

**CAMECO RESOURCES
CROW BUTTE OPERATION**



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May 22, 2019

**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
SM8-25 Monitor Well Excursion - 60 Day Report**

Dear Document Control Desk:

On March 27, 2019, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-25, the single parameter upper control limit (SCL) for conductivity was exceeded. As required by License Condition 11.1.5 of Source Materials License SUA-1534, a second sample was collected within 24 hours and analyzed for the three excursion indicator parameters. The results of the second sample exceeded the single control limit (SCL) for conductivity.

The region around the CBO facility was subject to a major winter storm on March 14 and 15, 2019, in which the site received an estimated 18" of snowfall accompanied by up to 90 mph wind gusts. As a result, a significant amount of snowmelt impacted the area around the well. SM8-25 has demonstrated increasing conductivity during periods of high precipitation in the past, however, this is the first time the well has been placed on excursion status. Since the well was placed on excursion status, the site has been subject to several winter storms as well as above normal springtime precipitation and cool temperatures. Most areas in Mine Units 6 and 8 that are located near English Creek remain saturated. Due to these factors, the well remains on excursion status. The sample collected on May 22, 2019 was below the excursion parameters, however, it remains to be seen if this trend will continue because several inches of snow preceded by around an inch of rain have fallen in the area during the last 36 hours.

CBO investigated this excursion and was unable to identify a cause for this excursion beyond

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natural causes. This conclusion is bolstered by the fact that conductivity is the only parameter to exceed a control limit. Both chloride and alkalinity remain near historical levels, which would not be anticipated if the well were impacted by mining solutions. There is no injection in the area around SM8-25, and there had not been any injection in this area for some time before the well was placed on excursion status. CBO will not commence any injection in this area until the well is removed from excursion status.

CBO will continue weekly sampling of SM8-25 until three consecutive weekly samples are below the exceeded UCLs in accordance with License Condition 11.1.5. Weekly sampling will continue for an additional three weeks after this goal has been achieved as required by CBO's NDEQ Class III UIC Permit. When this is completed, CBO will provide a final written report on the excursion to NRC. Graphs are attached to this report for the three excursion indicator parameters and water levels that cover the period from November 7, 2018 through May 22, 2019.

If you have any questions or require any further information, please do not hesitate to call me at (308) 665-2215 ext. 117.

Sincerely,
CAMECO RESOURCES
CROW BUTTE OPERATION

Walt Nelson
SHEQ Coordinator

Enclosures: As Stated

cc: NRC - Deputy Director
CBO - File
ec: CBO

SM08-025



