



**COLORADO**  
Division of Reclamation,  
Mining and Safety  
Department of Natural Resources

May 14, 2021

Melissa Harmon  
Cripple Creek & Victor Gold Mining Company  
P.O. Box 191  
Victor, CO 80860

**Re: Adequacy Review, Revision No. TR-127  
Cresson Project, Permit No. M-1980-244**

Dear Melissa Harmon,

On April 21, 2021, the Division received the request for a Technical Revision (TR-127) for the Cresson Project, File No. M-1980-244, regarding the monitoring and reporting procedures for the High Volume Solution Collection System (HVSCS), Low Volume Solution Collection System (LVSCS), and Leak Detection System (LDS). The Division has reviewed the content of TR-127 and submits the following comment. Please respond to this Adequacy Review with the requested information and summarize each response to the numbered items below, in a cover letter titled "Adequacy Review Responses TR-127, M-1980-244".

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.
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.



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  $CN_{WAD}$  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 items:
  - 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  $CN_{WAD}$ . 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  $CN_{WAD}$  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.
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.
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.
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.

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.

This concludes the Division's adequacy review of TR-127. This letter shall not be interpreted to mean that there are no other technical inadequacies in your revision as other issues may arise when additional information is supplied. Please be advised the Cresson Project Technical Revision TR-127 may be deemed inadequate, and the request may be denied on **May 21, 2021**, unless the above mentioned adequacy review item is addressed to the satisfaction of the Division. If more time is needed to respond, the Division can grant an extension of the decision date following a request to do so by the Operator.

If you have any questions or need further information, please contact me at (303) 866-3567 x8132.

Sincerely,



Elliott R. Russell  
Environmental Protection Specialist

Ec: Justin Raglin, CC&V  
Michael Cunningham, DRMS