



WESTERN ENERGY COMPANY - *Rosebud Mine*

A Subsidiary of WESTMORELAND COAL COMPANY

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March 22, 2019

Sent via ePermit system

Department of Environmental Quality
Coal and Opencut Mining Bureau
2001 11th Ave, Building B
PO Box 200901
Helena, MT 59620

Permit ID: C1984003B
Revision Type: Amendment
Permitting Action: Deficiency Response #3
Subject: AM 5: Round 3 Acceptability Deficiency Response

Dear Chris:

The purpose of this letter is to respond and address the deficiency comments on C1984003B:

ARM 17.24.303(1)(b): *Please update the pdf attachment for this section to match the legal description of access.*

Response: The legal description has been updated in 17.24.303(1)(b).

ARM 17.24.303(1)(o): *The attached table for Legal Right to Enter does not appear to match the permit information for Rosebud Area B and seems to be for a different permit. Please resolve this issue.*

Please update the table for 303(1)(o) to include all the sections for T1N, R40E, that were listed in the public notice.

Response: The "Legal Right-To-Enter" table has been updated. Please see 17.24.303(1)(o).

ARM 17.24.303(1)(s): *The currently approved acres in Table 303-1 does not match what DEQ has in the database for Rosebud Mine Area B, which is 6,045. Please adjust the acres in the table so they match total acreage of 6,045.*

Please provide a disclaimer of the variability of the amount of coal mined each year for Table 303-2.

Numerous discrepancies remain in Table 303-3. Pursuant to ARM 17.24.302(1), WECO must change BXS 84 from year 10 to 18, BXS 76 from year 10 to 15, BXS 65 from year 19 to 11, BXS 89 from year 11 to 19 and add mine cuts BXS 69-2, 70-2, 71-2, 10-1 and 92-2 to the table.

Response: The permit acres have been edited to match what the Department has on file for total Areas in the current Area B permit in Table 303-1. The disclaimer has been included on Table 303-2. And the discrepancies have been reviewed and changed as necessary.

ARM 17.24.304(1)(e): *The following issues need to be addressed with the baseline information presented in "Appendix B – Baseline Hydrology Data.pdf":*

- 1. The March 2017 surface water field sheets are included twice, please remove one.*
- 2. SW-301, 5/31/17 does not have an associated field sheet, please provide.*
- 3. SW-302, 5/31/17, does not have an associated field sheet, please provide.*
- 4. All GW Sites, 12/23/16 listed as date for attempted GW monitoring by IML, SW field sheet indicates IML was on site 12/27/16*
- 5. WD-204, 5/12/14, field sheet shows well pumped at 9 gpm for 18 minutes (162 gal), field data table lists purge volume of 72 gal*

Response: Comments 2-5 were addressed as requested. No duplicate field data sheets could be found in Attachment B for the March 2017 sampling event.

ARM 17.24.304(1)(f): *Appendix B: DEQ did not check each data entry in Appendix B, but found the following inconsistencies:*

- 1. Surface water field data sheet for SP-300, 9/16/15 indicates that routine, field duplicate and field blanks were taken. The measurements for the field duplicate were not recorded and the values listed in the database are the same as the initial sample.*
- 2. The lab data table (Attachment F) still erroneously lists the sample taken at SP-300 on 5/22/14 as Sample ID SP-301. (The comments for this sample correctly identify it as SP-300). Please correct this in Attachment F.*
- 3. Data sheets exist for field blanks taken at SW-301 and SW-302 on 4/17/15, but these blanks have been omitted from the database.*
- 4. Please review all baseline data and update the database as necessary. Please also include all field data sheets for each baseline data entry.*

Response: Comment 1. WECO records one set of field parameters for surface water, spring and pond sampling at a given site, including when duplicate samples are collected. To date this one set of field parameters has been entered for both the original and duplicate sample entries. However, if this is not acceptable to MDEQ these data can be removed.

Comment 2. As requested, the sample ID in Attachment F was changed from SP-301 to SP-300. However, note that the sample ID is not the same as the sample location ID. Additional explanation was added in the comments column in Attachment F.

Comment 3.

The data sheets referred to are flume calibration sheets. A comment was added to clarify this. No blanks were collected on these dates.

Comment 4.

Appendix B provides baseline data through June 2017. The database included in this submittal provides up to date baseline data through water year 2018, or September 30th, 2018.

ARM 17.24.305(1)(a): *Not all permit layers have been tagged; examples are Mineral Ownership and Adjacent Landowners. Please ensure that all relevant permit layers have been tagged for searchability.*

Response: The layers have been tagged on the Exhibit L1 and Exhibit L2. Thank you to the Department for helping out and teaching the nuances of the system. WECO is making an effort to tag all layers as the maps are updated and the necessity arises.

ARM 17.24.305(1)(r): *"Area B AM5 Exhibit C Postmine Vegetation 2017-09 SP.pdf" does not use the most recent version of the postmine topography. The locations of the proposed postmine revegetation communities must be revised to be consistent with and appropriate for their respective landscape positions*

Response: Exhibit C was not updated with the proposed PMT this round. Once the PMT is found acceptable, WECO will make the necessary revisions to the revegetation plan.

ARM 17.24.305(1)(z): *The certification provided in Appendix O, Attachment T, should also certify Figure 12, Figure 13, Figure 66A, Figure 69, and Figure 70.*

Response: Attachment T has been updated in Appendix O.

ARM 17.24.305(2)(c): *The ramp name annotation on Exhibit A and the topography elevation annotation on Exhibit U must be made clear and legible.*

Response: The ramp names and topography elevation annotation in Exhibit A and Exhibit U are unclear in the pdf version of the exhibits because it is a scan of the signed drawing. Please refer to the AutoCAD drawings to clear up any question that you might have about the text.

ARM 17.24.308(1)(a): *The size of stockpile SS-6 was increased. Pursuant to ARM 17.24.302(1), Table 308-1 must be updated to reflect the increased in size depicted on Exhibit A.*

Response: Table 308-1 was evaluated and it was found that in previous acceptability deficiencies, the storage volume in SS-6 was increased but not shown on the map. The location on the map was enlarged to correspond with the volume.

Exhibit A depicts a haul road configuration that does not correlate with the mine sequence. The main haul road to the BXS pits conflicts with the timing and mining of the BX 6 through 19 and, in consideration of the revised Exhibit A, Ramp SW3 passes through active mining Cuts BXS 18-1 through BSX 39 in route to concurrent mining in Section 25 and 26 (BXS 40 through BXS 64). Pursuant to ARM 17.24.302(1), the inaccurate information depicted on Exhibit A must be changed or, pursuant to ARM 17.24.308(1), Western must describe the engineering techniques used to mine at the same time as the main haul road and Ramp SW3 are proposed to be used.

Response: WECO has proposed an alternative for the Haul Road to be used temporarily while mining is being completed in passes BX6 through BX19. The temporary haul road will be accessed through the SW7 Ramp Road to allow for the mining to commence in the southern portions of the mine plan.

All ramp locations heading northeast off of the main haul road to boxcuts BXS 65 and 65-1 appear to be too steep for the current haul truck fleet. One of the following must be changed: which pass will be the boxcut, the ramp configuration and location, or the haul road location.

Response: WECO has reviewed this comment and adjusted the ramp road lengths to accommodate the haul truck fleet. The ramp lengths have been extended to reduce the slope percentage.

ARM 17.24.312(1)(d)(iii): *Some disturbance near the west side of Section 24 is no longer necessary due to the realignment of the roads in this area. In particular, the destruction of the rock outcrop feature at state plane coordinates 2,679,166 East, 586,613 North by highwall reduction seems unnecessary. Please evaluate if disturbance can be reduced in this area to preserve native habitat features. Additionally, the life of mine disturbance limits in Sections 13 and 24 are located a substantial distance from the mine passes. There appears to be no reason for disturbance to occur in much of this area. Please revise the limits of disturbance in this area to more accurately reflect the actual expected area of disturbance.*

Response: The disturbance area was evaluated, and it was decided to realign the road. Please see Exhibit A. With the realignment of the road, WECO feels the disturbance area is accurate.

ARM 17.24.313(1)(c): *DEQ acknowledges Western Energy's commitment to submit a revised bond after the PMT plan is acceptable.*

Response: Comment noted.

ARM 17.24.313(1)(d)(i): Exhibits I and I1 depict a time after mining has progressed through the southwestern half of mining passes in BXS 65 through BXS 112. The plan for backfilling must include a better description of the location of boxcut material from the opening of pass BXS 65. If spoil is all cast south, it could remain in a pile (unreclaimed) until mining returns to pass BXS 89 in year 19. If this is the case, WECO should designate another temporary "SS" stockpile and add narrative or range diagrams to better describe the mining method (ARM 17.24.308(1)).

Response: WECO has proposed the developed additional SS piles for the boxcut materials. The material will be stored between the ramps and be used to backfill the final pits to the north. Please see SS piles located on Exhibit A – Mine Plan and SS14-SS17 in table 308-1. Overburden Stockpile Volumes for volume totals.

Sequencing or ramp/haul road problems could exist in the proposed mining of passes BXS 69-1 and BXS 89-1 both of which are mined in year 7: these mine passes are only 700' apart and the ramps into these mine passes need to be over 1000' long. Range diagrams pursuant to this rule and narrative, pursuant to ARM 17.24.308(1)(a), must be submitted to better clarify activities through year 7 in this area of mining.

Response: WECO has proposed the developed additional SS piles for the boxcut materials. The material will be stored between the ramps and be used to backfill the final pits to the north. Please see SS piles located on Exhibit A – Mine Plan and SS14-SS17 in table 308-1. Overburden Stockpile Volumes for volume totals.

ARM 17.24.313(1)(d)(iv): Pursuant to 313(1)(d)(iv), the topography depicted on Exhibit B must meet the performance standard of grading affected areas to the approximate original contour of the land prior to mining. Regarding this, Western must address the following two concerns:

The original topography had many more second and third or higher order tributaries than depicted on the proposed PMT map. While narrative in 501(4) attempts to address this issue, ARM 17.24.313(1)(d)(iv) requires "a map showing the postmining topography that the applicant proposes to meet at the time of final bond release." Additional tributaries must be added to more closely approximate the pre-mine drainage density condition. The Department suggests the addition of a line designating approximate locations and lengths for these tributaries without contour line alterations in the location of pre-mine Lee Coulee drainages 6, 7, 8, 9, 11, 12 and 14.

Response: Exhibit B has been updated per this deficiency.

To add clarity pursuant to ARM 17.24.302(1), WECO must add a statement to the PMT map legend tying the map to the 501(4) discussion in regard to the above mentioned tributary line designations that do not have corresponding contour line alterations.

Response: A note has been added to Exhibit B to correlate the tertiary drainage channel lines drawn on Exhibit B to section 501(4) of the permit.

Grading would be delayed under Ramp SW6 until use of the ramp is finished because the ramp is located under a large post mine hill. Pursuant to ARM 17.24.601(1), roads (which includes ramps) must "not delay or prevent recontouring and revegetation on immediately adjacent spoils". The location of Ramp SW6 must be shifted to the west under a post mine drainage or the PMT must be changed.

Response: WECO has altered Ramp SW6 to go around the area in question to prevent any delay in reclamation. Please see the change on Exhibit A - Mine Plan.

ARM 17.24.313(1)(f)(i): *The following issues were identified with the updated "Area B AM5 EXHIBIT V1 thru V14 Drainage Design.pdf":*

In Exhibit V-5 and Exhibit V-8, the ERM channels for Richard Coulee in west half of Section 29 (upstream from disturbance) do not match the premine channel. Outside the disturbance boundary there should be no change to the premine channels.

In Exhibit V-10, the postmine end station should be the same as the premine end station for South Fork Richard Coulee to make the premine and postmine channel profiles comparable.

These exhibits will need to be updated with any changes to the postmine topography.

Response: Exhibit V1 through V14 have been updated per this deficiency.

ARM 17.24.314(3): *The following deficiencies were identified in "Appendox O - Probable Hydrologic Consequences 2018-06.pdf":*

Section 3.2.9 and Section 3.3.8 should be updated when DEQ finalizes the AVF determination for Richard Coulee.

Response: Comment acknowledged.

Section 3.3.4.5 does not discuss all the potential impacts of mining on some wetlands:

- 1. Wetland G300 will be physically disturbed by haulroad construction (buried by fill).*
- 2. Wetland G012 is located within the disturbance boundary and will likely be disturbed for stockpile access roads. Please provide further information whether or not this wetland will be disturbed.*
- 3. Wetland G400 will be partially disturbed by new pond Rich-4.*
- 4. Wetland G500 will be partially disturbed by new pond Rich-6.*

Please expand the discussion of probable impacts to wetlands to be more descriptive and include all probable impacts of mining, similar to discussions included for wetlands in the Area F PHC. Appendix O should include a reference to the wetlands mitigation plan in Operations, Fish & Wildlife Plan, Appendix N-1.

Response: Section 3.3.4.5 has been revised to provide an expanded discussion of impacts to wetlands by mining.

Section 4.4.3 discusses impacts of mining on alluvial groundwater generally, but this section does not include any discussion of the effects of replacing alluvium with spoil on groundwater flow and levels in the Richard Coulee alluvium upgradient from mining. Typically, spoil would be expected to have a lower permeability than alluvium, which may result in a damming effect where the upgradient alluvium meets spoil. Please discuss if this effect could result in any surface expression of groundwater.

Response: Additional narrative has been included in Section 4.4.3 that discusses the potential for the surface expression of groundwater.

DEQ will evaluate the conclusions of Anticipated Impact and Rationale columns in Table 36 and Table 51, and Comments and Potentially Impacted columns in Table 50 when all other deficiencies which may affect these conclusions are resolved.

Response: Comment acknowledged.

In Attachment H, Table H-1, notes 10 through 12 are cited in the wrong location in the table. Please correct this table.

Response: The notes in Table H-1 have been corrected.

A more detailed explanation of the calculations represented in Attachment R, Figure R-1 through R-3 is necessary. The text should include more detail on how each parameter was derived and the formulas used to calculate the results presented in these figures. The figures should also be annotated to show where the parameters "length," "drop," and "width" were measured. Additionally, there are two different versions of each of these figures in Attachment R.

Response: Attachment R has been revised per the comment.

Appendix J: Page 2 of Appendix J, Protection of the Hydrologic Balance 2018-06.pdf refers to the development of probable hydrologic consequences (Appendix O) under section 414. Development of the PHC is mandated by ARM 17.24.314. Please correct Appendix J to refer to Section 314 as the correct rule citation.

Response: The text on page 2 has been revised per the comment.

Appendix O: Figures 39, 41, and 42 (Scenarios 1, 2 and 3 - Alluvial Control Volume) refer the reader to Table 1 for calculations of Qa-in and Qa-out, however, these calculations are listed in Table 12 - Input Variables and Assumptions Used for Groundwater Flow Calculations, Rosebud ABC PHC - Area B AM5 Amendment. Please correct this reference.

Response: The figures were revised per the comment.

Additionally, these same figures (39, 41,42) also refer the reader back to Figure 6 for details of the groundwater use within the control volume. Figure 6 does not support groundwater use in the control volume. It appears that site details supporting the water balance in the control reach are displayed in Figures 36, 37 and 40. Please review and revise the references to Figure 6 in the Water Budget Equation figures.

Response: The figures were revised per the comment.

Finally, the Figures 39, 41, and 42 (Scenarios 1, 2 and 3 - Alluvial Control Volume) specify that Qr is transient dependent on MPDES discharges. MPDES is misspelled. Please correct the typo.

Table 41, footnote (a) still references the October 2012 edition of Circular DEQ-7, please update the reference to the current May 2017 edition.

Table 46, footnote (a) still references the October 2012 edition of Circular DEQ-7, please update the reference to the current May 2017 edition.

Response: The references in these tables has been corrected.

There is a bookmark in Appendix O, The Probable Hydrologic Consequences 2018-06.pdf, for Appendix H (Tables H-1 to H-4 final), but there is no information present. The tables are part of Attachment H. Please either add the finalized tables to Appendix H in the PHC, or remove the bookmark and replace the references to Appendix H with references to Attachment H of Appendix O.

Response: The reference to Appendix H has been revised to Attachment H per this deficiency.

ARM 17.24.314(3)(a): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(i): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(ii): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iii): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iv): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iv)(A): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iv)(B): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iv)(C): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iv)(D): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(b)(iv)(E): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(3)(c): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(4): See ARM 17.24.314(3).

Response: Please see comment 17.24.314(3).

ARM 17.24.314(5): DEQ will evaluate if there are cumulative impacts of the Rosebud and Big Sky mines on the Rosebud Creek drainage. To support this evaluation please provide an estimate of the postmine equilibrium spoil water quality and the postmine steady state groundwater flux out of spoil in the Rosebud Creek drainage for Area B, Area E, Area D, and

Pit 6. WECO may also provide the same estimates for Big Sky Mine Area A and Area B.

Response: The information for Lee and Richard Coulees is provided in the revised Attachment R. The estimates for Areas B, E and D will be provided in a separate technical memorandum.

ARM 17.24.315(1)(d): *The detailed pond designs do not use the most recent mineplan and postmine topography. Please revise these designs when the mineplan and postmine topography are finalized.*

Response: The pond designs have been updated per this deficiency.

ARM 17.24.315(1)(d)(iv): *Several of the sediment ponds, including Lee-1, Lee-3, LCT-1, Rich-1, Rich-4, and Rich-6, will be excavated to depths where they are likely to encounter groundwater. Please describe how groundwater inflow will affect the capacity and maintenance of the ponds.*

Response: The following considerations have caused the respective pond design and permit changes:

* Each pond design is designed for the worst-case drainage scenario which will only exist for 1 year as the reclamation state changes, lowering the curve number. Conservatively, each pond will still have excess capacity to control runoff from precipitation events in excess of the 10-year 24-hour event, but the mention and design for the 100-year 24-hour precipitation event will not be referenced or utilized.

* Changes have been made to each pond design and permit sections 17.24.315(1) and 17.24.639(1) to reflect this change.

* The phreatic groundwater surface was estimated by utilizing the average static water level in wells that are located near the ponds and completed in the same stratum as the pond. If no wells were found near the ponds, but instead wells above and below the pond location, a projection of the average static water level between the wells was used.

* Each pond with an elevation that was to be excavated below the projected phreatic surface now shows the phreatic elevation on the respective pond design.

The following changes or exceptions are specific to the ponds referenced:

Pond Rich-4: Pond Rich-4 was redesigned following the analysis of the phreatic water surface. Please see pond design.

Pond Rich-6: Pond Rich-6 is proposed in the vicinity of alluvial well WA-235 and overburden well WO-195 and on a straight line between alluvial wells WA-235 and WA-228. The distance between WA-235 and WA-238 is 2362 feet and pond Rich-6 is proposed

approximately 400 feet downstream of WA-235. Conservatively assuming a straight hydraulic grade line between the two alluvial wells and using average static water levels, the elevation of the phreatic surface would be at approximately 3515.4 feet at the upstream end of the pond. Assuming a straight line between the elevations of the impermeable, confining layer (mudstone) at the bottom of each of the alluvial wells, the water column in the alluvium assumed to be present at the upstream end of pond Rich-6 would be approximately 3.2 feet.

During the excavation of Pond Rich-6, the impermeable confining layer would be removed allowing for vertical movement of the assumed 3.2 feet of water column. Utilizing the well log for well WO-195, the bottom of pond elevation corresponds to a layer of interbedded mudstone and sandstone. Since 2016, the static water elevation in WO-195 has averaged approximately 3470.6 feet, well below the bottom of pond elevation of 3490.0 feet.

The drainage area above the pond is all native vegetation preventing siltation of the pond allowing for vertical transfer of incoming alluvial groundwater. Pond Rich-6 may retain a small amount of water from the alluvium it bisects but it is presumed to be negligible.

ARM 17.24.321(1)(a): *No information regarding this rule was provided for the haul road which runs through Section 24 and 25 leading to the mine area in the Fossil Fork tributary of Lee Coulee. This road will be used to transport coal from a separate mine area for more than six months, thus is a haul road, not a ramp road. See ARM 17.24.301(108). Please provide a design for this haul road similar to the haul road leading to the Richard Coulee mine area.*

Response: Please see Exhibit O.

Road cross sections, Figure 8a through 8e on pages 321-4 through 321-8 in the current permit, are required to address this regulation and must be added to the AM5 permit.

Response: Figures 321-1 through 321-5 have added to ARM 17.24.321 as requested by this deficiency.

ARM 17.24.325(2)(b): *DEQ has not yet made written findings concerning this rule. Further evaluation of the subsequent rules will be completed after DEQ's determination is complete.*

Response: Comment noted.

ARM 17.24.325(2)(b)(i): *Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.325(2)(b)(ii): *Review contingent on DEQ's determination pursuant to 17.24.325(2)(b)*

Response: Comment noted.

ARM 17.24.325(2)(b)(ii)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(2)(b)(ii)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(2)(b)(ii)(C): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(2)(b)(iii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(2)(c): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(a)(i): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(a)(ii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(a)(ii)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(a)(ii)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(a)(ii)(C): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(a)(iii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(b): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(b)(i): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(b)(ii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(i): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(ii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(ii)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(ii)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(ii)(C): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(ii)(D): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(c)(ii)(E): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(i): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(ii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(iii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(iv): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(v): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(vi): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(d)(vii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(i): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(i)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(i)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(i)(C): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(i)(D): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(ii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(ii)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(ii)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(ii)(C): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(iii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(iii)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(iii)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(iii)(C): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(e)(iv): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(f)(i): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(f)(ii): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(f)(ii)(A): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.325(3)(f)(ii)(B): Review contingent on DEQ's determination pursuant to 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.501(4)(c): Overall, the proposed PMT results in a substantial reduction in the amount of gentle slopes (2 to 4 percent, see Exhibit T1). A large portion of these slopes were located on benches adjacent to Richard Coulee in the premine topography, but no similar features are replicated in the postmine topography.

Response: After a discussion with DEQ the results of T1 and T2 are satisfactory. The difference in slope is not as substantial as it may appear on Exhibit T1. The 1 percent slopes are only down about 15 percent from Premine which becomes a small fraction across all the disturbance.

WECO did not make any changes or provide any response to these comments on slope diversity in the previous round:

In the northeast quarter of Section 28 the PMT show a long linear slope both east and west of drainage Rich 65. The premine topography in this area has a concave slope profile, with a steeper upper section and gentler lower section. Please modify the PMT in this are to more closely resemble the premine topography.

Highwall reduction in the center of Section 29 and in the southeast quarter of Section 20 eliminate some premine steep slope areas. Please consider modifying the PMT to minimize the disturbance in these highwall reduction areas and preserve premine steep slopes.

Response: WECO has made some changes to the slopes in the northeast quarter of Section 28. The slopes have been altered to from the linear slopes to become more similar to the premine slopes in the section.

In Section 29, the PMT adds an upper reach to drainage Rich 7 to the northwest of Rich 24, shifting the drainage divide north towards the Richard Coulee main channel. Please consider

reducing the length and increasing the slope of this reach to place the drainage divide nearer to its premine position.

Increasing the elevation of the graded spoils in this area would minimize the need for the adjacent highwall reduction and more closely approximate the premine ridge feature in this area.

Response: WECO made an effort to accommodate this request and have found it to be unobtainable. WECO's review created an irreversible balance to the PMT that could not be recovered without massive changes to the PMT throughout.

In Section 20, the design of PMT drainage Rich 52 results in over 80 feet of excavation in the highwall reduction area adjacent to the pit. Please consider replacing PMT drainage Rich 52 with two or three shorter steeper tributaries, more similar to premine drainages Rich 49, Rich 50, and Rich 52. This change would minimize highwall reduction disturbance and preserve the steep slopes in the area. The alignment of the main channel of Richard Coulee could also be shifted slightly south to reduce the need for highwall reduction in this area.

Response: WECO has reviewed this deficiency and have concluded that while the steep slopes comparison for premine to post mine is satisfactory, the changes as defined would require WECO leaving a partial highwall. While WECO is not opposed to this scenario, it would have to be considered prior to reclamation in the future.

ARM 17.24.601(1): *The following deficiency was previously included under ARM 17.24.313(1)(d)(iv) but is more appropriately associated with ARM 17.24.601. "Ramps SW5, SW3-A and SW3 are 8,000 feet to over 11,000 feet in length and cross the drainage divide between Armells Creek and Rosebud Creek. The permit contains a commitment to bring all but the last ~3,000 feet of ramps up to reclamation grade. A portion of these ramps may need to be left well below the grade of reclamation until mining is complete. This is allowed under the performance standards of ARM 17.24.601(1) after Western documents and justifies, and the Department approves, the need to delay recontouring of "immediately adjacent spoils". The narrative discussion of ramps must document the areas that will not "immediately" be brought up to grade and specify why. Specific reasons would include a discussion about the drainage divide, specific elevations, something about grades and any other supporting information."*

Response: WECO has reviewed this deficiency and come to the following conclusion: The ramps listed are required to ensure the safety of our miners. While the length of the ramps becomes long toward the end of mining the ramp will be brought up to grade while still allowing access to the final passes. Ramp SW3-B has been altered to allow for reclamation to commence before the mining is completed in passes BXS27 – BXS39. Please see Exhibit A – Mine Plan for the details on this effort.

Ramp SW3-A must be completely relocated because it would significantly "delay or prevent recontouring and revegetation on immediately adjacent spoils [ARM 17.24.601(1)] and is

not required in the current sequencing of mine passes. If needed for mine passes BXS 27 through BXS 33, Ramp SW3-A could split off Ramps SW5 or SW3 at about pass BXS 25.

Response: WECO has fulfilled this request and Ramp SW3-A has been shortened to allow for reclamation to commence earlier and the access to Passes BXS 10-1 – BXS 32 will have access from Ramp SW-5.

ARM 17.24.609(3): *The new scoria pit in Section 12 shown in the latest AM5 mineplan (Area B AM5 Exhibit A Approximate Mine Plan 2018-07 SP.pdf) is not shown on the currently approved mineplan for Area B. It would be best to submit this scoria pit as a separate revision, as it is not directly related to AM5 and is located outside the amendment area.*

Response: WECO has removed the scoria pit located in Section 12 from Exhibit A.

ARM 17.24.634(1): *Deficiencies in drainage basin reclamation have been identified in 17.24.313(e)&(f) and 17.24.501(4).*

Response: Please refer to 17.24.501(4) in reference to the revision to the PMT requested through said deficiency.

ARM 17.24.634(1)(a): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(b): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(c): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(d): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(e): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(f): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(g): *See ARM 17.24.634(1).*

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(h): See ARM 17.24.634(1).

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(1)(h)(i): See ARM 17.24.634(1).

Response: See ARM 17.24.634(1) comment.

ARM 17.24.634(2): See ARM 17.24.634(1).

Response: See ARM 17.24.634(1) comment.

ARM 17.24.713(1): *In the Revegetation Plan (Part 1), in the attachment 17-24-713, the end of the paragraph states ARM 17.24.313(5)(e). This ARM does not exist. Please delete ARM 17.24.313(5)(e) and replace with ARM 17.24.313(h)(ii)*

Response: The reference to ARM 17.24.313(5)(e) has been replaced with ARM 17.24.313(h)(ii) as requested.

ARM 17.24.716(3): *Please include language at the end of the sentence of Arm 17.24.716 (3): "Purity and germination percentages must be documented."*

Response: The language in 17.24.716(3) has been updated as requested by this deficiency.

ARM 17.24.751(2)(f): *Sites proposed for wetlands mitigation (Appendix N-1) are exclusively in the Armells Creek drainage, whereas the majority of wetland likely to be disturbed are in the Rosebud Creek drainage. While wetlands in adjacent drainages can be used for mitigation there should be some mitigation alternatives in the Rosebud Creek drainage.*

Response: The wetland mitigation plan's discussion of restoration sites (Section 4.4) in the Fish & Wildlife Plan has been revised to include consideration of wetlands in the Rosebud Creek drainage, as well as wetlands in the Armells Creek drainage.

Appendix N-1 Section 3.3, p. 3-5, states one of the waters (G700) will be impacted by "development of the high wall." This term is unclear as to the extent of the impact, and no mention is made of water 4-4/8 which will also be impacted by mining. Please state that waters 4-4/8 and G700 will both be mined out.

Response: Section 3.3 has been revised to clarify the impact to G700 and adds that waters 4-4/8 will also be mined out.

Based on the proposed mineplan, the descriptions in Appendix N-1, Table 3-3, are not

accurate for several sites. These wetlands sites are expected to be impacted as follows:

- 1. G011: Disturbed – buried under soil stockpile*
- 2. G012: Within disturbance limits – likely to be disturbed for access road to soil stockpile*
- 3. G300: Buried under haul road fill*
- 4. G602: Partially buried by haul road fill*
- 5. G400: Partially disturbed by highwall reduction, haul road fill, and excavation for pond Rich-4*
- 6. G500: Partially disturbed by highwall reduction and excavation for pond Rich-6*

Please make sure this table is consistent with the expected impacts of the proposed mineplan.

Response: Table 3-3 in the Fish & Wildlife Plan has been revised to include these impacts to wetlands.

ARM 17.24.801(1): *Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.801(2): *Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.801(3): *Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.802(1)(a): *Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.802(1)(b): *Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.802(2): *Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).*

Response: Comment noted.

ARM 17.24.802(3): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.804(1): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.804(2): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.804(3): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.804(4): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.805(1): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.806(1): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.806(2): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.806(3): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.806(4): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

ARM 17.24.806(5): Appendix Q has now been included. Subsequent material is contingent on DEQ's determination pursuant to ARM 17.24.325(2)(b).

Response: Comment noted.

Please Note: All electronic deliverables have been moved to Master CAD and ARM 17.24.763 has been removed from the application since the rule has been repealed.

If you have any questions, please feel free to contact me at (406) 748-5124.

Sincerely,



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