

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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March 28, 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 – SM10-28A

Attn: Document Control Desk:

On March 25, 2018, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM10-28A, the multiple parameter upper control limits (MCL) for chloride and conductivity were exceeded. As required by License Condition 11.5 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 single control limit (SCL) for alkalinity and conductivity.

CBO notified Mr. Ron Burrows of the excursion by phone on March 26, 2019, as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM10-28A are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from July 16, 2018 through March 26, 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. A hole was observed within 5' of the wellhead, and it appears that this hole may have provided a conduit for snowmelt to report to the screened interval of the well at an accelerated rate. The site believes the cause of the excursion to be natural causes. This belief is bolstered by the fact that there are no active commercial wells, trunkline, or lateral lines within several hundred yards of the well, and there are other shallow monitor wells between SM10-28A and any active areas of the wellfield.

NM5520

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Document Control Desk Director

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In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM10-28A 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 "Walt Nelson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Walt Nelson
SHEQ Coordinator

Enclosures: As Stated

cc: NRC – Deputy Director
CBO – File

ec: CR – Electronic File



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 03/25/2019

Analysis Date: 03/25/2019

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM07-013	153	233	194	363	592	493	4.3	25	21
SM07-014	136	180	150	336	618	515	3.8	65	54
SM10-023	234	360	300	559	792	660	14	28	23
SM10-024	230	346	288	538	778	648	11	25	21
SM10-025	228	331	276	530	792	660	9.5	27	23
SM10-026	244	360	300	590	821	684	15	29	24
SM10-027	246	403	336	555	878	732	9.4	25	21
SM10-028A	216	360	300	804	893	744	38	43	36
SM10-029A	261	360	300	598	864	720	13	31	26



Crow Butte Project
Monitor Well Laboratory Report

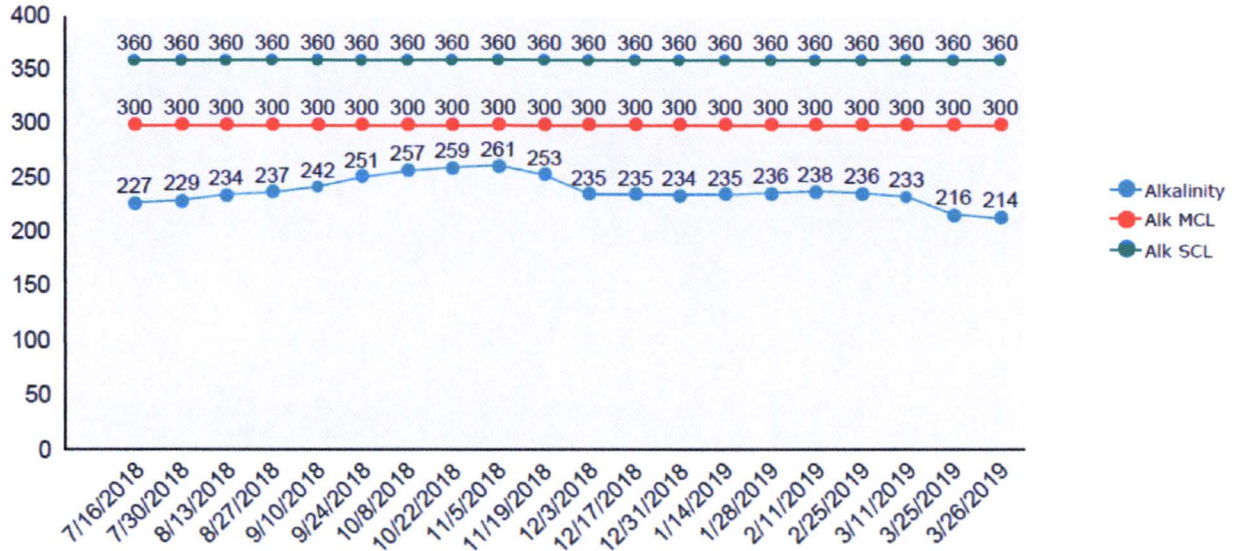
Sample Date: 03/26/2019

Analysis Date: 03/26/2019

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (μ Mho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM07-023	176	278	232	453	850	708	4.1	59	50
SM07-024	200	259	216	533	809	674	8.2	45	37
SM07-025	166	202	168	382	645	538	3.9	52	44
SM10-016	249	382	318	587	850	708	13	28	23
SM10-017	239	374	312	623	835	696	17	28	23
SM10-018	237	346	288	530	763	636	8.2	24	20
SM10-019	246	369	307	563	778	648	9.6	25	21
SM10-020	233	360	300	567	792	660	18	27	22
SM10-021	241	360	300	577	806	672	16	27	23
SM10-022	244	360	300	554	778	648	11	23	20
SM10-028A	214	360	300	990	893	744	54	43	36

SM10-028A

Alkalinity



Chloride

