

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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

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

April 25, 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 – SM6-23

Attn: Document Control Desk:

On April 21, 2016 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-23, the multiple parameter upper control limits (MCL) for alkalinity and conductivity were exceeded. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM6-23 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the MCL for alkalinity, but not the MCL for conductivity. As required by License Condition 11.5 of Source Materials License SUA-1534, a third sample was collected within 48 hours of the second sample and analyzed for the three excursion indicator parameters. The results of the third sample exceeded the MCL for alkalinity and conductivity.

CBO notified Mr. Ron Burrows of the excursion by voicemail at 1:50 p.m. on April 23, 2016, as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM6-23 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 April 23, 2016.

The excursion parameters in SM6-23 have historically increased during periods of high spring precipitation events. Two significant precipitation events have recently occurred, the first during the week of March 27, 2016, and the second during the week of April 17, 2016. The well went on excursion in 2010 and 2015 due to similar circumstances. CBO believes the excursion is due

NM5520

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to the natural precipitation events and not an actual excursion of mining solution.

In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM6-23 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

Larry Teahon
SHEQ Manager

Enclosures: As Stated

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



Crow Butte Project
Monitor Well Laboratory Report

Sample Date: 04/21/2016

Analysis Date: 04/21/2016

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	300	433	361	1874	2952	2460	178	317	264
CM06-026	303	448	373	1872	2952	2460	179	338	282
CM06-028	316	449	374	1821	2894	2412	174	307	256
CM06-029	306	448	373	1870	3024	2520	177	321	268
CM06-030	311	459	383	1825	2952	2460	171	328	274
CM06-031	313	464	386	1845	2851	2376	174	301	251
CM06-032	315	461	384	1866	2981	2484	174	292	244
CM08-027	315	475	396	1829	2794	2328	170	314	262
CM08-028	318	480	400	1827	2650	2208	170	264	220
SM06-023	265	314	262	580	691	576	7.3	23	19
SM06-024	235	310	258	545	672	560	9.3	24	20
SM06-025	216	324	270	573	696	580	13	24	20
SM06-026	204	308	257	474	726	605	7.2	24	20
SM06-027	237	317	264	530	677	564	7.3	23	20
SM06-028	286	351	293	713	778	648	14	24	20
SM08-026	229	317	264	573	720	600	9.6	24	20
SM08-027	235	353	294	526	706	588	6.8	22	19
SM08-028	252	328	274	698	801	667	8.5	24	20
SM08-029	251	338	282	629	763	636	13	26	22
SM08-030	193	284	236	450	672	560	11	38	32
SM08-031	229	350	292	512	750	625	6.8	28	23
SM11-016	143	213	178	302	461	384	2.6	23	19
SM11-017	142	210	175	297	432	360	3	21	17
SM11-018	139	207	173	303	475	396	3.2	28	23
SM11-019	140	204	170	317	533	444	1.1	35	29
SM11-020	161	235	196	408	590	492	5.2	23	19
SM11-022	168	288	240	466	773	644	7.2	32	27
SM11-023	166	246	205	416	662	552	7.4	32	27
SM11-024	155	233	194	400	619	516	3.1	26	21
SM11-025	159	235	196	410	590	492	2.8	21	18
SM11-026	149	228	190	355	547	456	2.5	22	18



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Monitor Well Laboratory Report

Sample Date: 04/22/2016

Analysis Date: 04/22/2016

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (μ Mho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM06-023	266	314	262	576	691	576	7.4	23	19



Crow Butte Project
Monitor Well Laboratory Report

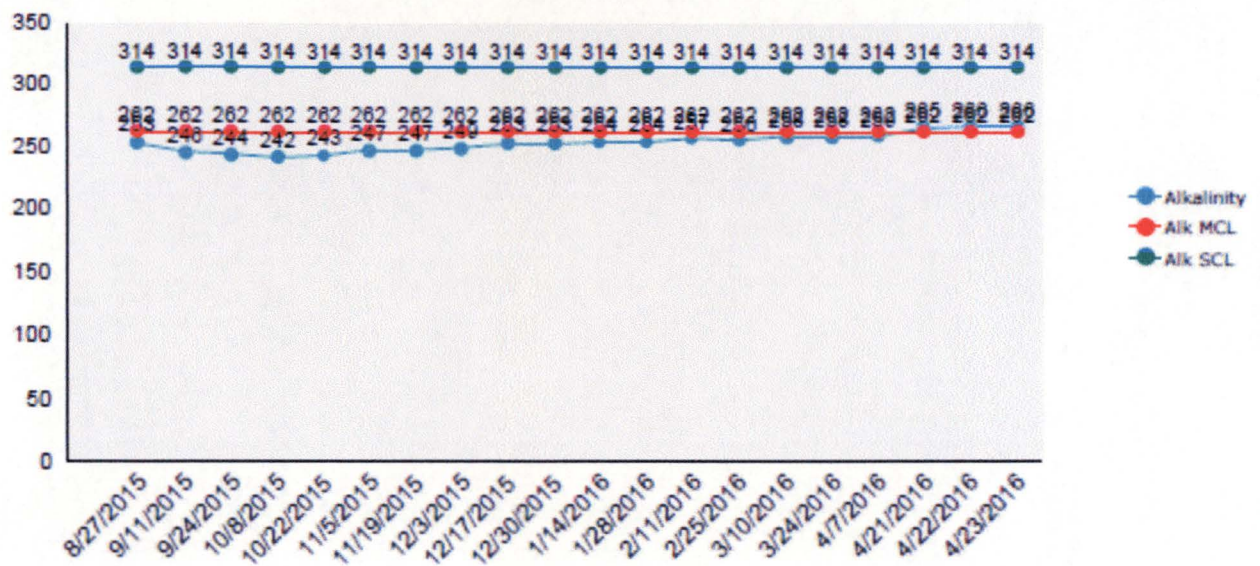
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SM06-023	266	314	262	578	691	576	7.5	23	19

SM06-023

Alkalinity



Chloride

