CAMECO RESOURCES
CROW BUTTE OPERATION

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

(308) 665-2215
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May 22, 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 – SM8-6

Dear Document Control Desk:

On May 19, 2015, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-6, exceeded the multiple parameter upper control limits (MCL) for chloride and conductivity. As required by License Condition 11.2 of Source Materials License SUA-1534, a second sample was collected from SM8-6 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the single parameter upper control limit (SCL) for conductivity.

CBO notified Mr. Ron Burrows of the excursion by phone at 11:00 a.m. on May 20, 2014 as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM8-6 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from September 9, 2014 to May 20, 2015.

CBO believes that this apparent excursion is due to increased groundwater levels caused by the significant amount of precipitation and snow melt at the facility this spring and is not caused by mining activity. This conclusion is supported by the following indications:

1. Water level in the well has increased approximately 2 feet this spring and is currently within approximately 10 feet of the top of the well casing. SM8-6 is located in Mine Unit 8 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.

2. Conductivity measurements in the well have increased from 600 µmhos/cm to 754

NMSS01

μmhos/cm. This level would be much higher if the well were impacted by lixiviant (which typically has conductivity measurements in the range of 5,000 μmhos/cm).

3. In the past, under similar circumstances, shallow monitor wells in this area have gone on excursion status. Historically, these wells are removed from excursion status once the area dries out and the water levels decline.

In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM8-6 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

Larry Teahon
SHEQ Manager

Enclosures: As Stated

cc: Mr. Ronald Burrows – Project Manager
CBO - File
ec: CR – Casper

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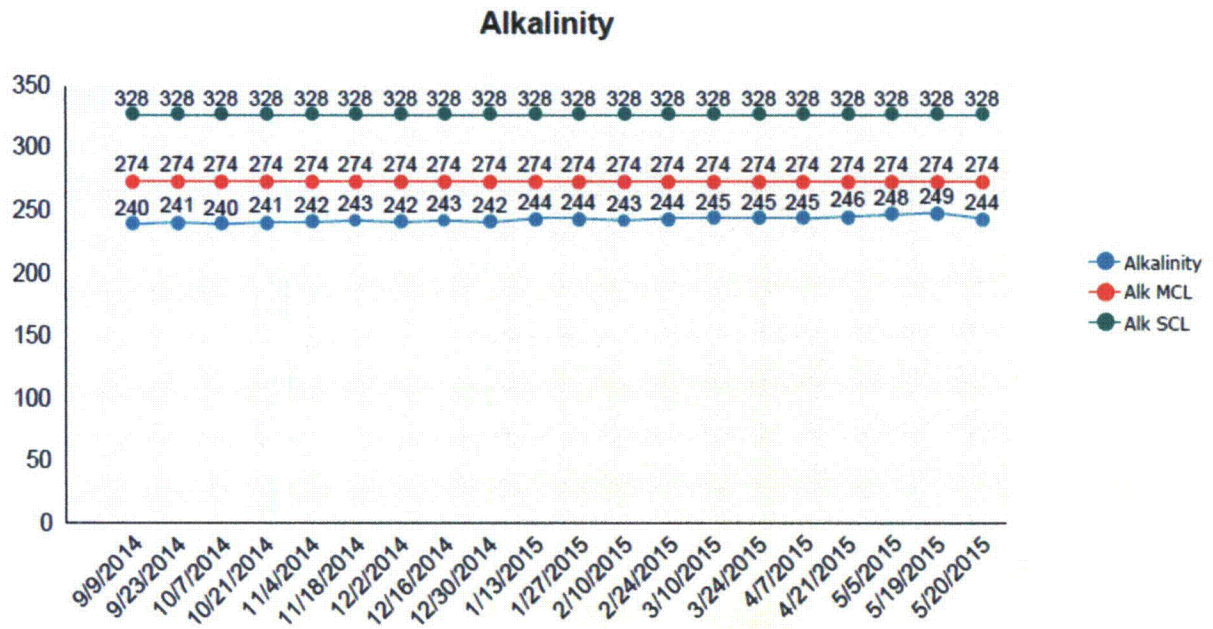
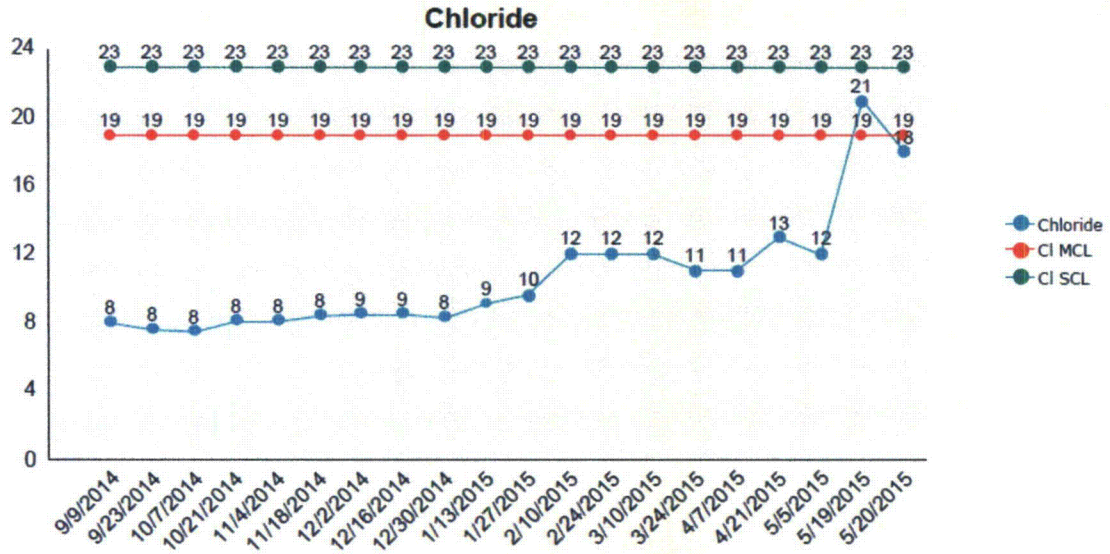
SM 08-006





5-20-2015

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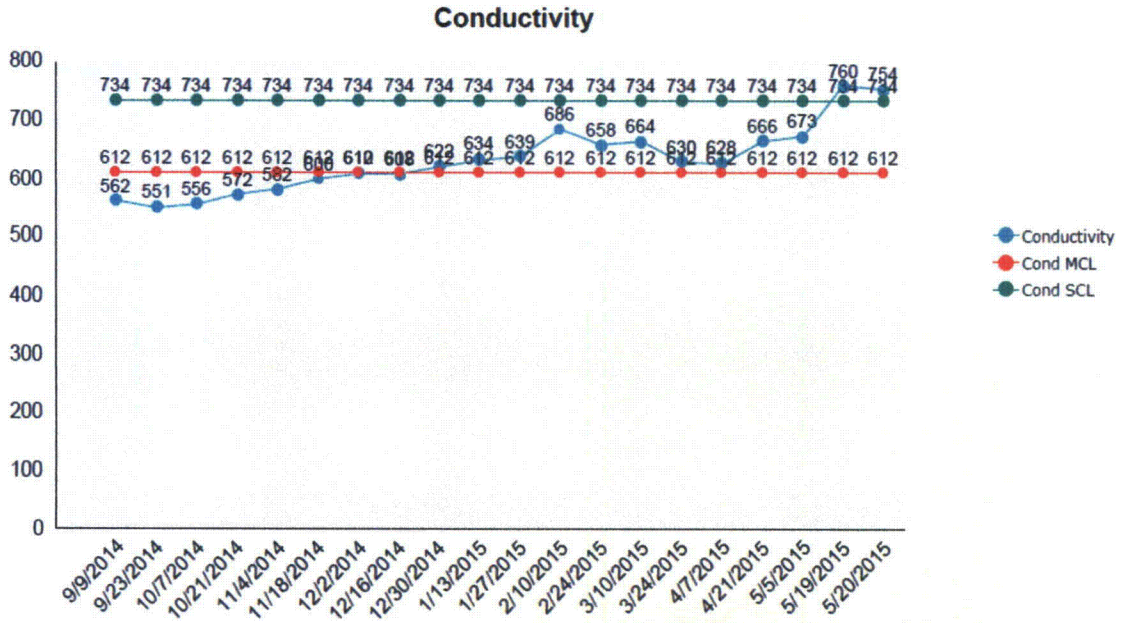

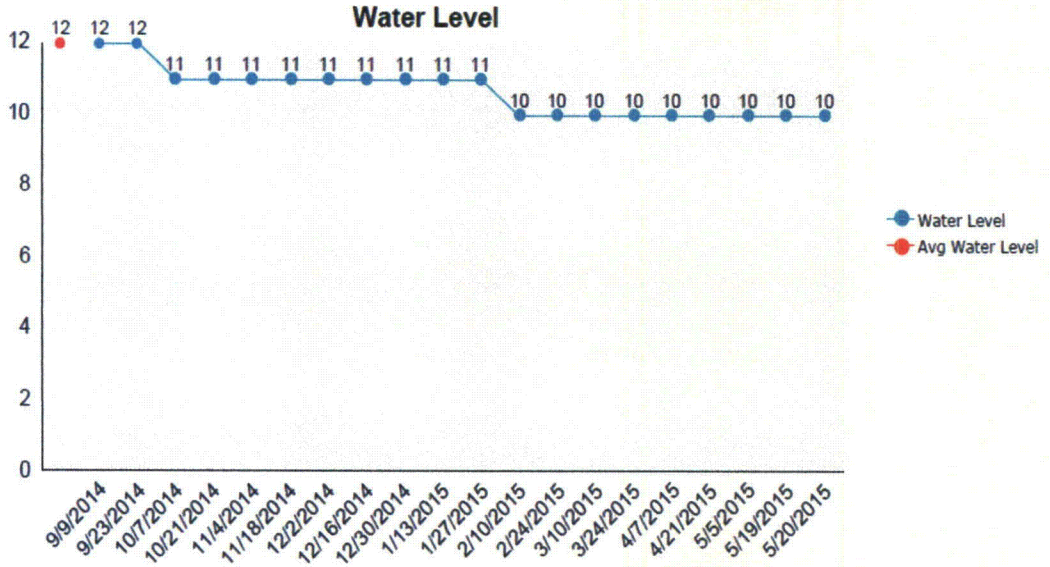

5-20-2015

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Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 05/20/2015

Analysis Date: 05/20/2015

Well ID	Alkalinity (mg/L)	Alk SCL	Alk MCL	Conductivity (µMho/cm)	Cond SCL	Cond MCL	Chloride (mg/L)	Cl SCL	Cl MCL
CM08-010	315	441	367	1848	3038	2532	174	315	263
CM08-011	317	446	372	1849	3053	2544	174	325	271
CM08-012	324	461	384	1872	3038	2532	172	305	254
CM10-001	332	469	391	1884	2822	2352	175	305	254
CM10-002	330	474	395	1890	2707	2256	175	262	218
CM10-003	319	474	395	1872	2736	2280	178	266	222
CM10-004	320	468	390	1855	2794	2328	179	288	240
CM10-005	332	464	386	1958	3082	2568	190	389	324
CM10-006	321	482	402	1837	2750	2292	171	281	234
CM10-007	323	482	402	1841	2765	2304	170	278	232
CM11-001	304	438	365	1855	2808	2340	175	297	247
CM11-002A	307	442	368	1865	2794	2328	178	285	238
CM11-003	404	439	366	2210	2693	2244	209	272	227
CM11-004	305	464	386	1837	2678	2232	174	268	223
CM11-005	302	451	376	1830	2664	2220	175	274	228
CM11-006	319	436	364	1876	2707	2256	179	269	224
CM11-007	301	432	360	1817	2707	2256	173	272	227
CM11-008	315	462	385	1876	2678	2232	176	274	228
CM11-009	300	439	366	1837	2765	2304	174	276	230
CM11-010	298	436	364	1827	2707	2256	173	284	236
CM11-011	301	433	361	1830	2736	2280	172	278	232
SM04-003	187	361	301	622	1251	1043	12	38	32
SM04-004	210	266	222	622	1099	916	12	62	52
SM08-006	244	328	274	754	734	612	18	23	19
SM10-001	287	469	391	699	994	828	14	37	31
SM10-002	230	338	282	526	763	636	7.8	24	20
SM10-003	247	386	322	553	821	684	9.7	24	20
SM10-004	241	346	288	528	778	648	6.9	24	20
SM10-005	239	350	292	525	763	636	6.6	23	19
SM10-006	304	501	418	725	1123	936	13	33	28
SM10-007	295	403	336	710	965	804	13	33	27
SM10-008	297	403	336	676	907	756	12	31	26

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SM10-009	249	389	324	551	835	696	8.5	28	23
SM10-010	239	353	294	533	792	660	7.9	30	25
SM10-011	287	373	311	685	835	696	13	30	25
SM10-012	285	415	346	671	850	708	12	31	26
SM10-013	239	350	292	543	778	648	8.7	30	25
SM10-014A	249	366	305	581	806	672	10	29	24
SM10-015	275	353	294	625	763	636	13	28	23
SM11-007	144	207	173	306	475	396	3	26	22
SM11-009	152	226	188	309	461	384	1.1	20	16
SM11-010	158	233	194	321	478	398	1.4	21	18
SM11-011	154	236	197	348	504	420	3.3	21	17
SM11-012	144	219	182	327	518	432	2.8	27	22
SM11-013	143	215	179	295	461	384	1.8	25	21
SM11-014	139	207	173	296	475	396	1.9	26	21
SM11-015	139	203	169	307	490	408	2.6	31	26

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CM06-009	286	428	356	1914	2866	2388	170	285	238
CM06-010	299	429	358	1926	2952	2460	178	327	272
CM08-001	291	455	379	1939	3110	2592	176	372	310
CM08-002	300	395	329	1917	3125	2604	177	334	278
CM08-003	303	432	360	1931	3211	2676	182	367	306
CM08-004	298	428	356	1910	3125	2604	178	328	274
CM08-005	300	425	354	1904	3067	2556	178	328	274
CM08-006	299	432	360	1902	3067	2556	179	317	264
CM08-007	306	425	354	1874	3154	2628	183	396	330
CM08-008	314	418	348	1920	3211	2676	180	415	346
CM08-009	316	452	377	1854	3053	2544	173	325	271
CM09-008	299	418	348	1804	2952	2460	174	366	305
CM09-009	304	475	396	1789	2923	2436	173	334	278
CM09-010	302	359	299	1772	2390	1992	181	292	244
CM09-011	303	445	371	1795	2707	2256	178	284	236
CM11-012	301	433	361	1804	2794	2328	173	268	223
CM11-013	302	418	348	1803	2722	2268	176	291	242
CM11-014	311	468	390	1844	3024	2520	182	357	298
CM11-015	303	431	359	1793	2765	2304	176	289	241
CM11-016	303	451	376	1781	2794	2328	177	276	230
CM11-017	303	438	365	1781	2837	2364	175	301	251
CM11-018	308	445	371	1826	2722	2268	172	297	247
CM11-019	300	448	373	1801	2779	2316	175	300	250
SM04-001	157	248	206	364	772	643	2.5	52	43
SM04-002	193	513	393	631	1256	1039	14	127	88
SM04-005A	197	367	306	535	1236	1030	11	106	88
SM08-001	238	374	312	538	763	636	6.8	25	21
SM08-002	237	353	294	525	778	648	5.6	24	20
SM08-003	235	331	276	530	720	600	6.3	24	20
SM08-004	232	323	269	529	819	683	8	25	21
SM08-005	262	346	288	646	749	624	16	23	19
SM08-006	249	328	274	760	734	612	21	23	19

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SM08-007	248	348	290	598	763	636	8.9	23	19
SM08-008	238	340	283	506	864	720	5.2	24	20
SM08-009	238	353	294	505	886	738	5.4	23	19
SM08-010	242	331	276	589	749	624	9.1	24	20
SM08-011	230	323	269	535	792	660	7.3	24	20
SM08-012	248	323	269	586	834	695	8.6	25	20
SM08-013	228	328	274	547	880	733	12	31	26
SM08-014	232	325	271	559	720	600	11	24	20
SM08-015	222	305	254	528	789	658	7.7	35	29
SM08-016	225	331	276	536	828	690	7.5	24	20
SM09-001	175	255	212	428	648	540	4.2	31	26
SM09-002	164	230	192	384	665	554	3.4	72	60
SM09-003	160	239	199	375	605	504	2.8	29	24
SM09-004	147	230	192	370	562	468	6	26	22
SM09-005	143	206	172	307	446	372	2.7	22	18
SM10-018	238	346	288	529	763	636	8	24	20
SM11-001	163	240	200	409	605	504	6.4	24	20
SM11-002	141	202	168	322	446	372	4.3	21	17
SM11-003	144	210	175	317	490	408	1.9	20	17
SM11-004	141	200	167	306	446	372	1.9	20	17
SM11-005	141	204	170	317	475	396	2.8	20	17
SM11-006	141	207	173	324	490	408	5.3	25	21