



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

August 3, 2020

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

RE: Cresson Project, Permit No. M-1980-244; Review Comments for Squaw Gulch Valley Leach Facility Adequacy Review – Phase 2A Part 3 Record of Construction Report (TR-122)

Dear Ms. Harmon:

The Division of Reclamation, Mining and Safety (DRMS) has reviewed the two-volume Squaw Gulch Valley Leach Facility Phase 2A Part 3 Record of Construction Report dated July 2020.

Pursuant to Rule 7.3.1(5), no chemicals used in the extractive metallurgical process or toxic or acid-forming materials ... shall be placed in constructed facilities until the Board or Office accepts the certification of the facility, or phase thereof, that precedes placement. The following comments need to be addressed prior to the DRMS accepting the submitted report:

Tables:

1. Table 8 - CQA Earthworks Testing Summary - Drain Cover Fill (Crushed Ore): The DRMS received four hard copies and electronic copies of the CQA report. The hard copy that was scanned by the DRMS was missing Table 8, and had two copies of Table 6. All other hard copies and electronic copies included Table 8. The DRMS added the electronic Table 8 to the public record to provide a complete copy of the submittal in our imaged documents. No response is necessary.

Issued for Construction Drawings:

2. Drawing A62 - Valley Leach Facility Sections and Details Sheet 2 of 2: Based on recent releases (VLF 2 Barren Solution pipe – May 13, 2019) and site inspection observations (June 30, 2020 – PSES holding pond), the DRMS is concerned with the potential off-liner release of process solution in the event of a barren solution pipe failure. Detail J, Pipe Bench Detail, provides a minimum horizontal offset from the crest of the liner, but no minimum vertical offset. For “as-constructed” configurations shown in Detail J, where the barren pipe is well below the liner “crest”, no problem is anticipated by the DRMS. However, in cases where the configuration is such that the edge of liner is level or below the barren pipe, pipe failures can readily result in off-liner releases. Note 2 on the drawing clearly states CC&V will install the barren solution pipe/bench configuration at a later date. Therefore this is not a concern for the CQA report. However, the DRMS needs to have



a minimum vertical offset clarified in the IFC drawings prior to placement/construction of additional barren solution pipe benches. Please provide a revised Drawing A62.

Record of Construction Drawings:

3. Drain Cover Fill As-Built Isopach, Drawing 6: For the third time in as many CQA submittals (reference TR-117 and TR-118), the Division has had to request clarification on this issue. The purpose of a CQA report is to demonstrate specifications are met. The only documentation provided to demonstrate the DCF has been placed to the minimum thickness of 2 feet is this isopach drawing. The drawing clearly indicates nine smaller areas have less than two feet of DCF (pink shading) within the “Limits of DCF Acceptance” for this submittal. This drawing, standing alone, clearly demonstrates the specification was not met. No discussion is provided in the report as to how, or if these areas were checked to verify two feet of drain cover fill is present. Please provide documentation to demonstrate these areas indicating less than two feet of drain cover fill were field checked, and if determined to be less than 2 feet of DCF thickness were corrected. Furthermore, make this a habit of addressing this issue in future submittals.

Appendices:

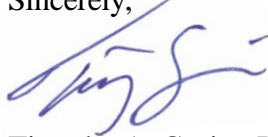
4. Appendix C – Specification Index and Format: The DRMS has previously asked for an index of the technical specifications. An integral part of our review CQA report review requires checking test results against the specifications. It is quite time consuming to page through all 136 pages of the specifications trying to find the one appropriate for the test being reviewed. The DRMS has also requested the specification number be shown in the center of the footer on each page as is standard industry format, rather than a small font filename on the left side of the page header near the document binder. The footer placement of the specification number is extremely helpful when flipping through the large number of technical specifications trying to find a particular specification. No response is necessary, but incorporating this comment into future submittals will help streamline the review process.
5. Appendix F – Onsite Personnel: Personnel are identified on page 1 of the following weekly reports without their respective roles being identified in the table on p. 1 of the respective weekly reports, and they appeared to have signed off on the weekly reports:
 - a. Week ending April 25, Julie Pfeiffer role is not defined as Project Resident as it is later in Appendix F. Please clarify her role for the week ending April 25.
 - b. Week ending May 2, Julie Pfeiffer role is not defined as Project Resident as it is later in Appendix F. Please clarify her role for the week ending May 2.
 - c. Week ending May 16, Tyler Wendlandt role is not defined as it is later in Appendix F. Please clarify his role for the week ending May 16.
6. Appendix F – Panel Clarification: The following documentation related to panels, requires clarification:
 - a. The report for Week ending June 13, section 2.5 incorrectly states that panels P-1393 through P-3216 were accepted for DCF placement. Should P-1393 be P-3193?
 - b. Please confirm that TR-122 Squaw Gulch VLF Phase 2A Part 3 Record of Construction Report only pertains to activities related to panels P3200 (P3193) through P3260.

- c. When were panels P3193 through P3199 deployed and welded? They are not accounted for in the weekly reports and shown in Appendix J-1.
7. Appendix F – Missing Report: The Weekly report for week ending May 30, 2020 is missing. Please provide this weekly report.
8. Appendix I.3: The charts in this section list QC controls that were measured for each roll of geomembrane. Each roll met the QC parameters outlined in Appendix C of the application. Asperity (ASTM D7466) was also measured on each roll; however, no QC parameters were stated in Appendix C, Technical Specifications. Asperity is the measure of the height of the texture of the geomembrane and was measured on the top and bottom of each roll. For example, Roll 231 has an asperity of 38 mils on the top and 30 mils on the bottom. The average thickness of the roll is 79 mils. Does this mean that the remaining thickness of Roll 231 is 11 mils? Please clarify how the asperity value was calculated and how the asperity values provided relate to the overall thickness of the geomembrane.
9. Appendix I.4: A letter from Chevron Phillips dated October 31, 2017 shows the results for oven aging and UV aging for geomembranes with Lot numbers not included in this application. Please submit the test results for oven aging and UV aging for the geomembrane Lots listed in this application.
10. Appendix I.4 – A letter from TRI Testing dated January 29, 2014 shows the results for the 80 mil microspike geomembrane. Please submit the most recent testing results for the 80 mil geomembrane as these tests were conducted before the current geomembrane was manufactured.
11. Appendix J.-3: The table indicates that sample DF-1101 was collected from panels P3240/P3242 whereas ROC Drawing 5 shows that the sample was collected from P3240/P3243. Please update either the table or the Drawing with the correct information.
12. Appendix J.-5.1: DF-1099, a shear strength test indicates one shear test result was 1744 ppi. Is this an accurate result? Please update the table if the result is incorrect.
13. Missing Results: DX-191 is depicted on Drawing 5 but there is no record of testing in Appendix J-5 extrusion destructive testing. Please provide the testing results and update the table accordingly.
14. Test/Sample Clarifications: The following samples require clarification:
 - a. DX-199 is depicted on Drawing 5 as being on panels P2034/P3225 but the table indicates the sample is on P2034/P3223. Please update either the table or the Drawing with the correct information.
 - b. DX-201 is depicted on Drawing 5 as being on panels P2057/P3252 but the table indicates the sample is on P2056/P3252. Please update either the table or the Drawing with the correct information.
 - c. DX-202 is depicted on Drawing 5 as being on panels P3256/P3257 but the table indicates the sample is on P3257/P1107. Please update either the table or the Drawing with the correct information.
 - d. DX-203 is depicted on Drawing 5 as being on panels P3249/P3251 but the table indicates the sample is on P3249/P1105. Please update either the table or the Drawing with the correct information.

The DRMS is aware the timely review and approval of CQA reports is important to CC&V. The content and organization of these reports has improved significantly and has resulted in more efficient staff reviews. However, DRMS has identified several ambiguities in these reports related to the overlapping nature of these sequential construction projects, which continue to cause delays in the review. For example, Appendix F, Weekly Reports, discuss panels P3261-P3276 and P3277-P3307 being deployed and accepted for DCF cover, however, TR122 Squaw Gulch VLF Phase 2A Part 3 Record of Construction Report only pertains to activities related to panels P3200 (P3193) through P3260. Including the additional information without a note or guidance from CC&V led to a delay in issuing this review letter. Providing clear, unambiguous report narrative, data and drawings in the appendices will assist the DRMS in streamlining the review of future CQA report submittals.

The decision date for TR-122 is August 13, 2020. Please be advised that if you are unable to satisfactorily address any concerns identified in this review before the decision date, **it will be your responsibility to request an extension of the review period.** As this submittal is being reviewed by multiple DRMS staff, please allow a reasonable amount of time for our review prior to the decision date. If there are outstanding issues that have not been adequately addressed prior to the end of the review period, and no extension has been requested, the Division may deny this Technical Revision. If you have any questions or need further information, please contact me at (303)328-5229.

Sincerely,



Timothy A. Cazier, P.E.
Environmental Protection Specialist

ec: Michael Cunningham, DRMS
Brock Bowles, DRMS
Patrick Lennberg, DRMS
Elliott Russell, DRMS
DRMS file
Justin Raglin, CC&V
Katie Blake, CC&V