

# STATE OF COLORADO

## DIVISION OF RECLAMATION, MINING AND SAFETY

Department of Natural Resources

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October 31, 2013

Greg Lewicki  
Greg Lewicki and Associates, PLLC  
11541 Warrington Court  
Parker, CO 80138

Re: Revenue Mine, Permit M-2012-032, Technical Revision TR-01, Final Adequacy Questions

Dear Mr. Lewicki,

The Division has reviewed the most recent packet of adequacy responses for the technical revision named above. Most of the adequacy materials are adequate. However, there are still a few remaining questions to be addressed before the revision may be considered fully adequate for approval.

Please address the following items.

1. Please describe the joints or method of joining the sections of half-culverts to be used for the conveying stormwater flows.
2. Please describe the materials used for the half-culverts, i.e., flexible or rigid, galvanized or plastic, length of sections to be joined.
3. How will they be removed and disposed of at the time of reclamation?
4. There are several steep sections shown in the overall design plans for the half-culverts. Please acknowledge that if certain portions of the half-culverts fail, the operator must perform the required remedial actions as soon as practicable, which may include simply repairing them or possibly installing a different type of engineered conveyance structure.
5. Water discharge pipes no. 1 and 2 (aka the "weep lines") described in Appendix 12 will be buried in the old waste rock, in a location that extends along the toe of the natural slope south of the former location of the old mine water pond. The map shows them to be in close proximity to each other. Please state whether there will be any horizontal or vertical distance between them, and/or whether they will be buried in the same trench.
6. Appendix 12 describes the one-quarter inch-minus rock that is to be delivered to the leach field and applied on top of the membrane liner. The narrative states that the rock will be delivered to the liner but not dropped directly on it so as not to breach it, and that a small piece of equipment will be down in the lined basin to spread the rock. The rock is to be delivered therefore to the

floor of the liner. Since the horizontal length of the 2H:1V slope is longer than the reach of the largest excavator, please describe what will be used to perform this task.

7. Appendix 12 describes the French drain, between the Atlas Creek and the Mine Pond. Please provide the depth or elevation at which the French drain will be placed. If appropriate, frame the response in terms of elevations of the upper and lower ends, and include the slope.
8. Do either of the ends of the French drain daylight?
9. The text on page 14 discusses "mine water pond hydrology" and appears to be repeated from page 13. Is there a portion of the French drain text missing? If so, please provide it.
10. The text on page 16 of Appendix 12, specifically paragraph 3, states that the "pond is not permanent, it will only be in place over the life of the mine." Other text ( and Map F – Reclamation Plan) reflect that the pond will be permanent. Please clarify this, and provide different slope gradient and factor of safety, if necessary.
11. The reclamation costs included in revised Exhibit L appear to include the necessary tasks, although some of them seem a bit light (specifically building demolition and seeding). No further estimates from you are needed, but the Division will send you and the operator the updated figures, after the responses to this letter are received by the Division.

The Division's decision will be made by the close of business on November 4, 2013, unless an extension is needed. Depending on the responses, i.e., if they only involve changes in text, revised maps might not be required. Responses to these minor issues may be emailed to me at the Durango office, with two sets of the hard copy version of the responses to be mailed to me. Please ensure that the electronic responses are images of the hard copy and include a signature.

I plan to be onsite with Rory Williams to conduct an inspection on Friday, November 1, 2013.

If there are questions please contact me at the Division's Durango Field Office: 691 CR 233, Room A-2, Durango, CO 81301; telephone 970-247-5193. My email is [bob.oswald@state.co.us](mailto:bob.oswald@state.co.us).

Sincerely,



Bob Oswald  
Environmental Protection Specialist

Ec: Russ Means, DRMS, Grand Junction  
Tessa Monday, Greg Lewicki and Associates  
Rory Williams, Star Mine Operations, Denver  
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