

July 27, 2021

**ELECTRONIC DELIVERY**

Mr. 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 127 – Monitoring and Reporting Procedures for the High and Low Volume Solution Collection Systems and the Leak Detection System, Responses to Adequacy Review #1**

Mr. Russell:

Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining, and Safety (DRMS) first adequacy review comments on Technical Revision 127 (TR-127) to Permit No. M-1980-244. CC&V has reviewed the comments issued in the letter dated May 14, 2021 from DRMS, and prepared responses for each comment. The DRMS adequacy review comment (*in italics*) and the corresponding response (**in bold**) are presented below.

**DRMS Comment (*italics*):**

1. *The Operator states a sample will be taken if two feet or more of liquid is present in the LDS and that due to pump operability, it is not possible to collect a sample if less than two feet of liquid is present. Please address the following items:*
  - a. *The Division does not believe the appropriate pump is being utilized to acquire a sample if at least two feet of liquid is needed to operate the pump. Based on site observations, the Division estimates 2 feet of liquid would at least equate to 47 gallons for all of the LDS sumps. Please provide the inside diameter, total depth, and depth to the inlet of each sump. Please provide a more thorough justification for the proposal to sample only after a depth of two feet is present or provide a more reasonable level which would initiate sampling.*
  - b. *Please discuss how the depth of liquid in each sump will be determined.*
  - c. *Please provide information on whether the sump is pumped as dry as possible after a sample is acquired. Evacuating the remaining liquid after a sample is taken would determine if there is any new liquid in the same sump during the next weekly monitoring event.*

**Newmont Response:** Pending DRMS approval, as discussed with DRMS via video conference on June 22, 2021, CC&V will attempt to pump, and subsequently sample, if one foot of liquid is present in the LDS. The depth of liquid in each sump will be determined by a visual indicator, which will be marked one foot above the bottom of the LDS. The sump will be pumped as dry as possible after a sample is acquired in order to determine if new liquid is present during the next weekly monitoring event.

**DRMS Comment (italics):**

2. *The Operator references both Section 3.3 of Exhibit G and Section 18.1 of Exhibit U for LDS criteria, notes, and additional considerations. Upon review of TR-127 and these sections of AM-13, the Division cannot find a discussion about reporting LDS data to the Division. It appears this data had been submitted to the Division in the past on an annual basis, but 2020 has yet to be received. To ensure a timelier submittal and to verify that weekly sampling is occurring, the Division suggests committing to providing LDS data on a quarterly basis, potentially as a section of the Quarterly Ground Water and Surface Water Report.*

**Newmont Response:** Pending DRMS approval, as discussed with DRMS via video conference on June 22, going forward, CC&V will submit the scanned inspection forms to DRMS on an annual basis.

**DRMS Comment (italics):**

3. *Under the Permit Criteria for the LDS, the Operator states a reporting scenario will be when sample analysis data collected with both a 30-day running average of CNWAD concentrations exceeding 1.0 mg/L and a 30-day running average of pH from the same period exceeding a value of 9.0. Please address the following item:*
  - a. *The Division believes there is a typo regarding this statement because the long standing Permit Criteria for the LDS has been 0.5 mg/L CNWAD. Potentially there error came from combining the LDS and Underdrain in the same section of TR-127, but then providing just the LDS row from the Section 18.1 of Exhibit U table as the Underdrains have the 1.0 mg/L CNWAD Permit Criteria. Please revise the LDS Permit Criteria and provide a separate row regarding the underdrains.*
  - b. *Please provide a scenario or information to help the Division understand the purpose of the 30-day running average qualifier on the Permit Criteria. Additionally, please explain how a “null” sample result (insufficient volume to sample, dry, inaccessible, etc.) is considered in this 30-day average.*

**Newmont Response:** The corrected LDS and underdrain reporting criteria is listed below. The purpose of the 30-day running average is to achieve a representative sample of water collected from an LDS can, considering potential influence from meteoric water. As discussed with DRMS via video conference on June 22, a null sample result is not considered in the 30-day average because there is no value to report. For example, if three samples of 5, 8, and 10 were collected over 30 days and no other samples were collected, the 30 day average would be  $(5+8+10)/3=7.67$ . Additionally, reporting is only required when *both* pH and WAD cyanide reporting criteria are met.

Scenario	Permit Criteria	Reporting Timeframe	Additional considerations
Leak Detection System (LDS)	Sample analysis data collected with both a 30-day running average of CNWAD concentrations exceeding 0.5 mg/L, and a 30-day running average of pH from the same period exceeding a value of 9.0 standard units (su) will be reported to the Division within 5 business days of receipt of analysis.	Verbal – Within 24 hours of confirmation of the initial monitoring result exceedance. Written – 5 business days after verbal notification.	Refer to section 3.3 of Exhibit G
Underdrain	Sample analysis data collected with both a 30-day running average of CNWAD concentrations exceeding 1.0 mg/L, and a 30-day running average of pH from the same period exceeding a value of 9.0 standard units (su) will be reported to the Division within 5 business days of receipt of analysis.	Verbal – Within 24 hours of confirmation of the initial monitoring result exceedance. Written – 5 business days after verbal notification.	Refer to section 3.3 of Exhibit G

**DRMS Comment (italics):**

4. *The Operator states that standpipe transducer (pond level well) level readings are displayed on a control panel in the ADR control room. Based on site observations, the Division understands the readout panels at each Pregnant Solution Storage Area (PSSA) are also periodically monitored. Please discuss how often CC&V personnel monitor the*

*levels displayed on the readout panels at each PSSA. Please also discuss how often the ADR displayed numbers are verified for consistency with actual readings.*

**Newmont Response: PSSAs are continuously monitored via digital systems, which are inspected on a weekly basis and calibrated on a monthly basis. Internal procedures establish action levels for proactive response prior to the 80% reporting level; with alarm systems in place to alert operators of unusual or upset conditions.**

**DRMS Comment (italics):**

5. *Table 1 of TR-127 contains a typo regarding the different PSSA Phases. The Division has seen Phase 2 be referenced as Phase 2/3 but understands if it only reverred to as Phase 2 by then skipping Phase 3, however the table shows a separate Phase 3 and then skips Phase 4. Based on the reporting limit, the Phase 3 column should be changed to Phase 4.*

**Newmont Response: The corrected table is shown below.**

**Table 1 – PSSAs & Height of Liquid Corresponding to 80% of the PSSA Volume (Reporting Limit)**

	Phase 1	Phase 2	Phase 4	Phase 5	VLF2
<b>Reporting limit</b>	63.7 ft	49.4 ft	56.5 ft	35.5 ft	94.0 ft

**DRMS Comment (italics):**

6. *Under the Permit Criteria for the HVSCS, the Operator states a reporting scenario will be when the average liquid level monitoring data in the PSSA exceeds 80 percent of the total capacity of the PSSA for 72 hours or more. Please address the following:*
  - a. *Please define the average liquid level monitoring data. The Division understands this data should be coming from the one standpipe transducer at the PSSA (except for VLF1 Phase 5) and should not be averaged with the level readings of the pressure transducers on the pumps due to pump drawdown.*
  - b. *The proposed reporting timeframe of 72 hours is acceptable to the Division for VLF1 Phases 1, 4, and 5 PSSA given the way these facilities were constructed, i.e., if the total capacity were to be exceeded, solution would flow internally in the VLF1 to another PSSA. The 72 hour timeframe will give the Operator the operation flexibility to reduce the pond level during an exceedance of 80% on these PSSAs. However, as VLF1 Phase 2, VLF2 Phase 1, and the future VLF2 Phase 3 PSSAs are the lowest PSSAs within the facilities, the Division treats these PSSAs as critical aspects of the Environmental Protection Facility and a reporting timeframe in accordance with Rule 8.1 is needed. Whereas, when the standpipe transducer level data in the PSSA exceeds 80 percent of the total capacity of the PSSA for 24 hours or more, the Division would consider this an imminent failure scenario and a verbal notice will be required within 24 hours after a sustained exceedance for 24 hours.*

**Newmont Response: As discussed with DRMS via video conference on June 22, the average liquid level monitoring data is gathered from well levels. The well levels are utilized to accurately monitoring PSSA levels outside the pumping cone of drawdown.**

**CC&V agrees to report an exceedance of 80% PSSA level if sustained for 72 hours for VLF 1 Phases 1, 4, and 5.**

CC&V disagrees exceeding 80% of PSSA levels at VLF 1 Phase 2, VLF 2 Phase 1, and/or future VLF 2 Phase 3 is imminent failure. The 80% threshold is a conservative threshold for reporting in an effort to notify DRMS of an upset condition which may eventually lead to imminent failure of the facility without corrective action in a 72 hour period. The proposed 72 hour reporting period is based on infiltration rates for the VLFs. To reach 100% PSSA capacity, infiltration without pumping for an additional 153 hours (over six more days) would have to occur following the 72 hour reporting period.

**DRMS Comment (italics):**

7. *Under the Permit Criteria for the LVSCS, the Operator states a reporting scenario will be when the transducer monitoring data in the LVSCS and LDCRS exceed 24" for 72 hours or more. Please address the following:*
  - a. *The Operator states LVSCS levels are monitored at least once per week. Based on recent site observations, it appears the Operator obtains LVSCS liquid level readings daily. Please revise TR-127 accordingly to reflect the frequency the LVSCS is monitored. Please also provide details if the LVSCS levels are displayed remotely in the ADR control room and could be continuously monitored similarly as the HVSCS levels.*
  - b. *As the LVSCSs are designed to maintain a low hydraulic head on the primary containment system, the Division treats the LVSCS as a critical aspect of the Environmental Protection Facility and a reporting timeframe in accordance with Rule 8.1 is needed. Whereas, when the transducer monitoring data in the LVSCS/LDCRS exceed 24" for 24 hours or more, the Division would consider this an imminent failure scenario and a verbal notice will be required within 24 hours of exceedance sustained for 24 hours.*

**Newmont Response:** As discussed with DRMS via video conference on June 22, LVSCS level monitoring is only required on a weekly basis, but generally checked each shift as an added internal control (not a requirement). LVCS levels are displayed in control rooms and are equipped with audible alerts which sound if LVSCS levels reach 24 inches for VLF 1 Phases 4 and 5 as well as all phases of VLF 2.

CC&V disagrees 24 inches is imminent failure, but only the previously agreed-upon reporting requirement in an effort to notify DRMS of an upset condition that may eventually lead to an imminent failure without corrective action in a 72-hour period. At 24 inches, the operator can correct flow conditions to maintain containment within the 72 hour period.

Should you require further information, please do not hesitate to contact Katie Blake at 719-689-4048 or [Katie.Blake@Newmont.com](mailto:Katie.Blake@Newmont.com) or myself at [Justin.Raglin@Newmont.com](mailto:Justin.Raglin@Newmont.com).

Regards,



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Cripple Creek and Victor Gold Mining Company

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