Newmont Mining Corporation
Cripple Creek & Victor Gold Mining Company
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March 23, 2022

ELECTRONIC DELIVERY

Elliott Russell
Environmental Protection Specialist
Colorado Department of Natural Resources
Division of Reclamation, Mining and Safety
Office of Mined Land Reclamation
1313 Sherman Street, Room 215
Denver, Colorado 80203

**Re: Permit No. M-1980-244; Cripple Creek & Victor Gold Mining Company; Cresson Project; – Technical Revision #131 – Closure Stormwater Design Updates**

Dear Mr. Russell:

Newmont Corporation's Cripple Creek and Victor Gold Mining Company (CC&V) hereby provides Technical Revision (TR) 131 documenting updated closure stormwater designs; as committed to during the second and third adequacy reviews of the CC&V Amendment 13 (A-13) Permit application. Stormwater commitments were originally addressed in response to the Colorado Division of Reclamation, Mining, and Safety (DRMS) Second Adequacy Review and Supplemental Second Adequacy Review, dated December 4, 2020. Additional stormwater design comments were provided by DRMS within the Stormwater Preliminary Adequacy Review dated April 23, 2020.

DRMS adequacy review comments from both of the documents referenced above are shown below in *italics,* and Newmont CC&V responses in **bold**:

***A-13 SAR:***
***84g.*** *A25 and A26. These two drawings were eliminated in the revised submittal. However, this is the only reference the Division can find in response to our April 23, 2020 AM-13 Stormwater Preliminary Adequacy Review. Please provide a written commitment to address adequacy issues in the aforementioned letter through a technical revision (TR) and include a schedule for when the Division can expect this TR.*

**Newmont Response:**
**As documented in CC&V response to DRMS's A-13 Second Adequacy review, CC&V committed to address adequacy comments through technical revision by one year following approval of A-13. CC&V submits this TR-131 to comply with the commitment to submit a technical revision by March 31, 2022.**

***Stormwater Review:***

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***GENERAL COMMENTS***

***A.*** *Comment No. 88. In the April 3rd PAR, Comment No. 88 indicated additional comments related to the Appendix 3 stormwater would be provided at a later date and the Division had been unable to locate previously submitted documents referenced in Appendix 3. The Division has since located the referenced document with assistance from CC&V personnel (thank you). The following comments fulfil the Division's commitment in Comment No. 88 of the PAR. No response required.*

**Newmont Response:**
**Comment acknowledged.**

***B.*** *VLF/OSA Closure Stormwater Analysis. As alluded to in Comment A above, the Closure Stormwater Analysis references Knight Piesold documents from 2018. These documents were submitted as TR-96 and adequacy review responses to the same. TR-96 focused primarily on EMP sediment ponds and not on stormwater channels designed to convey runoff from disturbed and reclaimed areas. The VLF/OSA Closure Stormwater Analysis appears to use the same hydrologic assumptions and build on TR-96 to include the necessary stormwater channels. The EMP sediment ponds are not shown in Figures 1 through 7. There are also several "terminations" of stormwater channels to what is implied as an existing or future channel (e.g., Haul Road). At closure, the Division expects stormwater to be conveyed in a controlled manner from and through all disturbed areas to the point it reaches a suitable natural drainage or to a non-discharging feature, such as a pit. Please address the following:*

*a. If these EMPs are to be removed prior to the establishment of vegetation, how is sediment discharge to be prevented/controlled while vegetation is being established?*

**Newmont Response:**
**CC&V notes that the Knight-Piesold stormwater analysis was submitted as TR-101. The EMPs will not be removed until adequate vegetative cover is established on all slopes in the watershed of the EMP. The EMPs will be removed after adequate vegetation is established and prior to final closure to prevent consumptive use of water on the mine site in order to minimize or eliminate water augmentation requirements.**

*b. Where are, or when can the Division see completed designs for non-natural receiving channels (such as haul roads) referenced on Figures 2 through 7?*

**Newmont Response:**
**As shown in attached Figures 1 to 7 in this submission, channels have been revised to daylight either into a natural channel or into a pit.**

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***C.*** *Channel Designs. Based on the concerns outlined in Comment Q below, it may be appropriate to remove the current stormwater designs from consideration in Amendment 13 in order avoid additional response and review time and possibly delaying the time needed to get these designs in approvable form. It may also be appropriate to have some meetings to discuss the concerns in Comment Q. If CC&V is willing to commit in writing to addressing the concerns in Comment Q via a technical revision review process within one year of a Division approval of AM-13, the Division would be willing to accept that approach.*

**Newmont Response:**
**As indicated in CC&V's response to DRMS's second and supplemental second adequacy review response to comments letter, dated 4 December 2020, CC&V has committed to providing these stormwater TR updates. CC&V submits this TR-131 to comply with this comment.**

***Stormwater Management Plan***

***D.*** *Table of Contents. The SWMP includes a Table of Contents complete with page numbers for each subsection. No page numbers are present on any page of the SWMP. Please resubmit the SWMP with page numbers on each page (with the exception of the Appendix 3 cover page).*

**Newmont Response:**
**A revised SWMP with page numbers is attached as Appendix 1.**

***E.*** *Individual Discharge Permits. Section 2.0 states CC&V holds three individual discharge permits: Carlton Tunnel, Fourmile Creek Springs, and Arequa Gulch. Please either provide a map showing locations of each discharge point or include a reference to a map in the application showing locations.*

**Newmont Response:**
**A revised SWMP is attached as Appendix 1, with individual discharge permit locations shown on Figure 1.**

***F.*** *Administrator Contacts. Section 4.1, Table 1 leaves the "[Mine Manager]" open. If this position has been filled, please provide an update with the requested page-numbered SWMP.*

**Newmont Response:**
**A revised SWMP with updated personnel is attached as Appendix 1.**

***G.*** *High Grade Mill. The fourth bullet under Section 4.3.1 states the "HGM liner is tied to the VLF liner system, providing full containment of the outdoor HGM area. Chemical releases to stormwater or the environment are, therefore, unlikely to occur." Given the HGM liner allows up to nearly six feet of ponding on the double composite-liner and has no leak detection*

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*system, how can CC&V demonstrate whether or not there is release to the environment (i.e., groundwater)?*

**Newmont Response:**
**Stormwater management related to the mill platform is outlined in detail in CC&V's adequacy response to TR-130. The mill platform is permitted as a designated Environmental Protection Facility within Amendment 13, Exhibit U, and leak detection for the HGM liner is incorporated into the VLF2 liner leak detection system.**

***VLF/OSA Closure Stormwater Analysis***

***H.*** *Design Storm. Section 3 states the 500-year, 24-hour design storm is now being used for the design of stormwater diversion/control channels. Previous efforts have used the 100- year, 24-hour design storm for channel sizing purposes. Several of the higher capacity channels discharge to previously designed channels that will not have the capacity to convey the full design flow and may lead to channel failures in these transition locations. An additional concern is the higher design capacity means the flow velocity in the larger channels will likely be much slower for the runoff from more common frequent storms, thereby increasing sediment deposition. The expected increase in sediment deposition may reduce the design conveyance capacity. Please respond to the following:*

*a. Does CC&V intend to upgrade diversion channels not addressed in AM-13 to convey the runoff from the 500-year, 24-hour design storm?*

**Newmont Response:**
**Existing stormwater controls will be left in place. Newmont only intends to construct the proposed final closure stormwater features for the 500-year 24-hour event. Stormwater infrastructure in areas of concurrent reclamation may be updated to 500-year, 24-hour designs when the reclamation activities are completed.**

*b. Have these higher capacity channels been evaluated for flow velocity for smaller storms such as the 2- or 5-year, 24-hour design storm such that the expected velocity is sufficient to transport sediment?*

**Newmont Response:**

**These channels have not been evaluated for small storm events, however, sediments which may settle in the channel during the small storms will be remobilized transported during the higher intensity storm events.**

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***I.*** *Stormwater Routing Plan. The last sentence on p. 4 states an overall plan for surface water routing is on Figure 1. There are no routing indications of any kind on Figure 1. Please correct the reference or add routing indicators on Figure 1.*

**Newmont Response:**

**Figure 1 has been updated to show the perimeter channels and routing indicators.**

***J.*** *Figure 2. Section 2.1 of the text indicates the ECOSA top will be graded at 1.5% towards the southwest to limit runoff to Grassy Valley. No such indication is shown on Figure 2. Two proposed diversion channels merge on the south end of the ECOSA and Altman backfill area, with a note indicating a "Discharge to Haul Road". Please address the following:*

***a.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**Figure 2 has been updated with labels included in the legend.**

***b.*** *Add a note or grading direction indicator on the crest of the ECOSA showing a 1.5% slope to the southwest*

**Newmont Response:**
**Figure 2 has been updated to indicate slope direction. CC&V notes the indicated slope direction prevails to the north/northwest.**

***c.*** *The 1.5% grade to drain on the crest of the ECOSA appears to significantly expand the contributing area to the "Haul Road" channel. Has the increased peak flow been checked with respect to the design capacity and stability of the "Haul Road" channel?*

**Newmont Response:**
**The referenced channel has been rerouted to a natural drainage instead of the Haul Road as shown on the updated Figure 2.**

***d.*** *Where can the design for the channel in the Haul Road be found?*

**Newmont Response:**
**The referenced channel has been rerouted to a natural drainage instead of the Haul Road as shown on the updated Figure 2. See Table 1 and associated figure in the Newfields design report.**

*There are several apparent errors on Figure 2 related to the subbasin delineation and the*

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*grading plan. Several subbasin boundaries are skewed from the expected orientation perpendicular to contour lines. Furthermore, the second and third bullets in Paragraph 2 (p.1) state benches are to exist every 150 vertical feet and Section A on Figure 8 is called out on Figure 2, implying bench channels are planned for each bench. These planned bench channels contradict the watershed boundaries delineated on Figure 2. Please reference the enclosed Figure 2 Markup and address the following:*

***e.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**The legend in Figure 2 has been updated to include watershed delineation labels.**

***f.*** *Bench Channels should be corrected to be no more than 150 feet apart (vertically),*

**Newmont Response:**
**Generally, the channels are spaced approximately 150 feet apart (vertically). The text in Section 2 of the report has been updated to say "approximately every 150 vertical feet".**

***g.*** *Watershed delineations are inconsistent with the grading plan.*

**Newmont Response:**
**The watershed delineation has been revised to match the proposed closure surface.**

***h.*** *Consider grading the crest towards the remnant haul road and using the haul road to convey runoff away from Grassy Valley, rather than grading the crest to southwest where it would erode the steep slope in the Southwest watershed.*

**Newmont Response:**
**The crest grading has been revised to drain towards the north and to the natural channel discharge. Haul road drainage has been removed from the design.**

***i.*** *ECOSA Channel 1A (on Figure 2) and the WHEX Channel on Figure 3 appear to have an upstream beginning in very close to the same place. How is runoff from the north end of watershed Northeast1 and all of watershed North1 directed to ECOSA Channel 1A and not the WHEX Channel?*

**Newmont Response:**
**Channel 1A alignment has been revised and extended to capture the upstream watershed, as shown on updated Figure 2.**

***K.*** *<u>Figure 3</u>. Please reference the enclosed Figure 3 Markup and address the following:*

***a.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**The legend has been updated to include delineation labels in Figure 3.**

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***b.*** *Bench Channels should be corrected to be no more than 150 feet apart (vertically) and shown in grading plan,*

**Newmont Response:**
**Generally, the channels are spaced approximately 150 feet apart (vertically). The text in Section 2 of the report has been updated to say "approximately every 150 vertical feet".**

***c.*** *Steep channels on the west side of the WHEX backfill not addressed specifically in TR-96, and*

**Newmont Response:**
**As shown on updated Figure 3, the west side WHEX backfill closure grading now drains into the remnant WHEX Pit.**

***d.*** *Grading difference with respect to a remnant haul road on the south end of the WHEX backfill*

**Newmont Response:**
**In the updated closure grading shown in updated Figure 3, the remnant haul road has been removed.**

***L.*** *Figure 4. Please reference the enclosed Figure 4 Markup and address the following:*

***a.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**The legend in Figure 4 has been updated to include delineation labels.**

***b.*** *Bench Channels should be corrected to be no more than 150 feet apart (vertically) and shown in grading plan,*

**Newmont Response:**
**Generally, the channels are spaced approximately 150 feet apart (vertically). The text in Section 2 of the report has been updated to say "approximately every 150 vertical feet".**

***c.*** *Watershed delineations are inconsistent with the grading plan,*

**Newmont Response:**
**The watershed delineation has been revised to match the proposed closure surface.**

***d.*** *The steep contact channel on the north side of the contact between VLF 2 and the SGOSA does not appear to be designed, and*

**Newmont Response:**

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**A channel has been designed and presented in Figure 4, identified as 'VLF Channel 7'.**

***e.*** *The discharge to the existing drainage way on the west appears to be into swale rather than an incised drainage. This will likely lead to significant head cutting. How will head cutting be avoided?*

**Newmont Response:**
**A concrete cutoff wall detail has been included in the drawings and is to be installed at locations draining into existing (natural) drainages. Callouts have been added to the appropriate locations in the drawings. Final design of channel outlets will be designed with the Issued for Construction drawings.**

***M.*** *Figure 5. Please reference the enclosed Figure 5 Markup and address the following:*

***a.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**The legend in Figure 5 has been updated to include delineation labels.**

**b.** *Watershed delineations appear to be inconsistent with the grading plan,*

**Newmont Response:**
**The watershed delineation has been revised to match the proposed closure surface.**

***c.*** *There is no design detail/section for the haul road channel (VLF2 channel 5),*

**Newmont Response:**
**Detail D has been added and is shown on Figure 8.**

***d.*** *Bench channel flow directions need to be shown.*

**Newmont Response:**
**Bench channel flow directions have been added to all figures.**

***e.*** *The ultimate discharge location appears to be down the steep face of the VLF2/SGVLF toe berm on the SW side of Hwy 67. There is no defined or established drainage here. Some means of controlling discharge to the existing Squaw Gulch drainage needs to be presented that will not result in excessive scour.*

**Newmont Response:**
**An energy dissipater at this discharge location will be designed with the Issued for Construction drawings in the future. Nearer to closure, implementation detail designs will be developed to address actual conditions at time of closure within the Issued For Construction design set.**

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***N.*** *Figure 6. Please reference the enclosed Figure 6 Markup and address the following:*

***a.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**The legend in Figure 6 has been updated to include delineation labels.**

***b.*** *Watershed delineations are inconsistent with the grading plan,*

**Newmont Response:**
**The watershed delineation has been revised to match the proposed closure surface.**

***c.*** *How is runoff conveyed from the termination of the VLF1 Channels 5 and 6 to the Cresson Pit?*

**Newmont Response:**
**VLF1 Channels 5 and 6 will be routed to the edge of the Cresson Pit in a combined channel as shown in updated Figure 6.**

***O.*** *Figure 7. Please reference the enclosed Figure 7 Markup and address the following:*

***a.*** *Watershed delineation labels need to be added to the legend,*

**Newmont Response:**
**The legend in Figure 7 has been updated to include delineation labels.**

***b.*** *There are two poorly defined drainages that may have considerable runoff directed to them. These should be evaluated in the field to determine if they have the capacity to accept flows rerouted to them that will not result in excessive scour.*

**Newmont Response:**
**These two existing drainages will be evaluated in the field during final development of Issued for Construction design at time of closure. A concrete cutoff wall detail has been included in the drawings (Detail A3 on Drawing No. 520) and is to be installed at locations draining into existing drainages. Callouts have been added to the appropriate locations in the drawings. Final design of channel outlets will be designed with the Issued for Construction drawings.**

***P.*** *Figure 8. Please reference the enclosed Figure 8 Markup and address the following:*

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***a.*** *There is a discrepancy between sections A and C as to whether the wider benches are 24 or 25 feet. Please correct as appropriate,*

**Newmont Response:**
**The drawing details have been updated to have a consistent 25' bench.**

***b.*** *This flat area between the upslope toe and the more centered bench channel will erode due to the runoff energy and generate sediment to reduce the channel capacity. Move the channel adjacent to the uphill slope to avoid this,*

**Newmont Response:**
**The detail has been updated to show the channel at the toe of the slope.**

***c.*** *Section A cites a "Rock Check Dam". There are no details as to how a rock check dam would be integrated into the bench channel. This type of BMP would be expected to cause backwater conditions and likely lead to water levels exceeding the freeboard (also not specified) and resulting to overtopping, breakout erosion and channel failure. Please provide clarification and appropriate details.*

**Newmont Response:**
**Rock check dams have been removed from the design.**

***Drawings***

***Q.*** *Drawings. Our review of the 50 drawings in Appendix C raised the following concerns:*

***a.*** *Channel Hatch Patterns. Given the scale of the B-size drawings, it is difficult to discern on most plan views of the Plan & Profile drawings what the proposed lining is. It is common practice to call out the appropriate channel design section (Drawings 520 and 521) in the profile portion of a Plan & Profile to clarify what type of channel lining is proposed for each segment. Please add this to the drawings.*

**Newmont Response:**
**Callouts have been added to the profiles to identify the types of channel lining.**

***b.*** *Channel Alignment/Positioning. Several of the plan views of channels proposed for haul road remnants or wide benches position the proposed channel closer to the outside/downslope side of the haul road (e.g., Drawings 221, 310, 315, 342, 343, 344, and 421). This flat area between the upslope toe and the offset channel will erode due to the runoff energy and generate sediment, reducing the channel capacity. Move the channel adjacent to the uphill slope to avoid this.*

**Newmont Response:**

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**Channels have been adjusted where appropriate to run along the toes of the slope to minimize erosion.**

***c.*** *Channel Appropriateness and Feasibility. The post-mine land use is rangeland. There are several thousand feet of concrete and grouted riprap channel proposed. Given the steep nature and potential for ice forming in these channels, the Division questions whether the ubiquitous use of concrete and grouted riprap is appropriate for either domestic or wildlife. The Division's and Urban Drainage and Flood Control's (UDFCD) experience has shown grouted riprap in cold climates results in broken/rubblized grout due to the freeze-thaw cycle effect on grout. UDFCD now recommends a grouted boulder technique, which differs significantly from grouted riprap. There are no details to show grouted riprap, so it is unclear what is intended. There are also significant lengths of grass-lined channels proposed. The Division has walked several thousand feet of existing diversion channels on site and has only seen a few hundred feet where sufficient grass has grown to stabilize the soil in the bottom of a channel. For this reason the Division questions the appropriateness of grass-lined and turf-reinforced mat (TRM) as an effective means of conveying and controlling runoff.*

**Newmont Response:**
**Grouted riprap and concrete lined channels have been removed from the design and were replaced with grouted boulder where appropriate. Channels reinforced with grass or TRM were re-evaluated and kept in the design where the runoff velocities are below the reinforcement's maximum performance limits. In areas with higher velocities, the appropriate channel lining has been called out. CC&V notes that existing diversion channels observed are designed to operational conditions.**

***d.*** *Drawing 240. The north arrow is rotated 90 degrees. Please correct the error.*

**Newmont Response:**
**The north arrow has been corrected in Drawing 240.**

**Summary of Proposed Surety Status**
CC&V is proposing an increase to the bond for incremental stormwater build-outs at closure, which is described in this TR. Approval of TR131 will require a surety bond increase of $17,639,659 to the current bond held of $209,491,188 in financial warranties for CC&V's Cresson Project, permit no. M-1980-244. The proposed update to the Argonaut Insurance Company #SUR0008080 will increase the bond held from $209,491,188 to $227,130,847 and will provide a surplus of $2,000,000 for future Technical Revisions and Amendments.

The total posted financial warranty will increase to $227,130,847, pending approval of this Technical Revision, compared to the estimated closure liability cost of $225,130,847, resulting in a surplus warranty of $2,000,000. An updated closure cost estimate to reflect the proposed increase is available in Attachment 2.

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Should you require further information please do not hesitate to contact Katie Blake at 719-851-4048 or Katie.Blake@Newmont.com or Justin Raglin at Justin.Raglin@Newmont.com.

Regards,

Ronald Parratt
Site Water Coordinator
Cripple Creek and Victor Mining Company

EC: M. Cunningham – DRMS
E. Russell – DRM
L. Morgan – Teller County
M. Crepeau – Teller County
J. Raglin – CC&V
R. Parratt – CC&V
K. Blake – CC&V
M. Bujenovic – CC&V

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Attachments
Attachment 1 - 10.18.21 VLF.OSA Closure Report-Issued for Permitting O and C Cost with appendices
Appendix 1 – Cresson Project SWMP
Figure 1 – Discharge Points AM-13
Attachment 2 – TR 131 Bonding Status CCET

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# Attachments