



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

April 24, 2015

Mr. Tyler Schiltz, SHEQ Coordinator
Cameco Resources – North Butte
P.O. Box 450
Wright, WY 82732

**RE: 2014-2015 Annual Report Review, Cameco Resources, North Butte ISR Project,
Permit No. 632**

Dear Mr. Schiltz:

The Wyoming Department of Environmental Quality/Land Quality Division (LQD) has reviewed the 2014-2015 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 will be recommended for approval.

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

Sincerely,

Luke McMahan
Project Geologist

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Attachment: 2014-2015 Annual Report Review Memorandum

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

PT632_2014-2015_Annual Report_Rnd1RevCvrLtr



msk
4/24/15



WYOMING

2014-2015 Annual Report Review Memorandum

TO: **File:** PT632, Cameco Resources, North Butte ISR Project, 2014-2015 Annual Report

FROM: Luke McMahan, Project Geologist, District III *LM*

DATE: April 24, 2015

SUBJECT: Permit No. 632, North Butte ISR Project, 2014-2015 Annual Report Review

DISCUSSION

This memorandum presents my review comments for the Cameco Resources, North Butte ISR Project 2014-2015 Annual Report. The following comments have been provided to Cameco North Butte under cover letter dated April 24, 2015 and request Cameco to provide clarification and/or additional information in order to recommend approval of the subject Annual Report. The Report was received by LQD District III on February 2, 2015 under cover letter dated January 30, 2015 from Mr. Tyler Schiltz of Cameco Resources. The Report covers the activities at the North Butte ISR Project from the period of January 1, 2014 through December 31, 2014. 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. Report Format; the ISARF states that *"two (2) paper copies and two (2) electronic copies of the ISAR are to be submitted to the LQD District office..."* Cameco has not provided electronic copies of the 2014-2015 Annual Report for North Butte. Please provide two electronic copies.
2. Submittal of Electronic Data; the ISARF states *"In addition to the two (2) electronic copies of the ISAR that is required, LQD requests certain information be submitted in electronic format to aid in review and long term tracking of activities"*. The requested information listed below has not been provided electronically in the annual report or in quarterly reports. Please provide the following data in electronic format;
 - Uranium Well Details
 - Uranium Surface Water Flow Data
 - Uranium Surface Water Station Details

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(General review comments cont.)

3. Section II(B), Water Balance/Hydrology, Potentiometric Surface Map; the ISARF states that *“An updated potentiometric surface map(s) for all aquifers(s) that are or may be affected by the mining operation may be requested at the Administrator’s discretion”*. Please provide a potentiometric surface map of the production zone aquifer in the active mine unit areas in order to further assess the effectiveness of bleed on maintaining an inward gradient within the active mine units. Additionally, please update the table of contents and this section with a reference to the subject map.
4. Section II(C), Spills; the ISARF indicates that a map should be provided with the annual report which shows the extent and location of the spills reported during the reporting period. Such a map has not been provided with the 2014-2015 Annual Report. Please provide a Spills Map with this information. Additionally, please update the table of contents and this section with a reference to the subject map.
5. Section II(I), Environmental Monitoring; the ISARF states that *“Along with hard copies submit all water quality and quantity data electronically”*. Hard copy surface water monitoring data has not been provided with the annual report or in quarterly reports. Please provide hard copies of the surface water data (quality and quantity) for insertion in the annual report.

Reclamation Performance Bond Estimate Review

6. Pages 1 through 17 of the Mining Operations Reclamation Surety Bond Estimate appear to have been mislabeled in the heading as “2014-2015 Surety Estimate”. Please furnish replacement pages with a heading for 2015-2016 Surety Estimate.
7. Master Costs; line items indicating the efficiency rating for downhole and surface pumps are not indicated on the Master Costs sheet (as was listed in the previous annual report). It appears that an efficiency of 80% is used for downhole pumps and 90% for surface pumps. Please un-hide these line items on the Master Costs sheet to provide a correlation between the Master Costs sheet and the Unit Costs sheet and the efficiencies used for downhole versus surface pumps.
8. Master Costs, WDEQ/LQD Guideline No. 12 Costs, Scarification Costs; it appears that a typo has the rate entered at \$71.51, the Appendix P cost is actually \$71.15.
9. Master Costs, WDEQ/LQD Guideline No. 12 Costs; it appears that the Guideline 12 rate for “moving materials: one-way distance 2000 ft., 0% grade” used the rate for 1500 feet (\$1.503) instead of 2000 feet (\$1.698). Please revise this rate in accordance with a haul distance of 2000 feet and updated the surety estimate accordingly.

(Bond review comments cont.)

10. Master Costs, Page 2; the reference in the last line of the table has been cut off. Please format this line so that the reference is complete.
11. Unit Costs; unit costs sheets were provided electronically with the 2014-2015 Report but hard copies were not provided. Please submit the hard copy pages of Unit Costs for insertion into the Report's Reclamation Surety Bond Estimate.
12. Unit Costs, Page 1 & 2, Reverse Osmosis, Reagents; it appears that a per pound cost for use of Tripolyphosphate, EDTA, and Sodium Sulfide was not accounted for in calculating the Reverse Osmosis (with Reductant) cost. As a result, the RO Unit Cost with reductant is the same as the RO Unit Cost without reductant. Are these reagents no longer planned for use in the RO Process? Please Respond and or update the Unit Costs for RO with Reductant and the corresponding RO with Reductant costs on the GWR-WF spreadsheet.
13. Detailed Assumptions and Calculations were provided with the electronic copy of the Reclamation Surety Bond Estimate (on CD), however a hard copy of the Detailed Assumptions and Calculations were not provided. Please submit the hard copy pages of Detailed Assumptions and Calculations for insertion into the Annual Report's Reclamation Surety Bond Estimate.
14. Wellfield Buildings and Equipment Removal and Disposal (WF BLDGS); Does the cost estimate for removal of buried trunkline include all existing trunk lines in Mine Unit 1, Mine Unit 2, and projected construction for the 2015-2016 reporting period? The previous annual report provided trunkline lengths associated with Mine Unit 1 and Mine Unit 2. In comparing the previous annual report (2013-2014) with the current annual report (2014-2015), it is unclear what trunkline sizes are applicable. The 2013-2014 Report lists 2", 3", 6", 8", and 20" HDPE trunkline whereas the 2014-2015 Report lists 3", 4", 10", and 18" HDPE trunkline diameters. Please provide clarification how the current estimate accounts for all trunkline removal or update the surety estimate with trunkline removal for all existing mine unit trunkline and projected trunkline installation for the coming year.
15. Wellfield & Satellite Surface Reclamation (WF REC), Total Wellfield Reclamation Costs III(B), Laydown Area; the per cubic yard cost for moving materials appears to be calculated with a haul cost for 500ft instead of 2000ft as listed for average length of topsoil haul. It appears this should be calculated with the Master Cost for a 2000ft haul at \$1.653 instead of \$1.21.

(Bond review comments cont.)

16. Wellfield & Satellite Surface Reclamation (WF REC), Total Wellfield Surface Reclamation Costs V(B), Laydown Area; the per cubic yard cost for moving materials appears to be calculated with a haul cost for 1000 ft. instead of 2000 ft. as listed for average length of topsoil haul. It appears this should be calculated with the Master Cost for a 2000 ft. haul at \$1.653 instead of \$1.442.
17. Equipment Removal & Disposal (EQUIP), Page 10, Part III Health and Safety Costs; the worksheet states that this item is "Accounted for on GW REST". A worksheet entitled GW REST is not provided. Please revise the reference to indicate the applicable worksheet.
18. Building Demolition & Disposal (BLDGS), Page 11, Part IV Health and Safety Costs; the worksheet states that this item is "Accounted for on GW REST". A worksheet entitled GW REST is not provided. Please revise the reference to indicate the applicable worksheet.
19. Miscellaneous Reclamation (MISC REC), Page 13, II(A); cost per soil sample is listed on this page as \$255. The Master Costs sheet has "Soil Sampling/Monitoring" at \$315.00. Please revise this worksheet to reflect the associate Master Cost.
20. Miscellaneous Reclamation (MISC REC), Page 14, II(B)(1); it appears that the "liner and sludge removal and loading unit cost" entered as \$5.12 was not updated with the current unit cost of \$4.01 (UNIT COSTS Pg.6).
21. Miscellaneous Reclamation (MISC REC), Page 14, II(B)(1); it appears that the "wellfield piping removal Unit cost" entered as \$1.86 was not updated with the current unit cost of \$1.57 (UNIT COSTS Pg.3).

Summary

In accordance with the comments listed above, additional information is required in order to deem this Annual Report approved.

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