

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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August 17, 2015

**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 – SM6-24

Attn: Document Control Desk:

On August 13, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-24, exceeded the multiple parameter upper control limit (MCL) for conductivity and alkalinity. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM6-24 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample also exceeded the excursion control parameters as described above.

CBO notified Mr. Ron Burrows of the excursion by at 10:30 a.m. on August 14, 2015 as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM6-24 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from December 4, 2014, to August 14, 2015.

CBO believes that the apparent excursion is the result of an increase in the groundwater level caused by record high amounts of precipitation received at the site during May and June. This conclusion is supported by the following indications:

1. The well is located in an area of high groundwater near the springs that form the source of English Creek. Groundwater quality in this area is under the influence of surface water.

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2. While the excursion indicators have increased significantly, the levels still do not approach the levels found in mining solution.
3. During the past two months, six other shallow monitor wells located in this area were placed on excursion status due to the same circumstances. All of these wells are located in close proximity to English Creek. Historical operating data indicates that the excursion parameters are affected by high water levels in the shallow monitor wells located along English Creek.

In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM6-24 to weekly until three consecutive weekly samples are below the exceeded UCLs. Also, per the requirements of License Condition 11.12, CBO will test weekly for natural uranium. 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: 08/13/2015

Analysis Date: 08/13/2015

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	307	433	361	1895	2952	2460	178	317	264
CM06-026	309	448	373	1884	2952	2460	179	338	282
CM06-028	322	449	374	1822	2894	2412	175	307	256
CM06-029	307	448	373	1883	3024	2520	177	321	268
CM06-030	319	459	383	1840	2952	2460	174	328	274
CM06-031	322	464	386	1859	2851	2376	177	301	251
CM06-032	320	461	384	1866	2981	2484	175	292	244
CM08-027	321	475	396	1826	2794	2328	170	314	262
CM08-028	329	480	400	1822	2650	2208	171	264	220
SM06-023	257	314	262	547	691	576	6.7	23	19
SM06-024	262	310	258	598	672	560	11	24	20
SM06-025	222	324	270	558	696	580	13	24	20
SM06-026	208	308	257	468	726	605	6.7	24	20
SM06-027	228	317	264	509	677	564	7.6	23	20
SM08-026	234	317	264	575	720	600	9.4	24	20
SM08-027	237	353	294	517	706	588	6.5	22	19
SM08-029	251	338	282	645	763	636	14	26	22
SM08-030	197	284	236	444	672	560	9.2	38	32
SM08-031	235	350	292	506	750	625	6.6	28	23
SM11-016	147	213	178	302	461	384	2	23	19
SM11-017	146	210	175	296	432	360	3.1	21	17
SM11-018	143	207	173	299	475	396	2.4	28	23
SM11-019	144	204	170	317	533	444	2	35	29
SM11-020	162	235	196	396	590	492	5.2	23	19
SM11-022	171	288	240	461	773	644	7.1	32	27
SM11-023	170	246	205	411	662	552	6.9	32	27
SM11-024	159	233	194	401	619	516	3.6	26	21
SM11-025	161	235	196	400	590	492	2.6	21	18
SM11-026	149	228	190	336	547	456	2.4	22	18



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Analysis Date: 08/14/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (μ Mho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
SM06-024	261	310	258	601	672	560	11	24	20

SM06-024



