

CAMECO RESOURCES
CROW BUTTE OPERATION

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July 27, 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 – 60 Day Report

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 SM10-21 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.

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. In order to mitigate the chloride plume, CBO began over pumping SM10-21 on May 29, 2015.

In accordance with License Condition 11.5, CBO increased the sampling frequency for SM10-21 to weekly until three consecutive weekly samples are below the exceeded UCLs. The samples

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collected on July 15 and 22, 2015 were below the excursion parameters. Based on these results, it appears the corrective action has been effective, and it is anticipated that SM10-21 will be off excursion status on July 29, 2015. 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 biweekly sampling. As required by License Condition 11.5, CBO has ceased all mining activities within the four acres surrounding SM10-21 until the well is removed from excursion status (map attached).

Graphs are attached for the three excursion indicator parameters and water levels that cover the period from February 2, 2015 to July 22, 2015.

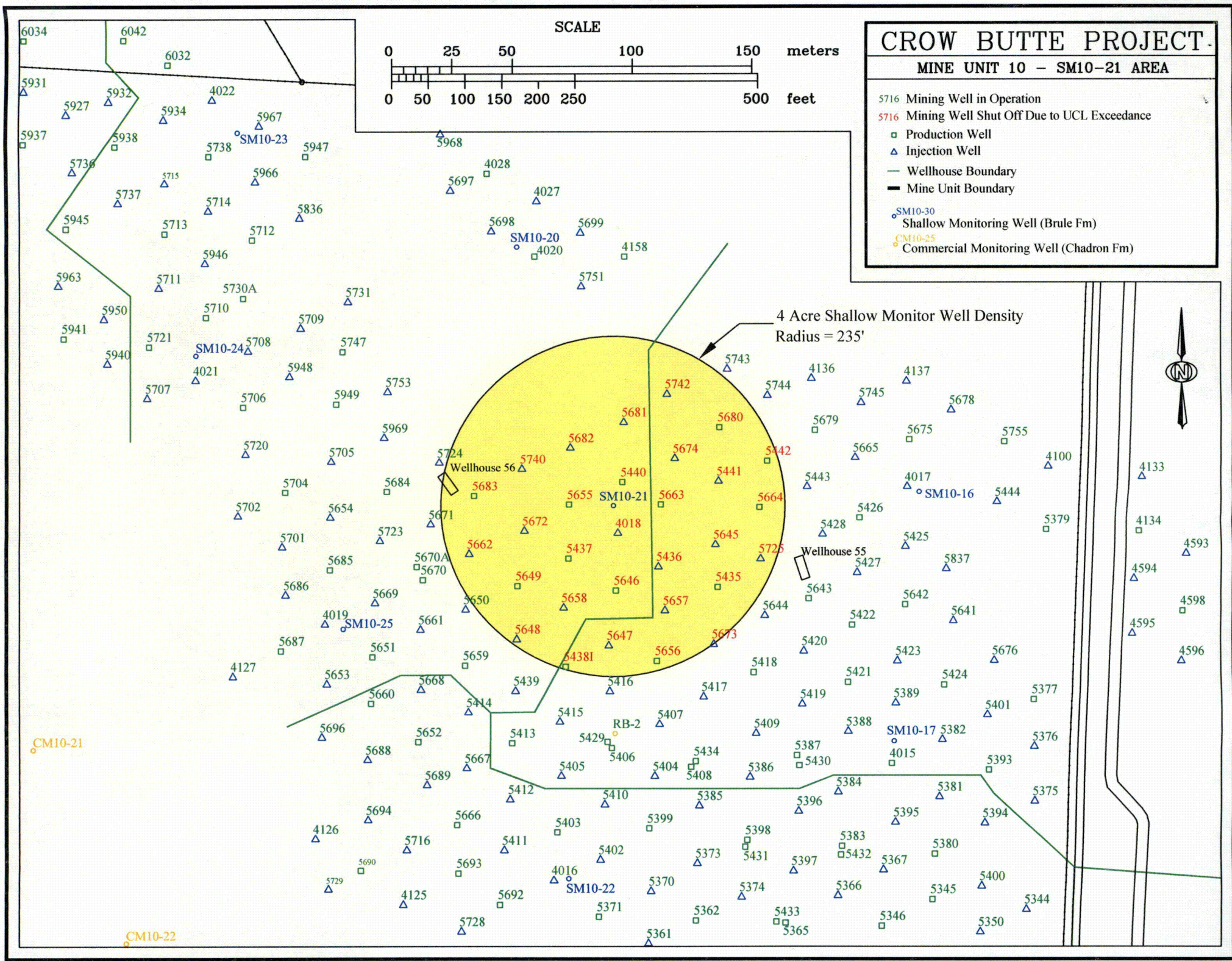
If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext 114.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Larry Teahon
SHEQ Manager

Enclosures: As Stated

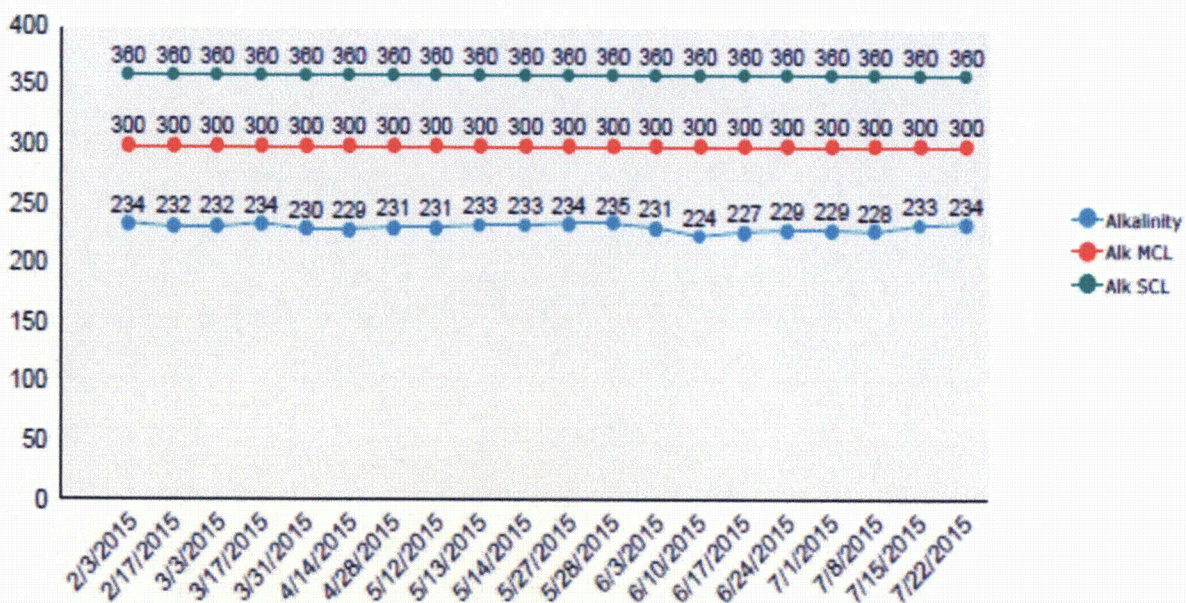
cc: NRC – Deputy Director
CBO - File
ec: CR – Casper Office



SM10-21
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SM10-021

Alkalinity



Chloride

