



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

December 10, 2013

Mr. Ken Garoutte
Cameco Resources
P.O. Box 1210
Glenrock, WY 82637

RE: TFN 5 6/100, Permit Update, Combination & Amendment (PUCA), Permits 603 & 633, Cameco Resources, Smith Ranch/Highland, T6 Review, Technically Adequate for 2nd Public Notice

Dear Mr. Garoutte:

The Land Quality Division (LQD) has completed the review of responses received on November 19, 2013. All comments are satisfied. The application is deemed *Technically Adequate* and suitable for final publication under W.S. §35-11-406(j).

With the completion of the technical review, the LQD has agreed to place conditions on the permit when the application is approved. These conditions are currently under review. The conditions will be attached to the final Form 1 when it is approved.

In addition, the DEQ/Water Quality Division's Statement of Basis (SOB) for the reclassification of groundwater for the proposed mining zones has been drafted for submittal to the Environmental Protection Agency (EPA). The SOB document will be sent to the EPA concurrent with this letter.

The surety estimate for the first year of mining activity for the Reynolds Ranch Amendment area as well as the continuing activity for the Smith Ranch Mine has been reviewed by the LQD. The cost for groundwater restoration for the first year of mining in the Reynolds Ranch area has not been included in the surety estimate. Therefore, a condition will be required to obtain the surety coverage for these costs prior to injection into the first wellfield in the amendment area. The LQD is awaiting concurrence from the Bureau of Land Management (BLM) for the proposed surety estimate as specified by the Memorandum of Understanding between LQD and BLM. It is anticipated that BLM will provide the surety concurrence in the very near future.

The LQD has reviewed the public notice submitted during the T6 review. Corrections have been made and the corrected copy was sent to you electronically on December 6, 2013. The notice will be published in the *Glenrock Independent* and *Douglas Budget* once a week for four (4) consecutive weeks. As soon as possible, after the fourth week of publication, please send a copy of the notice and the ORIGINAL publisher's affidavit to the LQD District 1 Office.

Herschler Building • 122 West 25th Street • Cheyenne, WY 82002 • <http://deq.state.wy.us>

ADMIN/OUTREACH	ABANDONED MINES	AIR QUALITY	INDUSTRIAL SITING	LAND QUALITY	SOLID & HAZ. WASTE	WATER QUALITY
(307) 777-7758	(307) 777-6145	(307) 777-7391	(307) 777-7369	(307) 777-7756	(307) 777-7752	(307) 777-7781
FAX 777-7682	FAX 777-6462	FAX 777-5616	FAX 777-5973	FAX 777-5864	FAX 777-5973	FAX 777-5973



Cameco is required to file a copy of the revision application with the Converse County Clerk's Office no later than the first day of publication. This copy should be removed after the revision has been approved. Immediately following filing, please submit the ORIGINAL affidavit of filing from the County Clerk's Office to the LQD District 1 Office verifying the permit revision is available for public notice. Similarly, a copy of the permit application must be available for review at the Cheyenne LQD office. Upon final approval, the revision will be incorporated into the approved permit.

W.S. § 35-11-406(j) requires for the addition of new lands, Cameco must mail within five (5) days after the first publication, a copy of the notice to all surface owners of record within the permit, surface owners immediately adjacent to the permit and surface owners within one-half (1/2) mile of the proposed mining site. In addition, the application mine plan map must be sent to the Wyoming Oil and Gas Conservation Commission, P.O. Box 2640, Casper, WY 82602 or 2211 King Blvd, Casper, WY 82604 within five (5) days after the first publication of the notice. As soon as possible, submit a sworn statement of these mailings to the LQD.

If you have any questions or require additional information, please contact me at pam.rothwell@wyo.gov or 777-7048.

Sincerely,



Pam Rothwell
District 1 Assistant Supervisor
Professional Geologist
Land Quality Division

cc: Matt Clark, BLM/CFO
~~Doug Mandeville, NRC~~
Don Fischer, DEQ/WQD-D3
Cameco Resources, Cheyenne

TFN 5 6/100, PERMIT UPDATE, COMBINATION & AMENDMENT (PUCA)

PERMITS 603 and 633, Cameco Resources

Sixth Round Technical Review

INTRODUCTION

The Land Quality Division (LQD) received the responses to T5 review comments on November 19, 2013. The review of the responses has been completed by LQD staff. All comments are deemed technically adequate.

LQD will continue with a review of outstanding conditions and new conditions to be included in the final approval. The DEQ/Water Quality Division (WQD) has completed the Statement of Basis (SOB) for the reclassification of the groundwater and is prepare to forward the information to the EPA at the same time that LQD issues a letter that deems the application is technically adequate. LQD will instruct Cameco proceed to public notice at that time.

The LQD has requested concurrence of the surety estimate from the BLM that was provided to LQD on November 12, 2013 and copied to BLM. The LQD is agreeable to meet with Cameco and the BLM to discuss the surety, if necessary, prior to the approval of the application.

COMMENTS

Adjudication

██████████: Appendix A, Please resubmit the data consistently using the same format for the entire permit area:

- a. Do not duplicate page numbers, i.e. AI - AI 1.
- b. Presently not areas listed in the appendices.
- c. There are areas listed that do not appear to be in the proposed permit area (Page A-18, T36N, R72W, Sections 14, 24, 23), etc.
- d. Please ensure the surface owners listed in the appendices match those identified on the maps. (DH)

RESPONSE: Appendix A lists and maps have been updated to include the proposed Reynolds Ranch amendment area.

ANALYSIS: Appendix A is to contain a list of names in alphabetical order the last known addresses of the owners of record of the surface rights within the permit area; the owners of record of the mineral rights within the permit area; and a map showing the locations of both. The application has the following titles:

- Names and Addresses of Surface Owners of Record within the Amendment Area
- Names and Addresses of Mineral Owners of Record within the Amendment Area

- All Other Valid Legal Estates of Record within the Amendment Area
- (Original Permit Area) WDEQ Appendix A – Names and Addresses of Mineral Owners of Record within the Permit Area
- (Original Permit Area) WDEQ Appendix A – Names and Addresses of Surface Owners of Record within the Permit Area
- Surface Lands by Owner (Section 14 Amendment)
- Mineral Owners (Section 14 Amendment) - Names and Addresses of Mineral Owners of Record within the Permit Area
- Surface Owners of Record within the Amendment Area
- Owners of Record of Surface and Mineral Rights within the Permit Area (Mine Unit J)
- Names and Last Known Addresses of Owners of Surface Rights on Lands within the Amendment Area
- Other Parties who have a Valid Legal Estate within the Permit Boundary
- Names and Last Known Addresses of Owners of Oil and Gas Interests within the Amendment Area
- Land Descriptions
- Owners of Record of Surface and Mineral Rights within the Permit Area (Mine Unit 15 Amendment)
- Owners of Record of Surface and Mineral Rights within the Permit Area (Reynolds Ranch)

The main comment of submitting the data in the same format has not been satisfied. Pages 1 of 47 thru page 18 of 47 are of a fairly consistent format. Pages 19, 20, and 24 thru 32 follow a different format. Pages 5 thru 47 follow a format similar to the first section but slightly different in that there is not a separate listing of just names and addresses.

It appears the Appendix is organized by original permit and amendments. No sub-tabs or dividers are included. It would be extremely helpful if sub-tabs or some other divider separate the different sections. For example page 1 of 47 lists the surface owners for the amendment. Page 23 of 47 also lists surface owners within the amendment area. Page 37 of 47 begins the list the owners of record of Reynolds Ranch which is the current amendment. The first two lists do not include a legal descriptions to enable a cross check if all three are referring to the same amendment of different ones. The format used for Reynolds Ranch or similar is the format preferred by the LQD.

- a. The applicant has corrected the duplicate page numbers.
- b. Page 24 of 47 T36N, R73W at the bottom of the page does include the Section number.
- c. References to the sections noted in the comment have been removed.
- d. See general comment above regarding having a legal description with the surface owner to allow confirmation.

The response is inadequate. (RAC)

RESPONSE: Appendix A has been revised to address the above comments.

T3 ANALYSIS: Changes were made to Appendix A but all the concerns have not been addressed. The previous comment could have been clearer. Appendix A is to contain a list of names in alphabetical order the last known addresses of the owners of record of the surface rights within the permit area; the owners of record of the mineral rights within the permit area; and a map showing the locations of both. Both Permits 603 and 633 have evolved over time with different amendments adding new lands. The current Appendix A appears to be organized by original permit area and amendments as opposed to consolidating all former amendments with the original permit information. The format used throughout is still inconsistent.

- a. The information for the original two permits and the previously approved amendments should be consolidated into one list.
- b. For this application, the Amendment area is the Reynolds Ranch area and should be combined with the rest of the information.
- c. Normally the Surface owners are listed first followed by a listing of the mineral owners. The organization of the lists does not consistently follow this format.
- d. The Guideline asks that the names be in alphabetic order. None of the lists do so but due to the small number of names they are not required to be alphabetized.
- e. LQD prefers a legal description be attached to the list of surface and mineral owners. The newer amendments do so but the old original permit information does not.
- f. The Section number, now on page 25 of 47, is still missing for T36R73W.

The response is inadequate. (RAC)

RESPONSE: Appendix A has been reorganized into alphabetical order. The information provided is consistent with the requirements of 35-11-406 (a)(iv)

T4 ANALYSIS: Appendix A has been revised to be consistent although the suggested format was not followed. There are names contained within the surface owner list that could not be found on the map. These include but not limited to: Lechnir, Kate Goldberg Irrevocable Trust and Irwin, Mary Jane. The list of surface owners must be able to be found on the map (Plate A-1). (See W.S. 35-11-406 (a)(ix)(A)). The response is inadequate. (RAC) The intent of the permit revision includes an update to the status of the original permits and amendments including an update of the adjudication information. Please verify the surface and mineral ownership is accurate as presented in the appendices (W.S. § 35-11-406 (a)). (PCR)

CAMECO T4 RESPONSE: The Appendix A list and maps have been updated and combined to show current surface ownership status across the entire permit area. Revised Appendix A lists and revised Plates A-1 and A-2 have been included with this submittal.

T5 ANALYSIS: Appendix A –

Surface Owners of Record – A-1:

1. Please explain Plate A-1 Legend as it does not coincide with the map or the appendix.
2. The Appendix lists Fowler Ranch Partnership; the map lists Fowler Ranch. Please advise if these are the same and make necessary corrections.
3. The Appendix lists Boner Brothers Partnership; the map lists Boner Brothers. Please advise if these are the same and make the necessary corrections.
4. The Appendix lists Numrich, et al; the map lists Numrich Family do not match, please correct.
5. The following are listed on the map; please advise on which appendix page they are listed.
 - a. Henry Land Co.
 - b. Fred Young
 - c. Black & Garrett Henry
 - d. Magee Land & Livestock LLC
6. The following are listed in the appendices; please advise their location on the map.
 - a. James & Allison Magee
 - b. Mary Jane Irwin
 - c. Machelie Mason
 - d. Joseph Swartney

Mineral Owners of Record – A-2:

1. Please explain Plate A-2 Legend as it does not coincide with the map or the appendix.
2. The Appendix lists Hornbuck Irrevocable Mineral Trust; the map lists Hornbuckle Mineral TRUST. Please advise if these are the same and make necessary corrections.
3. The map lists Mason Family; the appendix lists Laura Mason. Please advise if these are the same and make necessary corrections.
4. The following are listed on the map; please advise on which appendix page they are listed.
 - a. Boner Mineral Ltd.
 - b. Smith Mineral Trust
5. The following are listed in the appendices; please advise their location on the map.
 - a. Clurman, et al
 - b. Pioneer Natural Resources USA, Inc.
 - c. Louisiana Land & Exploration Company
 - d. I.C. Gas AmCana, Inc.
 - e. Ram Energy, Inc.
 - f. R-B Operationg Company
 - g. BP America Production Company
 - h. Anschutz Western Corporation

- i. Chesapeake Exploration LLC
- j. Khody Land and Minerals Company
- k. Black Island Resources (USA) Inc.
- l. Andex Resources, LLC
- m. Smith Land Company
- n. Smith Sheep Company
- o. Slawson Exploration Co., Inc.
- p. Rincon Exploration, LLC
- q. W. A. Moncref, Jr.
- r. Maurice Brown
- s. Noble Energy, Inc.
- t. Belle Fourche
- u. Smith Mineral Trust
- v. Grace Amspoker Trust
- w. Yates Drilling Company
- x. ABO Petroleum Corporation
- y. Myco Industries, Inc.
- z. Sharbro Oil, LTD. Co.
- aa. Orville and Lois Haklo Living Trust

T5 RESPONSE: Requested corrections have been made.

T6 COMMENT: The response is **adequate**.

[REDACTED]: Appendix B. Same as above comment for Appendix A. (DH)

RESPONSE: Appendix B lists have been updated to include the proposed Reynolds Ranch amendment area.

ANALYSIS: The same analysis applies. The page numbers have been corrected but the formatting still varies. There are many places in Appendix B where the lands listed are actually in the permit boundary and should not be listed in Appendix B. For example page 11 of 69 the SW⁴ of Section 20, T36N, R72W. On page 12 of 69 the N²N² of Section 21, T36N, R72W is also located in the permit. Similar errors are found on pages 13, 23, 24, 25, 27, 28, 41 of 69. Item AJ on page 25 of 69 has a list of lands that do not match the list given in subparts a. and b. There are sections such on page 41 of 69 where only the section numbers are given and the statement that the owner has interest in that section. The application needs to state "all" or which quarter quarter the interest lies. There are also numerous places such as on the top of page 22 of 69 where instead of N²SW⁴ it is shown as NSW. Consistent nomenclature should be followed.

Pages 38 of 69 thru 40 of 69 contain a list of lands within the permit area. These pages should not be in Appendix B.

The applicant should review Appendix B and correct the numerous errors. The response is inadequate. (RAC)

RESPONSE: Appendix B has been revised to address the above comments.

T3 ANALYSIS: There are still numerous errors. The previous round comment could have been clearer. The organization of Appendix B is based on separately listing the individual permits and old amendments. Since this is a consolidation permit, LQD prefers this list be combined including the lands that are outside the currently approved permit boundary of the two permits (which will include their respective amendments) and the Reynolds Ranch Amendment. (As an aside, the information presented under Section 22 Amendment Area most likely refers to the West Highland Amendment. There was a Section 22 IBR but it was restricted to 56.7 acres.)

The lists for the “original permit area”; the Section 14 Amendment area; and the “Amendment Area” boundary do not include a corresponding legal description so those could not be checked for accuracy. As mentioned in the comment above for Appendix A, a legal description should be attached to the entries on the list. As mentioned in the Round 2 technical comment the format is not consistent. The following errors were observed:

Section 20, T36N, R72W, 6th P.M. – The description is incorrect
Section 21, T36N, R72W, 6th P.M. – The description is incorrect
Section 22, T36N, R72W, 6th P.M – The WNW is in the permit boundary
Section 28, T36N, R72W, 6th P.M – The description is incomplete
Section 29, T36N, R72W, 6th P.M –The WNWNE is located in the permit boundary
Section 30, T36N, R72W, 6th P.M – The entire S² is listed outside the permit boundary but the northern quarter of the south half is inside the permit boundary (N²N²S²)
Section 31, T36N, R72W, 6th P.M – The NNE should be NNNE
Section 32, T36N, R72W, 6th P.M – The description and plate A-1 do not agree – both appear incorrect.
Section 36, T36N, R73W, 6th P.M – All of Section 36 is inside the permit boundary
Section 11, T36N, R73W, 6th P.M. –The NW should be NE.
Section 12, T36N, R73W, 6th P.M. – The ENE should be included
Section 19, T36N, R73W, 6th P.M – All of Section 19 is in the permit boundary
Section 20, T36N, R73W, 6th P.M – All of Section 20 is in the permit boundary
Section 29, T36N, R73W, 6th P.M – All of Section 29 is in the permit boundary
Section 30, T36N, R73W, 6th P.M – All of Section 30 is in the permit boundary
Section 31, T36N, R73W, 6th P.M – Errors in the description
Section 32, T36N, R73W, 6th P.M – The description should include the NE
Section 35, T36N, R73W, 6th P.M – The description should include all of the NW
Section 24, T36N, R74W, 6th P.M - All of Section 24 is within the permit boundary
Section 25, T36N, R74W, 6th P.M – All of Section 25 is within the permit boundary
Section 36, T36N, R74W, 6th P.M – All of Section 36 is within the permit boundary

Beginning on page 39 of 68 there is a list - Surface Lands by Owner. It states "The following lists lands within the permit boundary by legal subdivision, section, township, range, Everest lease number and number of acres of each." Appendix B is for lands adjacent to the permit area.

This list should not be in Appendix B.
The response remains inadequate. (RAC)

RESPONSE: Appendix B has been reorganized in alphabetical order. The information provided is consistent with the requirements of 35-11-406 (a)(v).

T4 ANALYSIS: The formatting issues have been corrected. As stated in the response, the information meets the requirements of W.S. 35-11-406 (a)(v). However, W.S. 35-11-406 (a)(ix)(A) requires they be shown on a map. Not all names on the list could be found on Plate A-1. The response is inadequate. (RAC) The intent of the permit revision includes an update to the status of the original permits and amendments including an update of the adjudication information. Please verify the surface and mineral ownership is accurate as presented in the appendices (W.S. § 35-11-406 (a)). (PCR)

CAMECO T4 RESPONSE: The Appendix B list has been updated and consolidated to show current status of surface ownership (Appendix B-1), immediately adjacent to the permit boundary. Additionally, Cameco has produced new Plate B-1 that illustrates the locations of the interests provided in the Appendix B-1 list.

T5 ANALYSIS: Appendix B

1. The Appendix lists Fowler Ranch partnership; the map lists Fowler Ranch. Please advise if these are the same and make necessary corrections.
2. The Appendix lists Boner Brothers Partnership; the map lists Boner Brothers. Please advise if these are the same and make the necessary corrections.
3. The Appendix lists Numrich Family Trust; the map Numrich Family. Please advise if these are the same and make the necessary corrections.
4. The following are listed in the Appendix; please advise their location on the map.
 - a. Bluze, Margaret G
 - b. Box Creek Minerals Ltd.
 - c. Crockett joint Revocable Trust
 - d. Dier, John # and Sue Booe
 - e. Grosch, Paul
 - f. Harsch, Alfred
 - g. Harsch, Bernard
 - h. Harsch, Edward
 - i. Harsch, Harold
 - j. Harsch, Herman
 - k. Harsch, Max
 - l. Harsch, Otto (deceased)
 - m. Hornbuck, Scott T.
 - n. Jurgensen, Shirley
 - o. McKee, Alvene (deceased)

- p. McMillan, Clara
- q. Phillips, Karen
- r. Saxon, Davis
- s. Sims, Allen Lee & Sherry
- t. Sims, Arthur M & Carmen
- u. Swearingen, Albert J.
- v. Ruth N. Whiting Testamentary Trust

T5 RESPONSE: Requested corrections have been made.

T6 COMMENT: The response is **adequate**.

[REDACTED]: Reclamation Performance Bond. The aggregate of Letter of Credit No. 5736180 will need to be amended. (DH)

RESPONSE: The letter of credit will be revised and submitted after the reclamation surety estimate has been approved by WDEQ and US NRC.

ANALYSIS: The applicant has committed to revise the letter of credit once the surety estimate has been approved by WDEQ and US NRC. The response is inadequate. (RAC)

RESPONSE: The aggregate Letter of Credit (LC) No. [REDACTED] through BNP Paribas was released by the WDEQ in July 2012 as a result of rolling the full bond amount of \$120,044,400 for Permit 633 (Smith Ranch) under Bank of America LC No. [REDACTED]. The current aggregate bond amount of \$109,522,683 for Permit 603 (Highland) is currently (as of November 2012) covered under the following two (2) LCs: Bank of Nova Scotia LC No. [REDACTED] in the amount of \$37,703,900 and Royal Bank of Canada LC No. [REDACTED] in the amount of \$55,026,600. Upon LQD's acceptance of Cameco's response(s) to all outstanding technical review comments and prior to LQD's approval of the permit combination and amendment, Cameco will amend the two existing LCs for Highland so that they are applicable to Permit 633 (Smith Ranch). It is Cameco's understanding that the LC amendment process will need to be initiated just prior to LQD's formal approval of the permit combination and amendment.

T3 ANALYSIS: The response is correct but will remain inadequate until the end of the technical review when the surety is amended. (RAC)

RESPONSE: No response required at this time.

T4 ANALYSIS: CR provided an updated surety estimate within the 2012-2013 Annual Report. A meeting on August 8, 2013 with Cameco staff summarized changes to the Annual Report surety estimate which includes a significant reduction in dollars. The proposed reductions are supported partially by a revised restoration schedule included in the Annual Reports, which is not included in the PUCA. In lieu of Cameco's desire to expedite the approval of the PUCA, it is suggested that a surety estimate be provided for the PUCA which clearly indicates the Reynolds

Ranch Amendment first year disturbance costs (in bold font). The estimate should reflect the costs that are represented in the restoration schedule of the PUCA.

The proposed changes to the restoration schedule and water balance will need to be reviewed under separate review as the changes appear to be greater than what is allowed under an annual report adjustment.

Please provide a surety estimate for the PUCA including the costs for the first year of disturbance for the Reynolds Ranch Amendment area. To expedite the review, it is suggested that this estimate be the approved surety estimate with any Reynolds Ranch Amendment first year disturbance costs shown in bold font. Response is required. (PCR)

CAMECO T4 RESPONSE: Cameco has supplied the requested surety estimates to the LQD and BLM by letter dated October 3, 2013. Consistent with LQD direction to also supply the approved 603 surety estimate and to improve the legibility of the copies supplied, Cameco provided another submittal to LQD and the BLM on November 7, 2013. This submittal included estimates for the first year of disturbance activities at Reynolds Ranch.

T5 ANALYSIS: The LQD received the surety estimate for the combined permit and amendment area on November 14, 2013. The surety estimate includes the costs for reclamation that are currently approved for the existing permits (603 and 633) and the additional costs for the first year of disturbance in the Reynolds Amendment area. This includes the wellfield development costs for Mine Unit 27 and the new Satellite Construction. It is noted that the groundwater restoration costs are not included in the estimate although the Mine Schedule indicates production is planned to begin in year 2014. Cameco will need to revise the surety estimate to include groundwater restoration costs or indicate to LQD that a permit condition is necessary which will commit to providing the surety update prior to injection of lixiviant into the Reynolds Amendment area. The response is inadequate. (PCR)

T5 RESPONSE: The latest estimate provided to the LQD dated October 11, 2013 contains these groundwater restoration costs. If this surety is has not yet been approved at the time of permit issuance, Cameco concurs with the use of the permit condition described above.

T6 COMMENT: The response is **adequate**.

[REDACTED]: The single page of the Appendix in the proposed amendment is numbered D3-3. Are there missing pages D3-1 and D3-2 or is the page mis-numbered? (PCR)

RESPONSE: Pages D3-1 and D3-2 are the title page and Table of Contents, respectively, but are not numbered. The pagination has been revised to denote that the first page of the text is Page D3-1.

ANALYSIS: The page numbers for the first portion of the Appendix have been corrected. However, the page numbers for Reynolds Ranch Amendment section have pages 1 of 4 and 2 of 4 and there are no 3 of 4 and 4 of 4. Please correct. The response is inadequate. (RAC)

RESPONSE: The page numbers have been corrected.

T3 ANALYSIS: Page numbers have not been corrected for Reynolds Ranch (Addendum C to Appendix D-3). NOTE: Supplemental information and a Plate have been added in response to Comments 29 and 161. This information and the Plate describe the location of surveyed sites and should be placed in the confidential volume. The response remains inadequate. (RAC)

RESPONSE: The page numbers have been corrected. The supplemental information containing locations of cultural sites have been removed from Addendum C to Appendix D-3 has been removed and is being provided as an attachment to be placed in the confidential volume.

T4 ANALYSIS: The index sheet indicates a new table of contents was provided which it has. There is also a sheet that states Volume II-A through Volume II-C3 are confidential and are held in restricted access. This information is also repeated in the table of contents and is duplicative and could be removed if LQD so desires.

The plate that contained the location of surveyed sites has been removed as requested.

The index sheet also indicated revised pages D3-1 and D3-2 were to be inserted into the application. The old pages were removed from RESPEC's copy but the new pages were not inserted. The electronic copy provided did have the pages included. LQD verified the records copy of the application does include the revised pages. The pages were again updated and submitted on September 10, 2013 as the result of a meeting discussion with Cameco in August 2013 regarding the content of Appendix D-3. LQD understands that the entire D3 is continuing to be evaluated by Cameco to ensure all of the surveys are included for Smith Ranch, Highland and the Reynolds amendment area. LQD will hold the comment open until all of the information is supplied with any necessary corrections to the Table of Contents. Cameco should continue to provide revised pages with index of changes and explanation for the insertions in response to this comment. The response remains inadequate. (RAC/PCR)

CAMECO T4 RESPONSE: There are a few final housekeeping items that need to be addressed within Appendix D3 dealing with the contents of LQD's confidential, locked file. Changes are denoted on the index of change to relocate the contents from Appendix D3, TFN 4 5/183 to TFN 5 6/100 and re-label it as Volume II-C2. Changes are likewise shown that renumber the remaining contents within the locked file as the revised table of contents for Appendix D3 indicates and provide tabs for the various reports that are housed in a single binder.

Finally, as discussed with the LQD, one report is missing from the locked file that should comprise Addendum D3-3D. This is the 1988 Kerr McGee SPRB Survey for Original Solution Mining Permit (633). Cameco has searched its library and, as of now, has not found a copy of the report. Recently, Cameco responded to an NRC request for the cultural reports for its licensed Wyoming projects. At one point, Cameco requested some copies of missing reports for the NRC from the SHPO. The SHPO responded by providing the reports to the NRC, but did not share these reports with Cameco. Cameco is approaching the NRC to see if the missing 1988 report is in the set received from the SHPO and, upon receipt, will provide it again for the Permit 633 locked file.

Cameco believes that with the changes made in the September 2013 submittal and the housekeeping items completed above, the contents of Appendix D3 are correct (with the exception of the missing report) and LQD comments have been addressed.

T5 ANALYSIS: LQD will review the changes upon insertion by Cameco. The response remains inadequate. (PCR)

T5 RESPONSE: All insertions have been made and reviewed by Ramona Christianson 11/18/13.

T6 COMMENT: The response is **adequate**.

Operations Plan

Permit 633

[REDACTED]: Permit 633, Page 3-8, Section 3.1.3.2, Wellfields, and Page OP-3 and 4, Section 1.4 Schedule for Mining Related Activities. These permit sections describe wellfield development schedules. Please include an updated text discussion providing average lengths of time for all stages of a typical wellfield including all of the steps identified in the mining and restoration schedules. (Chapter 11, Section 4 (a)(ii)) (PCR)

RESPONSE: Additional information in Section 3.1.3.2 related to production schedules has been added to Section 4.1.5 of the Amendment Operations Plan.

ANALYSIS: Text has been added to Section 4.1.5 of the application which addresses the concern of the comment. Additionally, Attachments 1A and 1B gives the timeline for restoring each wellfield. However, the comment requests the average time for the stages to be included. This information is considered necessary to assess the overall schedule. Rather than an average time for each phase, LQD asks that CR use the schedule provided but also provide a detailed explanation and justification for the differences in the times for mining and restoring for the various wellfields. For example, some wellfields may indicate it takes three years to produce all the uranium while others may indicate ten or more years. LQD requests the time required to 1) develop, 2) mine, 3) restore, and 4) reclaim a wellfield for the purpose of evaluating potential delays in restoration. The LQD will review the explanation and justification for acceptance. The response is inadequate. (RAC)

RESPONSE: In response to TFN 5 1/119, Revised Restoration Schedule Permit 603 and TFN 5 3/121, Revised Restoration Schedule, Permit 633, Cameco has been developing revised restoration schedules and water balances that show the current restoration situation and the proposed dates when restoration will start for each mine unit currently in production. The current water balance and restoration schedules clearly show when restoration of each mine unit is anticipated to start and be completed. Cameco has made a commitment to LQD that an updated water balance and restoration schedule will be submitted as part of the annual report so that the WDEQ can gauge the restoration progress from year to year.

The current water balance assumes that as new production is added, corresponding disposal capacity will need to be added to maintain or shorten the current restoration schedule timelines. Mine units that are not in restoration are assumed to be in production and will be maintained as a production mine unit.

As part of the resolution of these TFN's, Cameco will propose permit revisions to existing permits 603 and 633, by March 31, 2013, which will consist of a new section that will discuss the progressive change of wellfield restoration methods and more clearly define the end of mining and the beginning of restoration activities within each mine unit. Since the information needed to resolve the permit conditions imposed by these TFNs has not been completely developed, it has not been made a part of this submittal.

Cameco has committed to LQD to add a schedule of planned future production for the next report period in the annual report and show how the future production will be accommodated while maintaining restoration goals. The ability of Cameco Resources to continue with future planned production will depend on the ongoing restoration progress communicated with the WDEQ and are subject to economic conditions and regulatory approvals.

The commitments discussed in this response have been added to Section 12 of the Operations Plan.

T3 ANALYSIS: The commitments discussed above except for the permit revisions are found on page OP-79. This is considered an important issue that has been ongoing for many years and should be resolved as prior to approving this application. Cameco Resources was required to submit a permit revision by March 31, 2013 which included text discussion addressing the following:

- 1) operational limitations that are delaying the acceleration of restoration,
- 2) proposed solutions to address these delays including commitments with timelines and proposed dates for implementing the solutions,
- 3) provide explanation, methodology and commitment to accelerate restoration and the ability to mine and restore wellfields simultaneously,
- 4) define an acceptable definition for the "end of mining in a wellfield",
- 5) explain how restoration and mining are conducted in the same wellfield and the "progressive change-over method" of restoring a wellfield,
- 6) explain how and when restoration monitoring will begin with the "progressive change-over method."

Attachments 1A and 1B have been removed from the application and were found in the superseded material. The index sheet does not indicate these attachments were to be removed and their removal may have been in error. The Attachments are referenced in the Reclamation plan Section 2.1.10 on page RP-10. Please include Attachments 1A and 1B into the permit.

The response is inadequate. (RAC)

RESPONSE: Attachments 1A and 1B have been reinserted into the application. An amendment request addressing the LQD's issues related to ground water restoration schedules was submitted to LQD for review and approval on April 12, 2013 (TFN 5 4/399 and 5 5/400). A new section

has been created and reserved for *Operational Limitations and Ground Water Restoration Acceleration* in Section 2.1.11 of the Reclamation Plan. Approved text from TFNs 5 4/399 and 5 5/400 will be placed in this section upon approval. Also see response to Comment 5-4.

T4 ANALYSIS: Cameco has provided the restoration schedules for Smith Ranch/Highland and Reynolds Ranch Amendment and also a revised water balance that does not match the schedules. The insertions were not shown on the Index of Change. The inserted schedules are outdated as they were originally proposed and submitted on May 16, 2011, then removed through a previous round of review and now replaced. The inserted water balance does not match the approved schedule either. This reviewer did not review the previous responses and was not aware of the schedule that was received May 16, 2011. RESPEC was the reviewer of the T2 and T3 rounds and did not have the approved schedules to compare with the revised schedule. RESPEC was not involved with the reviews of the updated schedules approved February 5, 2013. The schedules and water balance that were approved on February 5, 2013 are the schedules that should be carried forward into the PUCA. These are the operational schedules that Cameco is expected to follow until other proposed schedules are reviewed and approved.

There has been lengthy discussion between Cameco and LQD regarding restoration delays. The delays have impacted the PUCA reviews to the extent that LQD insisted on finalizing updated restoration schedules and water balances through TFN 5 3/119 and 5 1/121 before continuing the PUCA review (i.e., T2 responses were placed into Preliminary Review status). The revised schedules were approved through Change Nos. 44 (Pt. 633) and 84 (Pt. 603) on February 5, 2013. The LQD placed a condition on those approvals as many of the concerns regarding restoration delays had not been satisfied.

The LQD received additional information to address the permit condition on April 18, 2013 with a technical review of the submittal sent to Cameco on June 18, 2013. Cameco provide additional information addressing hydrologic impacts on June 20, 2013. A review of the impacts was sent out on August 16, 2013. There has not been a proposed change to the restoration schedule or water balance through this submittal, however, it appears that Cameco has been working toward condensing the restoration timeline as a revised schedule was proposed through the 2012-2013 Annual Report. The LQD has advised Cameco that the changes to the AR schedules exceed the acceptable +/- two year variance accepted through an annual report.

It is apparent that Cameco is working to address restoration delays as noted by the progress in Wellfields 1, 4, C, D, Dext and E. These efforts have been presented to the LQD in quarterly update meetings of the restoration progress. Therefore, the LQD has discussed with Cameco the possible option to condition the satisfaction of the permit condition (above) with a new condition on the PUCA approval. This condition will be fully evaluated toward the end of the technical review of the PUCA with an evaluation of the status of the reviews of the restoration limitation TFNs (TFN 5 4/399 and 5 5/500). These reviews must continue to move forward.

A revised restoration schedule and water balance should not be proposed through the PUCA as it will only extend the length of the review. If it is the intent to submit a new restoration schedule and water balance it should be submitted as a new proposal for review. Cameco must follow the approved schedule until a change has been approved.

Please replace the schedules in the PUCA with the currently approved schedules and water balance and add the Reynolds schedule/water balance. The proposed condition (No. 8) will be evaluated and discussed with Cameco to adequately address the outstanding requirements of the comment. The response remains inadequate. (PCR)

CAMECO T4 RESPONSE: The schedules for Smith Ranch and Highland have been replaced with the currently approved restoration schedules. The most recent restoration schedule and water balance for Reynolds was provided as Attachments 1B and 2B of the last submittal to LQD.

T5 ANALYSIS: The Reynolds Ranch water balance references disposal through the *Reynolds Ranch No. 1 Deep Disposal Well and Additional Disposal Capacity*. Cameco has said that the DDW at Reynolds does not have functional capacity as was expected. The additional capacity has not been identified on the water balance. Cameco will need to revise the Reynolds Ranch water balance to include waste disposal facilities that are capable of handling the waste for the first year of mining or indicate to LQD that a permit condition is necessary which will commit to providing the verification of deep disposal facilities capable of supporting the first year of mining in the Reynolds area prior to injection of lixiviant into the first wellfield. The response is inadequate. (PCR)

T5 RESPONSE: Cameco concurs with the permit condition as described above.

T6 COMMENT: The response is **adequate**.

[REDACTED]: Page OP-1, Section 1.2, Project History. The extent of Cameco's liability for old mining disturbances that lie within the permit boundary is not clear. Cameco should provide a comprehensive discussion of past mining, restoration and reclamation activities that have occurred within the proposed combined permit boundary including dates of disturbance for mining, restoration/reclamation and approved release from liability. Without a record of release of liability, it could be assumed that the restoration/ reclamation liability was transferred to Cameco when the permit was transferred. For example, Page 6-8 of Permit 633 states, "A detailed reclamation cost estimate has been prepared for all aspects of the project. The estimate includes the cost for reclaiming the existing disturbances such as the Bill Smith mine area and pilot ISL Q-Sand and O-Sand facilities, as well as proposed commercial scale facilities." Pages 6-36 and 6-37 refer to Structures costs including Plug Shaft, Plug Venthole, Mine Water Treatment Ponds, Evaporation Ponds and Headframe Removal. Pages 6-38 and 6-39 include costs for the O-Sand and Q-Sand Pilot surface and groundwater reclamation. Page 6-49 reports costs for the reclamation of a 10 acre disturbance use for sand mining. Page A-O in Chapter 10, Permit 633 includes a transfer of liability for all reclamation obligations associated with Permit 304C (Sequoyah Fuels) to Permit 633. Without an update to the permit to remove costs associated with previous mining activities, it will be necessary for Cameco to either reference the LQD approvals to release the liability of these disturbances or continue to include them in the surety until the approvals have been issued. Please provide a detailed history of the mining and restoration/reclamation and reference the appropriate release of liability. (Chapter 1, Section 2(i) & WEQA § 35-11-417)) (PCR)

RESPONSE: Section OP-1.2 has been revised to reflect historical mining activities at the site.

ANALYSIS: Additional details regarding past mining activities and liabilities have been added to Section OP-1.2. However, the applicant should also provide the documentation about releases of liabilities as an addendum to the permit. LQD has not verified the referenced bond releases or evaluated the surety under the Cameco permits. The applicant's response is inadequate and will be reevaluated after additional documentation is provided. (PCR)

RESPONSE: Cameco understands LQD's continuing concern regarding reclamation of historical mine sites in the combined permit application area. In response to LQD's request for additional documentation of historical mining and releases of liability, we have focused on a review of all permit records available to Cameco. After an exhaustive review of our records and the records of LQD, we were able to uncover the LQD's release of the reclamation bond for Permit 304C, which was of particular concern to LQD given Permit 633's assumption of the liabilities from Permit 304C. LQD's May 16, 2000 letter releasing the bond associated with Permit 304C is attached to this response document for your review (Attachment 1A). All liabilities from 304C were released.

Reconstruction of an itemized list of all reclamation activities dating to the initial issuance of Permit 633 and its predecessor, Permit 304C, has proven impracticable. Further, the request for such an itemized reconstruction overlooks the key role of the annual report process in assuring compliance with unreleased historic, current, and future reclamation obligations. First, because most of the historical mining occurred before Cameco acquired an interest in the property and the liabilities of Permit 633, a complete reconstruction of the permit history, including documentation of every release of liability issued by LQD to the applicable operators from prior mining activities is not practicable.

Cameco does not believe it necessary to reconstruct an itemized history of reclamation activities, or reconstruct the suite of agency correspondence releasing liabilities, given LQD's approval of the existing sureties covering the Permit 603 and 633 application areas through the annual report process. First, if Cameco were to keep the two permits separate, then historic bond information and documentation of historic liability releases would not be required. Rather, the annual report and associated surety increases are the vehicles by which the agency and Cameco disclose and address historic, current, and future reclamation activities. Second, the current and past liabilities for the existing permit areas are not being reopened in the process of combining Permits 603 and 633.

As noted in LQD's Comment 121, "Without an update to the permit to remove costs associated with previous mining activities, it will be necessary for Cameco to [1] either reference the LQD approvals to release the liability of these disturbances [2] *or continue to include them in the surety until the approvals have been issued.*" Cameco has been pursuing the first option, of referencing all releases of liabilities. As providing references to all historic LQD approvals to release liability of prior disturbances, including those that predate Cameco's interest in the permit areas, has proven impracticable, Cameco requests that LQD apply the second option provided in its comment 121: carry forward the existing sureties under Permits 603 and 633,

which have been deemed adequate by LQD as updated in annual reports for the application area. LQD letters setting the bond are attached to this response document for your review (Attachment 1B). The existing sureties, established through the annual report process, encompass historical liabilities for which Cameco is still responsible and LQD has agreed that these sureties reflect the extent of Cameco's liability.

T3 ANALYSIS: Attachment 1A to the response letter contains the information regarding the bond release for Permit 304. However, the record indicates a transfer of the liability with a bond requirement for the associated disturbances. There are still concerns regarding the various past mining activities, reclamation, bond release or transfer of liability. This may best be clarified with a table that lists all past mining permits, pilot or research and development licenses; dates of operation; bond release dates; bond liability transfer date and current status if appropriate. The table would reference a map and an addendum which would contain the various bond release/permit termination letters, letters which transferred liability to another party, or other letters such as annual report letters which document LQD approval of any partial reclamation (such as well abandonment).

During a meeting with Cameco Resources on October 31, 2013, Cameco Resources proposed to provide verification for restoration/reclamation of historic mine disturbances and any associated liability. It is suggested that Cameco work with LQD to develop a complete list of past mining to be included in the table. The historic disturbances of concern include the following:

- Q Sand and O Sand Pilot Projects (see above discussion)
- The "original" and "expanded" R&Ds under Permit 218C
- North Morton Ranch Underground Mine
- Exxon Underground Mine
- Bill Smith Underground Mine

The response is inadequate. (RAC)

RESPONSE: During a May 7, 2013 meeting, LQD asked Cameco to propose a draft permit condition which will require Cameco and LQD to work together on resolving potential reclamation liabilities and bonding issues for these historical operations. Cameco and LQD further discussed a potential permit condition during a May 23, 2013 meeting at WDEQ offices in Cheyenne. See response to Comment 111 for draft permit condition language. Also see response to Comment 276.

T4 ANALYSIS: See the T4 Analysis for Comment 111. As the permit transfers included a transfer of the liability for the historic mine activities, a discussion of those activities must remain in the permit. A condition to the permit will address a timeline for a records investigation and/or inspections to verify bond release for some of the associated disturbances that were transferred to permit 633. Any surety adjustments needed would also be defined in the timeline of the condition. The proposed condition (No. 1) will be evaluated and discussed with Cameco to adequately address the outstanding requirements of the comment. The response remains inadequate. (PCR)

CAMECO T4 RESPONSE: See response to Comment 111

T5 ANALYSIS: LQD will draft the permit condition. The response is adequate. (PCR)

T5 RESPONSE: Cameco concurs with the permit condition as described above.

T6 COMMENT: The response is **adequate**.

[REDACTED]: Page OP-4, Section 1.5, Project Schedule. The time schedule for each wellfield is referenced to Attachment I of the Reclamation Plan. Please provide a separate mining schedule within the Operations Plan. The schedule should include time lines for wellfield development and mining for all wellfields through the life of mine. The text discussion of the mining schedule should be expanded to describe or reference the pre-mining development (i.e., exploration, delineation, wellfield installation phases of the schedule. In addition, the schedules shown on Attachments 1A and 1B do not reflect the entire mining period for wellfields that have been in production for some time. Please provide a mining schedule showing the entire mine period for all of the wellfields. (Chapter 11, Section 4(a)(ii)). (PCR)

RESPONSE: The Project schedules have been revised taking into account the above remarks. Cameco believes that showing operation and restoration together on one schedule is a better way of presenting the information.

ANALYSIS: The mining and reclamation schedule are shown in Attachment 1A of the Reclamation Plan. However, the schedules shown do not reflect the entire mining operation. LQD would like the schedules to include all historical, present, and future mine units with the schedule extending into the past to cover the entire period of ISL mining at the site. Page OP-37 mentions a proposed development schedule, but this schedule and discussion were not identified. The text and schedule shall be edited to include information on mine unit development (well installation, pump tests, pipeline installation, ect) as a separate line item. This information is requested as development constitutes a significant part of the operation which has significant impacts to schedule, disturbance, sampling, and bonding. The applicant's response is inadequate. (CMH)

RESPONSE: As discussed in the response to Comment 113, Cameco is working towards resolution of the restoration schedule through TFN 5 1/119 (Permit 603) and TFN 5 3/121 (Permit 633). At the time of this response, these TFNs were just approved; however, there were a number of outstanding items that were carried forward as permit conditions. When these permit conditions have been satisfied, Cameco will update the application to address the changes that are made in response to these conditions.

The Smith Ranch (Rev 6) and Highland (Rev 6) water balances that are provided in the combined permit application and are the basis for the discussion of these TFNs show when mine units are anticipated to enter restoration and the anticipated timeframe for completing restoration activities.

A development schedule for Reynolds Ranch has been included in the operations plan (Table OP-2), and updates on the progress of restoration and future production for the project will be communicated in the annual report.

T3 ANALYSIS: Note: This comment regarding project schedules is also linked to Comment 113. Attachments 1A and 1B have been removed from the application and were found in the superseded material; this information may have been removed in error.

Cameco has stated they will update the schedules and add them to the application to address changes made in response to recently approved TFNs. At this time, this response remains inadequate. (CMH)

RESPONSE: See response to Comment 113.

T4 ANALYSIS: Please replace the schedules in the PUCA with the currently approved schedules and water balance and add the Reynolds schedule/water balance. The proposed condition (No. 8) will be evaluated and discussed with Cameco to adequately address the outstanding requirements of the comments. The response remains inadequate. (PCR)

CAMECO T4 RESPONSE: See response to Comment 113.

T5 ANALYSIS: The Reynolds Ranch water balance references disposal through the *Reynolds Ranch No. 1 Deep Disposal Well and Additional Disposal Capacity*. Cameco has said that the DDW at Reynolds does not have functional capacity as was expected. The additional capacity has not been identified on the water balance. Cameco will need to revise the Reynolds Ranch water balance to include waste disposal facilities that are capable of handling the waste for the first year of mining or indicate to LQD that a permit condition is necessary which will commit to providing the verification of deep disposal facilities capable of supporting the first year of mining in the Reynolds area prior to injection of lixiviant into the first wellfield. The response is inadequate. (PCR)

T5 RESPONSE: Cameco concurs with the permit condition as described above.

T6 COMMENT: The response is **adequate**