



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

1313 Sherman St. Room 215
Denver, CO 80203

February 24, 2023

Steve Kelton
Ready Mixed Concrete / Brannon Companies
2500 Brannon Way
Denver CO 80229

RE: Permit M2008-082; Morton Lakes; Technical Revision 8 (TR8) – Revisions to Mining Plan For Installation of Slurry Walls 7A and 7B with Groundwater Impact Modelling Report and Surety Increase Request, Adequacy Review 1

Mr. Kelton:

The Division of Reclamation, Mining and Safety received Technical Revision 8 (TR8) on February 14, 2023. **The decision date for this revision has been set for March 16, 2023. 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.** 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 must deny this revision.

This TR addresses modelled groundwater level impacts associated with the proposed installation of slurry walls for mining cells 7A and 7B, along with the required surety increase for the installation of the proposed slurry walls.

DRMS has completed the initial adequacy review of TR8. The Division has no objection to the nature of the revision proposed at this time, and DRMS will accept the installation cost estimates provided for the 7A and 7B slurry walls. However, as with most revisions of this nature, the provided groundwater impact modelling portion of the revision will require some clarification of the provided information or submittal of additional information before it can be approved.

Please provide the following information/clarifications:

- 1) The model provided indicates that only minor mounding (less than 2 feet) will occur in the vicinity of cells 7A and 7B. Please specify if the submitted model provides projected groundwater mounding/shadowing impacts from only cells 7A



- and 7B, or does this model include projected impacts from the other lined cells located west of the South Platte River (including 6A and 6B and all other proposed lined reservoirs)?
- 2) If the provided model only provides projected mounding impacts from installation of slurry walls around cells 7A and 7B, DRMS will require additional updated modelling submitted that accounts for all proposed and installed slurry walls at the site located west of the South Platte River.
 - 3) Please provide a rationale for including Little Dry Creek, but not including Lupton Bottom Ditch (which flows through the lined cells) in the provided model.
 - 4) SEO-DWR has expressed concerns that the slurry walls associated with this site will impact the return flow times for nearby infiltration/recharge projects, however, the revision as submitted indicates that recharge was not simulated in the provided MODFLOW model. Please discuss in more detail, if possible, how the provided model addresses the SEO concerns.
 - 5) Please provide, if possible, a detailed summary of the model inputs utilized and why, as well as a map showing the extent of the model domain described as approximately 32 square miles in the submittal. It would initially seem that 32 square miles is a very large area to consider for this exercise.
 - 6) The second paragraph of page 3 of the modelling memo states. "Sufficient data was not available for the area to allow for a full calibration of the model". Could you please elaborate further on this statement?
 - a. What attempts were made, and what additional data would be required for a full calibration.
 - b. What do the refinements discussed contribute to the validity of the provided modelling output?
 - c. What are the anticipated weaknesses of the provided model due to the lack of a full calibration?
 - 7) Please provide figures that depict the following information:
 - a. Well locations and surface elevations/contours used to develop the model
 - b. The model grid utilized overlaid on top of a current site map
 - c. Groundwater contour map of the existing and post mining solutions with a maximum .5' contour spacing and identical scale

This concludes the Division's adequacy review of TR8. This letter shall not be construed to mean that there are no other technical issues with the submittal. Other issues may arise as additional information is supplied.

If you have any questions, please contact me at (303) 229-9414, or by e-mail at eric.scott@state.co.us.

Sincerely,



Eric Scott
Environmental Protection Specialist