

September 2, 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 #2

Mr. Russell:

Cripple Creek and Victor Gold Mining Company (CC&V) received the Division of Reclamation, Mining, and Safety (DRMS) second adequacy review response to comments on Technical Revision 127 (TR-127) to Permit No. M-1980-244. CC&V has reviewed the comments issued in the letter dated July 29, 2021 from DRMS, and has prepared responses for each comment. The DRMS adequacy review comments (*in italics*) and the corresponding response (**in bold**) are presented below.

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.*

DRMS Response:

At this time, the Division is not requesting the scanned inspection forms for each of the fifteen LDS of VLF1 and currently the four LDS of VLF2 on annual basis. Rather, the Division expects the Operator to provide a LDS Monitoring Data Report which includes a summary table similar to the LDS Monitoring Data Reports previously submitted to the Division in accordance with prior permit commitments. The summary table should include, at a minimum: the LDS Number, Inspection Date, Inspection Time, Sample Taken, Reason for No Sample, Volume Pumped, CNWAD concentration, and pH. Please commit to providing a LDS Monitoring Data Report in this manner. Please also specify the date when the annual LDS Monitoring Data Report will be submitted each year and specify what period of time

the report will cover.

Newmont Response:

CC&V commits to providing a summary table including: LDS Number, Inspection Date, Inspection Time, Sample Taken, Reason for No Sample, Volume Pumped, CNWAD concentration, and pH, as requested by the Division. CC&V will provide this summary on an annual basis, at the end of Q1 following the reporting year. CC&V respectfully requests the Division provide or identify the prior permit commitments noted pertaining to LDS monitoring, to ensure CC&V understands all said commitments.

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.*

DRMS Response:

As discussed with CC&V via video conference on June 22, during the June 24 monitoring inspection, and via video conference on July 12, CC&V would submit a demonstration which calculates the amount of time it would take for the PSSA solution volume to rise from 80% to 100% without pumping and therefore would help justify a permit criteria reporting timeframe. CC&V states this would occur at 153 hours after the proposed 72 hour reporting period. This statement, indicating a 20% consumption of PSSA volume would take 225 hours, is not a demonstration. Please provide a demonstration on how this number was calculated. When calculating this time, the Division requires the Operator to include the 100-year/24-hour storm as additional volume that consumes some of the 20% PSSA volume. Please note, permit documents state the leaching rate for VLF2 is 17,000 gpm, 20% volume of the PSSA (at 35% ore porosity) is 33,240,000 gallons, and the modeled 100-year/24-hour storm is 3.5 inches.

Newmont Response:

As discussed in prior adequacy review correspondence, CC&V considers the 80% PSSA level

sustained for 72 hours to be a conservative threshold for reporting, as this allows corrective actions to be taken over this period to rectify the upset condition. 100% PSSA capacity is reached after 153 hours under normal application conditions and the 100yr/24hr stormwater event, without additional pumping. This calculation is completed with modeling technology utilizing the inputs described below.

CC&V calculates PSSA solution volume using a GoldSim software model, which was developed by Ecological Resource Consultants Inc in 2019. This model utilizes Monte Carlo simulation technology to model flowrates based on designated inputs. The Monte Carlo simulation develops a probability distribution of the modeled output scenarios, in order to determine a most likely output.

The water balance model applies a process solution application rate and a stormwater infiltration rate where the 100-year/24 hr stormwater event is applied evenly over the entire PSSA reporting area. Based on these inputs, the model produces a total flow rate reporting to the PSSA, from which a time period to reach 100% capacity can be determined. Based on the average ore depth to liner and ore material properties, the model delays contingency inflows reporting to the PSSA.

The VLF water balance model has the following components:

- Climatic data inputs for precipitation and evaporation
- Ore loading, facility volumes, areas of coverage, and phases
- Material properties for initial moisture contents, field capacity, leaching moisture, and moisture uptake
- Process solution flows from the PSSA to the process plant
- Solution application rates

New Adequacy Item(s):

8. *To help reduce confusion within the permit file by having portions of TR127, and associated adequacy review responses, revising portions of AM13, the Division requests CC&V submit attached updated/revised/replacement sections of Exhibits G (3.3 Phase 3 PSSA) and Exhibit U (18.1 Events Requiring Reporting).*

Newmont Response:

Please see the updated sections of Exhibits G (3.3 Phase 3 PSSA) and Exhibit U (18.1 Events Requiring Reporting) below. Pending approval of TR-127, CC&V will provide updated Exhibits G and U within two weeks.

3.3 Phase 3 PSSA Monitoring

VLF2 Phase 3 will also have a separate Pregnant Solution Storage Area (PSSA), which will have monitoring requirements similar to existing PSSAs. Design details for the VLF2 Phase 3 PSSA are provided in Appendix 1. Monitoring requirements at the leak detection systems, the high-volume solution collection systems, the low-volume solution collection systems, the pregnant solution storage

areas, and the external pond are described in Exhibit U, and various facility documents including the Water Quality Monitoring Program and the SPCC Plan (Appendix 7 and Appendix 11, respectively). The only change to VLF monitoring anticipated by Amendment 13 is the addition of monitoring requirements for the new Phase 3 PSSA.

The information presented below reflects the currently approved criteria for responding to changes in operating parameters observed as a result in monitoring activities. The situations outlined below are those that require further action.

- Underdrains: The 30-day running average of CN_{WAD} monitoring data for an underdrain exceeds 1.0 mg/L and the 30-day running average pH value from monitoring data for the same underdrain for the same period exceeds 9.0.
- LDS: The 30-day running average of CN_{WAD} monitoring data for a LDS exceeds 0.5 mg/L and the 30-day running average pH value for the same LDS monitoring data for the same period exceeds 9.0.
- HVSCS: The average of the water level monitoring data in the PSSAs exceeds 80 percent of the total capacity of the PSSA in a sustained manner for 72 hours.
- LVSCS, LDCRS: The transducers monitoring data in the LVSCS or LDCRS exceed two feet in a sustained manner for 72 hours.

The first response to the conditions listed above will be to verify that the measurements and data are accurate. This may involve re-sampling or revisiting the monitoring location to confirm the initial monitoring results. In the event that initial monitoring results are confirmed, verbal notice will be provided to DRMS. Recommendations will be provided to DRMS regarding further analysis of the situation and, if warranted, appropriate corrective actions will be developed and implemented. Corrective actions may include, but not be limited to, providing a written plan to DRMS regarding proposed measures for addressing the situation, changing flow rates to the various portions of the VLFs, discontinuing the addition of dilute sodium cyanide solution or make-up water, initiating detoxification operations, or other appropriate responses.

18.1 Events Requiring Reporting

| Scenario | Permit Criteria | Reporting Timeframe | Additional considerations |
|---|-----------------|------------------------------|---------------------------|
| Release of process solution, containing designated chemicals as identified in the EPP, outside of an EPF* | None specified | Within 24 hours of the event | None |
| Release of hydrocarbon product > 1000 gallons | None specified | Within 24 hours of the event | None |
| Release of any chemical > CERCLA RQ** | None specified | Within 24 hours of the event | None |

| Scenario | Permit Criteria | Reporting Timeframe | Additional considerations |
|---|--|--|-----------------------------------|
| Any other release required to be reported by other agencies | None specified | Within 24 hours of the event | None |
| Failure or imminent failure of impoundment, embankment, stockpile or slope that poses potential danger to human health, property or the environment | None specified | Within 24 hours of the event | None |
| Failure or imminent failure of an EPF identified in the EPP* | None specified | Within 24 hours of the event | None |
| Exceedance of permit conditions | | | |
| Underdrains | The 30-day running average of CN _{WAD} monitoring data for an underdrain exceeds 1.0 mg/L and the 30-day running average pH value from monitoring data for the same underdrain for the same period exceeds 9.0. | After confirmation of the initial monitoring results | Refer to section 3.3 of Exhibit G |
| Leak Detection System (LDS) | The 30-day running average of CN _{WAD} monitoring data for a LDS exceeds 0.5 mg/L and the 30-day running average pH value for the same LDS monitoring data for the same | After confirmation of the initial monitoring results | Refer to section 3.3 of Exhibit G |

| Scenario | Permit Criteria | Reporting Timeframe | Additional considerations |
|--|--|--|-----------------------------------|
| | period exceeds 9.0. | | |
| High Volume Solution Collection System (HVSCS) | The average of the water level monitoring data in the PSSAs exceeds 80 percent of the total capacity of the PSSA in a sustained manner for 72 hours. | After confirmation of the initial monitoring results | Refer to section 3.3 of Exhibit G |
| Low Volume Solution Collection System (LVSCS) | The transducers monitoring data in the LVSCS or LDCRS exceed two feet in a sustained manner for 72 hours. | After confirmation of the initial monitoring results | Refer to section 3.3 of Exhibit G |

* Facilities identified as an EPF in the EPP are: AGVLF (lined area), SGVLF (lined area), HGM Platform (lined area), ESP (lined area), ADR1 (lined area), external storage pond

**Comprehensive Environmental Response, Compensation, and Liability ACT (CERCLA): Reportable Quantities (RQ)

In the event of a failure or imminent failure of a designated EPF, CC&V will provide notification to the Division within 24 hours. The notification will include the following information;

1. Identify that this is a notification of an emergency condition
2. The nature of the condition including any chemicals and toxic or acid producing materials involved
3. An estimate of the quantity of any chemical, toxic or acid-forming material that has been or could be released
4. The time and duration of the occurrence and if it is on-going, or urgency of the pending situation
5. Any known or anticipated impacts to human health, property or the environment
6. Precautions and corrective actions taken by CC&V
7. CC&V's contact information

For spills requiring reporting to another agency, as identified in Rule 3.1.13 of the Hard Rock, Metal and DMOs, CC&V commits to notifying the division and providing the following information;

1. Operation name, DRMS permit number and name of person reporting the spill,
2. Telephone number of a responsible company official for the Office staff to use as a contact,
3. Date and time of spill,
4. Type of material spilled (CAS number if applicable, from the safety data sheet (SDS) form),
5. Estimate of the amount spilled, whether any material has left the permit area, and where the spilled material went, and
6. Initial measures taken to contain and clean up spill.

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

Regards,



Justin Raglin
S&ER Manager
Cripple Creek and Victor Gold Mining Company

EC: E. Russell – DRMS
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