

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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**(308) 665-2215
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May 9, 2016

**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 – SM8-28

Attn: Document Control Desk:

On May 5, 2016, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-28, the multiple parameter upper control limit (MCL) for alkalinity and the single parameter upper control limit (SCL) for conductivity was exceeded. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM6-28 within 48 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 at 9:22 a.m. on May 6, 2016, as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM8-28 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from August 27, 2015, to May 6, 2016.

The excursion parameters in SM8-28 have historically increased during periods of high spring precipitation events. During the month of April, 2016, the meteorological station at the CBO main entrance has detected 10.2 inches of precipitation, 6.9 inches of that precipitation was received between April 25 and April 30, 2016. The well went on excursion status in 2010, 2011, and 2015 due to similar circumstances. CBO believes the excursion is due to the natural precipitation events and not an actual excursion of mining solution.

NMSSZD

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In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM8-28 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 114.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

A handwritten signature in cursive script that reads "Larry Teahon".

Larry Teahon
SHEQ Manager

Enclosures: As Stated

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

WJ



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 05/05/2016

Analysis Date: 05/05/2016

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM06-025	299	433	361	1889	2952	2460	177	317	264
CM06-026	303	448	373	1867	2952	2460	176	338	282
CM06-028	313	449	374	1804	2894	2412	172	307	256
CM06-029	306	448	373	1860	3024	2520	176	321	268
CM06-030	311	459	383	1833	2952	2460	172	328	274
CM06-031	316	464	386	1856	2851	2376	176	301	251
CM06-032	315	461	384	1854	2981	2484	175	292	244
CM08-027	316	475	396	1823	2794	2328	170	314	262
CM08-028	318	480	400	1817	2650	2208	171	264	220
SM06-023	265	314	262	582	691	576	7.4	23	19
SM06-024	234	310	258	546	672	560	9	24	20
SM06-025	216	324	270	596	696	580	13	24	20
SM06-026	205	308	257	476	726	605	7.1	24	20
SM06-027	225	317	264	516	677	564	7.6	23	20
SM06-028	325	351	293	803	778	648	15	24	20
SM08-026	229	317	264	593	720	600	10	24	20
SM08-027	236	353	294	534	706	588	6.9	22	19
SM08-028	277	328	274	806	801	667	11	24	20
SM08-029	252	338	282	640	763	636	13	26	22
SM08-030	194	284	236	452	672	560	10	38	32
SM08-031	229	350	292	517	750	625	6.7	28	23
SM11-016	143	213	178	303	461	384	2.1	23	19
SM11-017	142	210	175	299	432	360	2.9	21	17
SM11-018	139	207	173	304	475	396	3.2	28	23
SM11-019	140	204	170	318	533	444	1.5	35	29
SM11-020	161	235	196	409	590	492	5.2	23	19
SM11-022	167	288	240	468	773	644	7.1	32	27
SM11-023	165	246	205	417	662	552	7.3	32	27
SM11-024	155	233	194	409	619	516	4.2	26	21
SM11-025	159	235	196	413	590	492	2.8	21	18
SM11-026	148	228	190	357	547	456	2.9	22	18

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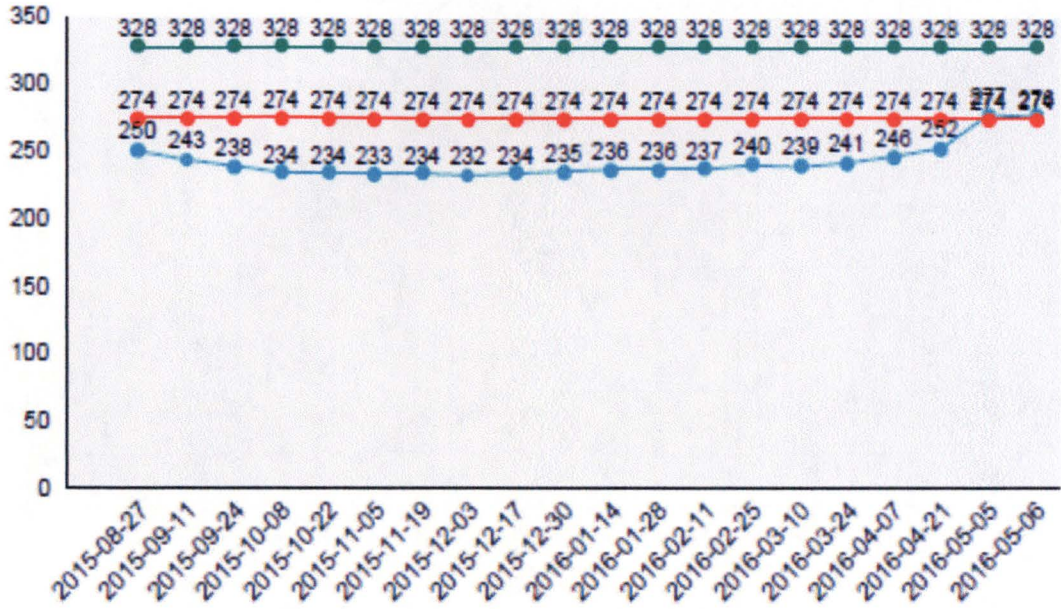
Sample Date: 05/06/2016

Analysis Date: 05/06/2016

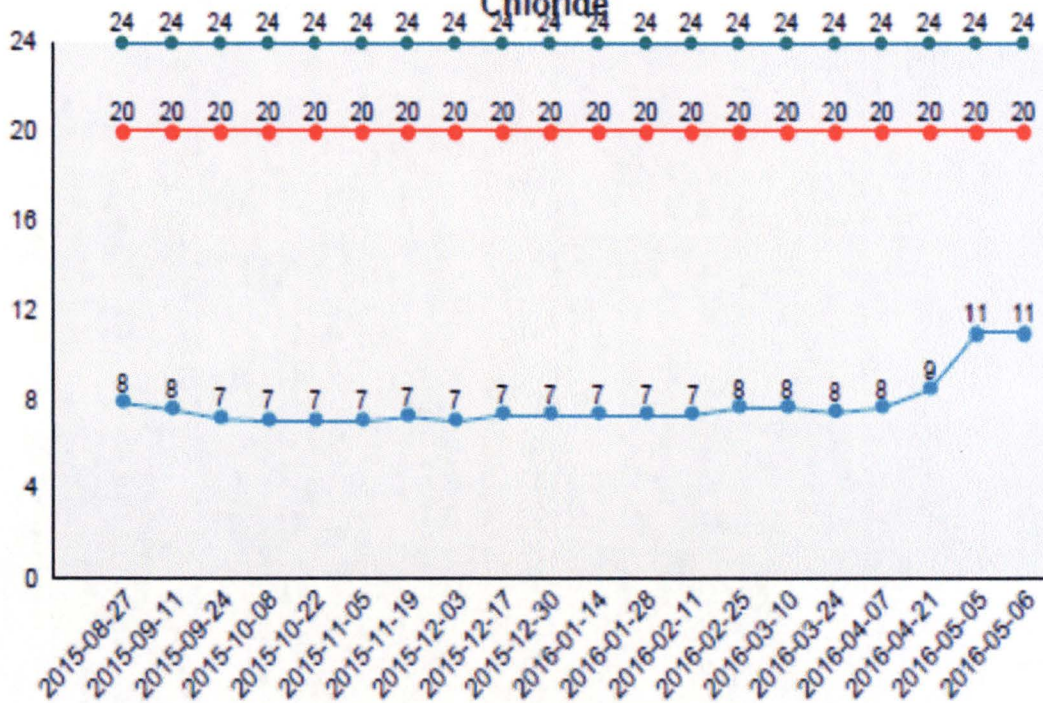
Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM06-028	314	351	293	776	778	648	15	24	20
SM08-028	276	328	274	788	801	667	11	24	20

SM08-028

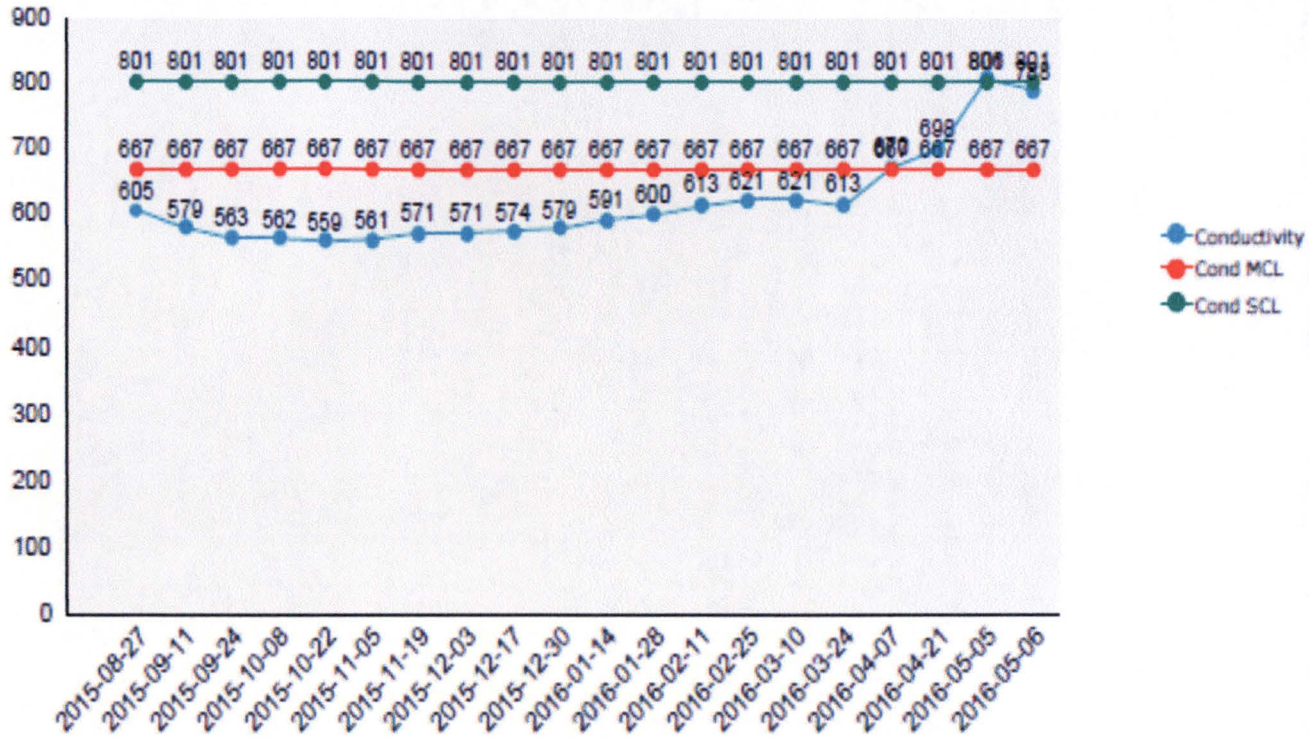
Alkalinity



Chloride



Conductivity



Water Level

