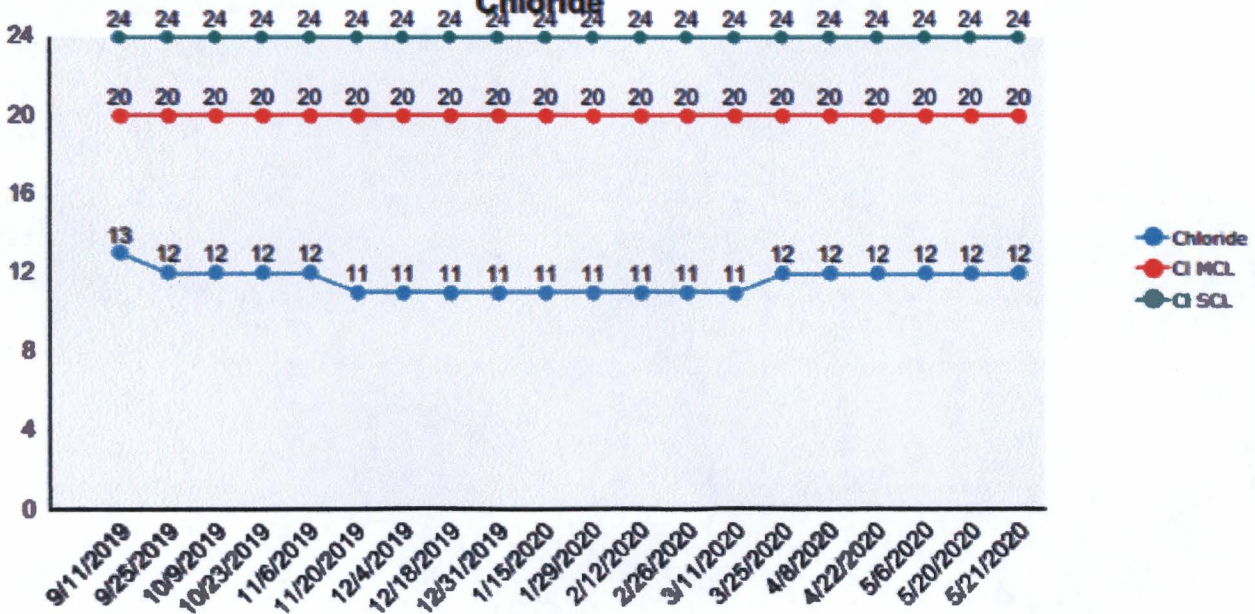
Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM05-007	210	323	269	561	932	776	9.9	41	34
SM05-008	209	312	260	551	840	700	12	32	27
SM08-017	246	331	276	580	848	707	9.4	24	20
SM08-018	242	317	264	570	816	680	11	25	21
SM08-019	243	340	283	564	827	689	9.2	25	21
SM08-020	232	314	262	564	806	672	8.9	25	21
SM08-021	235	317	264	573	706	588	9.2	25	21
SM08-022	258	324	270	652	829	691	10	25	20
SM08-023	233	317	264	558	808	673	8.9	27	23
SM08-024	235	317	264	573	720	600	9.4	24	20
SM08-025	271	324	270	692	720	600	12	24	20
SM10-030	247	359	299	542	778	648	7.1	25	21
SM10-031	244	340	283	555	734	612	8.1	25	21
SM10-032	244	340	283	536	734	612	6.6	23	20

SM08-025

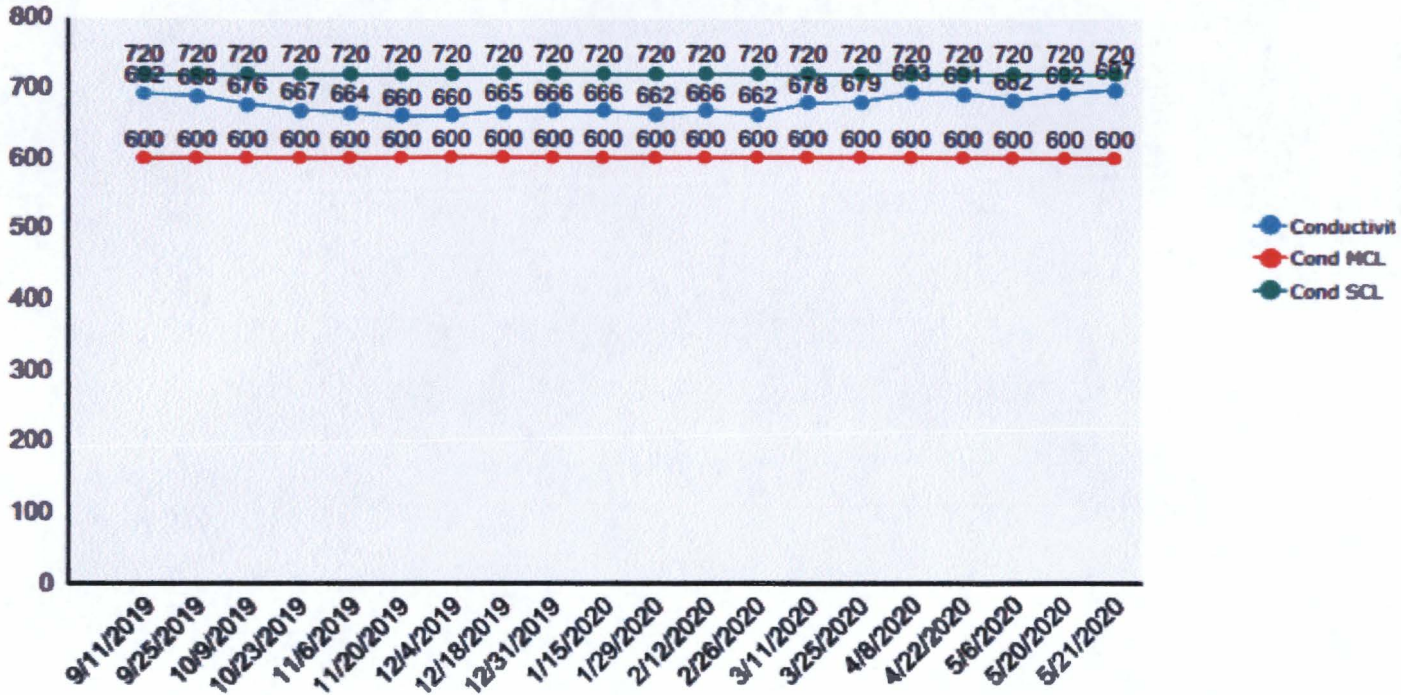
Alkalinity



Chloride



### Conductivity



### Water Level

