

CAMECO RESOURCES
CROW BUTTE OPERATION

86 Crow Butte Road
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(308) 665-2215
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May 29, 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 – SM10-21

Attn: Document Control Desk:

On May 27, 2015 during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM10-21, the single parameter upper control limit (SCL) for chloride was exceeded. As required by License Condition 11.5 of Source Materials License SUA-1534, a second sample was collected from SM10-18 within 48 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the SCL for chloride.

CBO notified Mr. Ron Burrows of the excursion by phone at 8:15 a.m. on May 28, 2015 as required in License Conditions 11.5 and 11.6. Laboratory results for the sample analysis for SM10-21 are attached. In addition, graphs are attached for the three excursion indicator parameters and water levels that cover the period from October 14, 2014, to May 28, 2015.

Following the routine biweekly sampling event on Tuesday, March 31, 2015, SM10-18 was inadvertently left on. This error was discovered on Wednesday, April 8, 2015, when the well was shut-off. A similar error occurred in November, 2013 which also caused an excursion at SM10-18. MODFLOW2000 transport modelling of elevated chloride concentrations, done by AquiferTek (May 19, 2015), indicates that an elevated concentration of chloride would be expected in SM10-21, which is downgradient from SM10-18, as a result of the migration and dispersion of the upgradient chloride plume.

11MSS01

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In accordance with License Condition 11.5, CBO has increased the sampling frequency for SM10-21 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

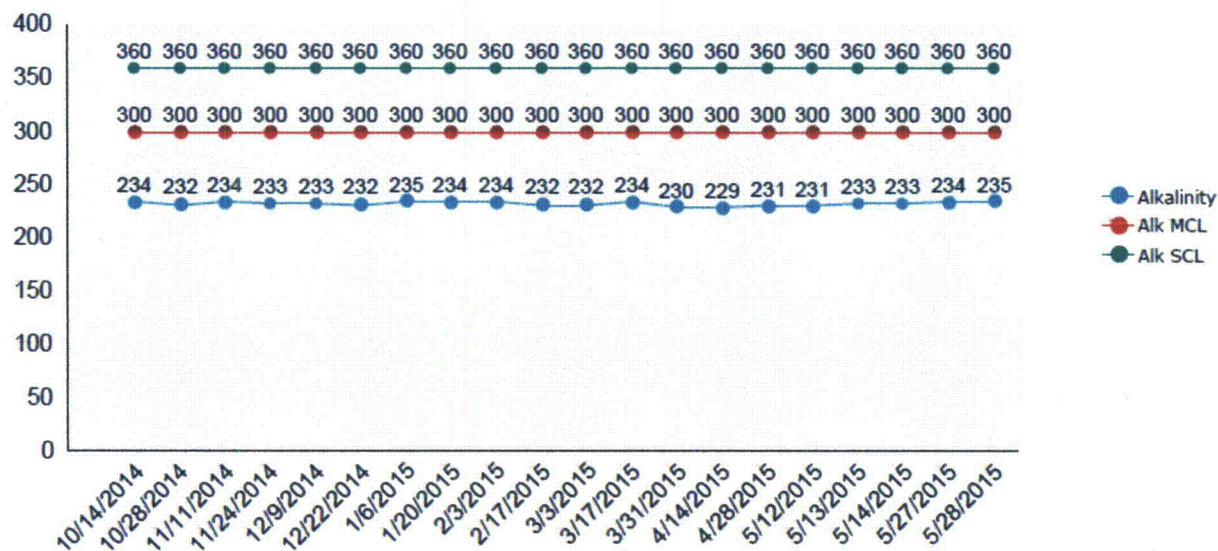
Larry Teahon
SHEQ Manager

Enclosures: As Stated

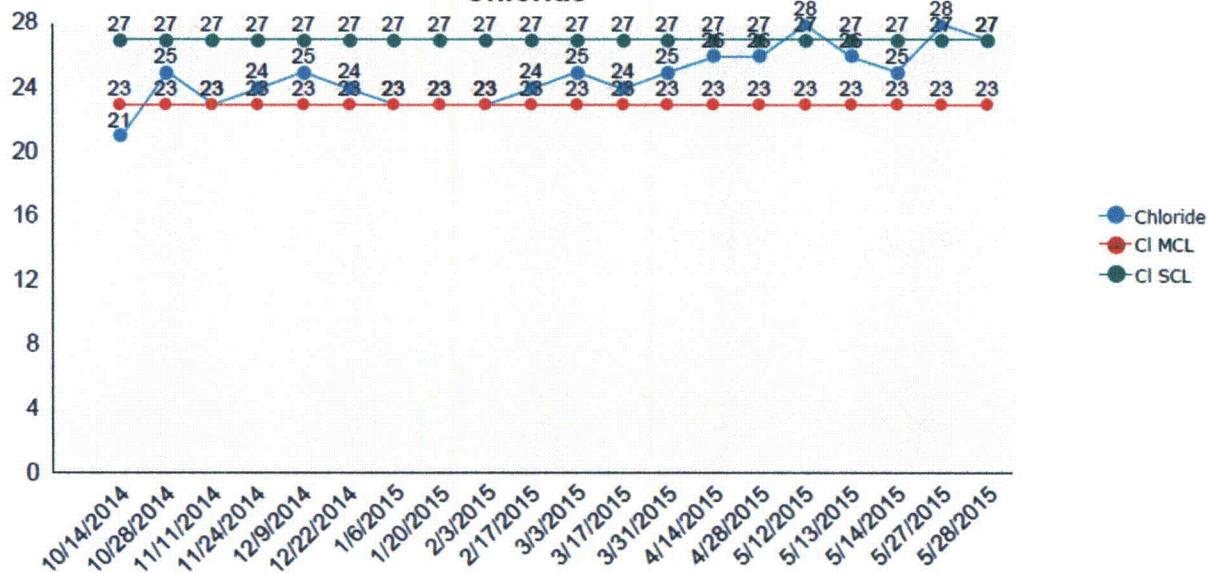
cc: NRC – Deputy Director
CBO - File
ec: CR – Casper Office

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 Crawford, NE 69339-0169
 SM 10-021

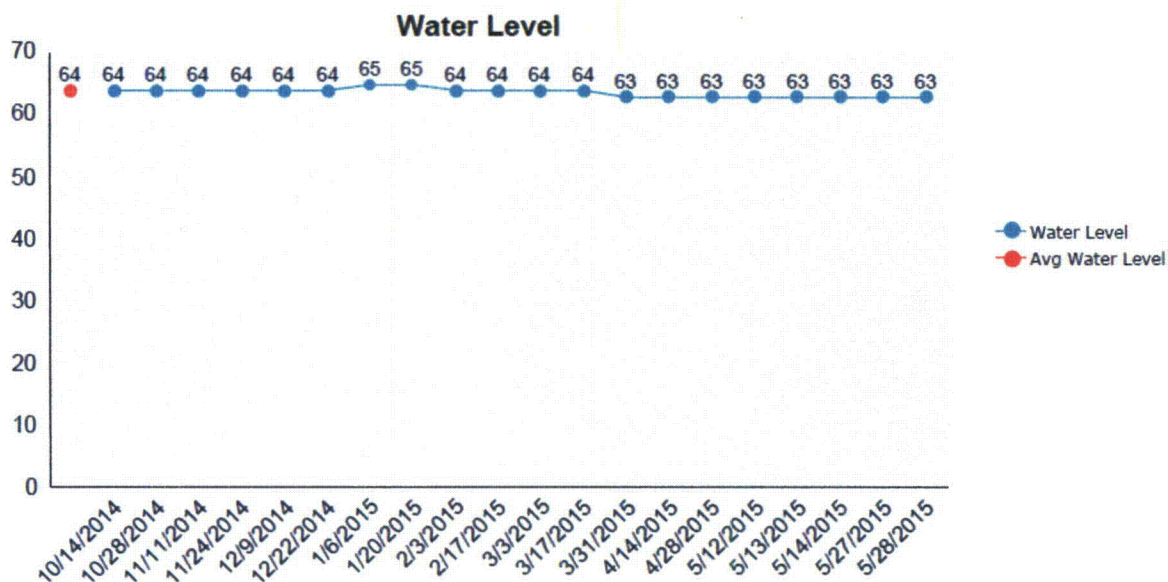
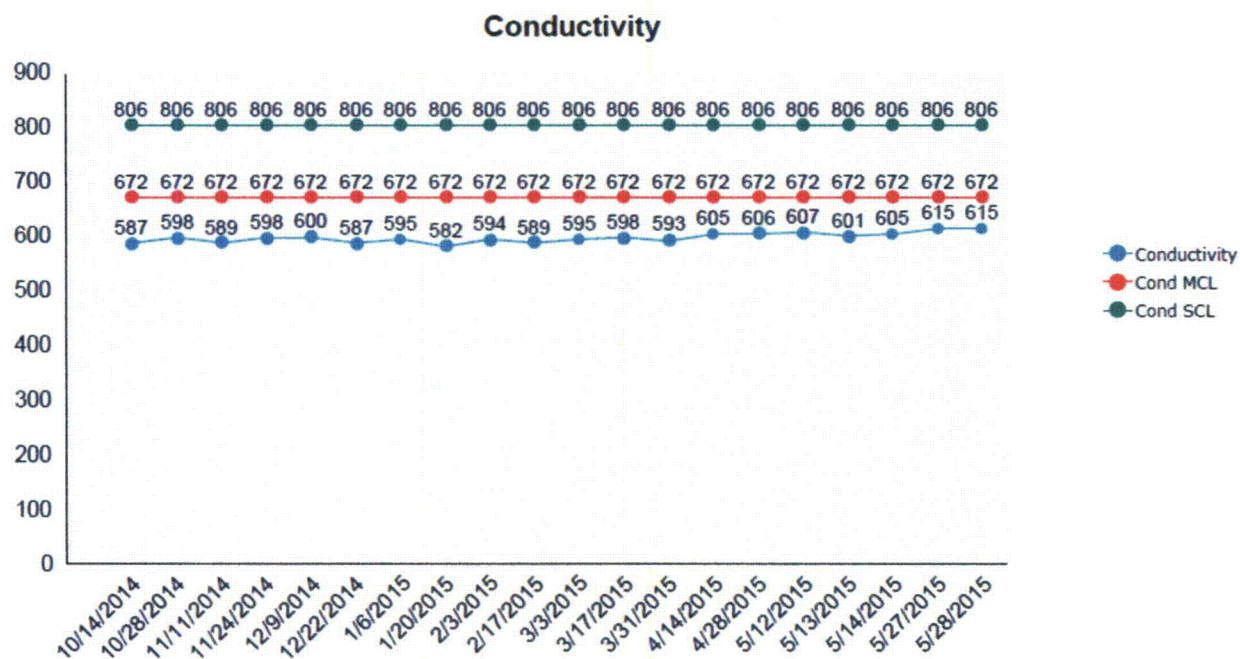
Alkalinity



Chloride



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 86 Crow Butte Road
 Crawford, NE 69339-0169
 SM 10-021





Crow Butte Project

Monitor Well Laboratory Report

Sample Date: 05/27/2015

Analysis Date: 05/27/2015

Well ID	Alkalinity (mg/L)	Alk SEL	Alk MCL	Conductivity (µMho/cm)	Cond SEL	Cond MCL	Chloride (mg/L)	Cl SEL	Cl MCL
SM02-003	199	344	287	551	969	808	16	37	31
SM03-001	207	374	312	672	1122	935	13	85	71
SM03-002	180	305	254	450	805	671	3.7	40	34
SM03-003	179	297	247	459	729	607	5.5	30	25
SM04-006	271	361	301	657	1103	919	13	34	28
SM04-008	298	389	324	701	1109	924	11	27	23
SM04-010A	300	354	295	716	1053	877	11	36	30
SM04-011A	299	554	462	709	1469	1224	11	139	115
SM05-001	234	363	302	600	1032	860	12	57	47
SM05-002	193	287	239	449	714	595	5.6	27	22
SM05-003	228	351	293	585	1048	874	12	81	68
SM05-004	210	327	272	562	973	811	16	66	55
SM05-005	237	367	306	597	1041	868	11	65	54
SM05-006	215	324	270	580	922	768	13	47	39
SM05-007	213	323	269	568	932	776	9.4	41	34
SM05-008	206	312	260	553	840	700	12	32	27
SM07-015	145	200	167	336	495	413	2.7	24	20
SM07-016	141	199	166	334	451	376	3.2	24	20
SM07-017	169	209	174	375	539	449	2.8	30	25
SM07-018	141	217	181	340	513	427	2.9	23	19
SM07-019	146	212	176	354	599	499	3.4	38	31
SM07-020	148	228	190	341	583	486	2.2	28	23
SM07-021	146	216	180	345	534	445	2.8	27	23
SM07-022	148	217	181	342	644	536	2.6	54	45
SM07-023	180	278	232	453	850	708	3.9	59	50
SM07-024	188	259	216	575	809	674	8.3	45	37
SM07-025	158	202	168	361	645	538	2	52	44
SM10-016	256	382	318	577	850	708	9.8	28	23
SM10-017	247	374	312	558	835	696	9.7	28	23
SM10-019	242	369	307	563	778	648	12	25	21
SM10-020	239	360	300	601	792	660	24	27	22
SM10-021	234	360	300	615	806	672	28	27	23



Crow Butte Project
Monitor Well Laboratory Report

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Well ID	Alkalinity (mg/L)	Alk SEL	Alk MEL	Conductivity (µMho/cm)	Cond SEL	Cond MEL	Chloride (mg/L)	Cl SEL	Cl MEL
SM09-018	143	210	175	319	490	408	1.7	22	18
SM09-019	139	209	174	308	461	384	2.1	23	19
SM09-020	142	210	175	319	475	396	2.6	22	19
SM10-021	235	360	300	615	806	672	27	27	23
SM10-030	238	359	299	532	778	648	6.5	25	21
SM10-031	233	340	283	532	734	612	6.7	25	21
SM10-032	237	340	283	527	734	612	6.2	23	20