



Department of Environmental Quality



To protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations.

Matthew H. Mead, Governor

Todd Parfitt, Director

May 19, 2017

Mr. Ken Garoutte - SHEQ Manager
Cameco Resources
Smith Ranch-Highland
P.O. Box 1210
Glenrock, WY 82637

**RE: 2016-2017 Annual Report Review, Cameco Resources, North Butte ISR Project,
Permit No. 632**

Dear Mr. Garoutte:

The Wyoming Department of Environmental Quality/Land Quality Division (LQD) has reviewed the 2016-2017 Annual Report for Cameco Resources' North Butte ISR Project, Permit No. 632. The enclosed memorandum provides LQD's review comments which request additional clarification and/or information in order to complete the review. Please see the enclosed review memorandum and submit appropriate responses or information. Once adequate responses are received, this Annual Report may be closed-out.

If you have any questions, please contact me at 307-675-5619.

Sincerely,

Luke McMahan, P.G.
Project Geologist
WDEQ-LQD District 3

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Attachment: 2016-2017 Annual Report Review Memorandum

cc: LQD Cheyenne (w/ attachment)
Mr. Doug Mandeville, U.S. NRC, MS T-8F5, 11545 Rockville Pike, Rockville, MD 20852
(w/ attachment)



LMK
5/22/17



WYOMING

2016-2017 Annual Report Review Memorandum

TO: File: PT632, Cameco Resources, North Butte ISR Project, 2016-2017 Annual Report

FROM: Luke McMahan, Project Geologist, District III

DATE: May 19, 2017

SUBJECT: Permit No. 632, North Butte ISR Project, 2016-2017 Annual Report Review

DISCUSSION:

This memorandum presents my review comments for the Cameco Resources, North Butte ISR Project 2016-2017 Annual Report. The following comments have been provided to Cameco North Butte under cover letter dated May 19, 2017 and request Cameco to provide clarification and/or additional information in order to complete review of the subject Annual Report. The Report was received by LQD District III on January 27, 2017 under cover letter dated January 26, 2017 from Mr. Ken Garoutte of Cameco Resources. The Report covers the activities at the North Butte ISR Project for the period of January 1, 2016 through December 31, 2016. The WDEQ/LQD In Situ Annual Report Format (ISARF July 2013) was utilized in reviewing the contents of this Annual Report.

REVIEW COMMENTS:

General Review

1. Annual Report Section I (Environmental Monitoring) discusses on Pages 6 & 7 monitoring associated with groundwater. Here the Report references Section 2.10.2.2 of the North Butte Permit Operations Plan which provides the commitment for Cameco to collect samples from domestic and stock wells within 0.6 miles of an operating mine unit. North Butte #1 (aka Brown #6) is listed as one of the three (3) baseline groundwater wells in Table D6-14 (existing domestic/stock wells) of North Butte Permit Appendix D6 and is plotted on Figure D6-1.3 (Groundwater Sampling Location Map). Because the current permit does not show the monitoring well ring for Mine Unit 2, the Appendix E Map provided with the Brown Ranch Amendment Package (TFN 5 3/328) was utilized to determine the proximity of North Butte #1 to active mine units at the North Butte Mine. North Butte #1 appears to be within 0.6 miles of the Mine Unit 2 monitoring well ring. Please clarify from what point of an active mine unit Cameco uses to determine the

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(General Review Comment #1 continued)

distance to a nearby stock well such as North Butte #1. Additionally, please reassess whether or not this well should be currently monitored per Section 2.10.2.2 of the Permit Operations Plan and provide that assessment in response to this comment.

2. The Annual Report Section I (Environmental Monitoring) discusses surface water monitoring on Page 7. The Report indicates that no surface water samples were obtained during the reporting period due to lack of water. LQD understands that the designated surface water sampling locations are located along ephemeral drainages and sample collection is opportunistic following precipitation events. LQD reminds Cameco to stay vigilant in recognizing opportunities to collect samples from the sampling locations following precipitation events. In particular, from the sampling locations that are impoundments, such as NBI-2 and NBI-6, where run-off water may remain for a few days following the precipitation event. Additionally, LQD requests that Cameco review Section 2.10.2.1 of the Permit Operations Plan and Appendix D6 Figure D6-1.6 to ensure that all appropriate surface water monitoring locations associated with active Mine Units 1 and 2 are being monitored following precipitation events. No revision to the Annual Report is requested as a result of this comment. However, LQD requests that Cameco respond to this comment with an acknowledgment that North Butte is monitoring all applicable surface water sites associated with active mine units per the North Butte Operations Plan.
3. Section III.C Surface Reclamation Activities Past and Present; the ISARF states on Page 8 that for each affected area where reclamation activities occurred, describe, including the number of acres, and locate on a map the affected areas that were seeded with temporary seed mix. Cameco indicates under the corresponding section in the annual report that 5.0 acres were seeded with temporary seed mix during the reporting period. It is not clear in the Report, on a map or in Table 3 where the temporary seed mix was applied. Please update the annual report (text, Table 3 and applicable map) to reflect surface reclamation activities past and present in accordance with the ISARF Section C.
4. Table 5 provides surface reclamation status for plugged and abandoned delineation holes, however, Table 5 does not provide the appropriate location information and drill hole depth information per the Abandoned Drill Site Report Form. Please provide the Abandoned Drill Site Report Form referenced in Section IV of the ISARF. For additional reference, see the form Cameco used in the previous annual report (Table 1). The form can be found at the DEQ Website; *Land Quality/Non-Coal/Annual Report/Noncoal Abandoned Drillsite Report*.

5. Table 5 provides information regarding down-hole reclamation. Additionally, the table is formatted to provide information regarding surface reclamation associated with the plugged & abandoned boreholes and/or wells. However the surface reclamation columns are not populated. Please update this table to reflect the status of surface reclamation as applicable. For example, if the sites have not been reseeded, please indicate as such in the associated column.

Reclamation Performance Bond Estimate Review

Review of the Reclamation Performance Bond finds the estimate to be adequate. The bond estimate provided with the 2016-2017 Annual Report represents a decrease of \$1,300,000 from the current set bond amount of \$23,192,000. The decrease primarily results from postponed development of Mine Unit 3 North and Mine Unit 3 South, and decreased master costs derived from LQD Guideline 12.

SUMMARY:

In accordance with the comments listed above, additional information is required in order to complete the review of the subject annual report.

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