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

September 12, 2022

Kyle Regan
Civil Resources, LLC
8308 Colorado Blvd. Suite 200
Firestone, CO 80504

Re: Red Tierra Equities, L.L.C., Section 20 Gravel Mine, File No. M-2022-001, Groundwater Model Adequacy Review Memo

Mr. Regan,

The Division of Reclamation, Mining and Safety (Division/DRMS) reviewed the content of the Gilcrest Area Alluvial Groundwater Model for the Section 20 permit application, File No. M-2022-001. A copy of the review memo from Patrick Lennberg dated September 12, 2022 is attached for review.

If you have any questions, please contact me at peter.hays@state.co.us or (303) 866-3567 Ext. 8124.

Sincerely,

Peter S. Hays
Environmental Protection Specialist

Enclosure – Review Memo

Ec: Jared Ebert; Division of Reclamation, Mining & Safety

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

Date: September 12, 2022

To: Peter Hays, DRMS

From: Patrick Lennberg, DRMS

RE: **Section 20 Gravel Mine New Permit Application, Gilcrest Area Alluvial Groundwater Model Review Memo, File No. M2022-001**

On September 2, 2022, I was requested to review the Gilcrest Area Alluvial Groundwater Model for the Section 20 Gravel Mine new permit application M2022-001, below are follow-up questions that should be addressed.

1. On the acknowledgement page the signature and seal are missing, please provide the missing information.

2. The area is modelled as one slurry wall but there are going to be up to 8 individual walled cells. The Division is concerned that during construction of the individual cells, not just cell 5S, there could be mounding and shadowing effects that are overlooked or obscured by modelling the site as one cell, please comment.

3. The Division is aware there is an approved slurry wall structure that will be located immediately to the west of this site, Monarch Mountain (M2022-009). The installation of this structure needs to be included into the model and the model re-run to determine how groundwater is affected by both slurry walled structures.

4. The report states the shadowing effects to the north will be minimized by the unnamed slough and infiltration ponds. Please provide modelling that demonstrates this will be the case. Additionally, if the infiltration ponds were to go dry as a result of the shadowing the Applicant needs to provide a mitigation plan. Included in the mitigation plan for shadowing the Applicant needs to propose groundwater levels that will begin the mitigation efforts.

5. Please provide the details (length, diameter and timing of installation) of the underdrain proposed to mitigate the mounding effects to the south of the site. Additionally, provide the modelling results that demonstrate the proposed underdrain will mitigate the mounding.

6. Please provide the details (diameter, depth and timing of installation) of the dewatering wells proposed to mitigate the mounding effects to the south of the site. Additionally, provide the modelling results that demonstrate the dewatering wells will mitigate the mounding.

7. What will determine what southern mitigation scenario will be used; underdrain, dewatering wells or a combination of both?

8. The Figures 7 and7A referenced in the report were not provided. Are they the same as Figures 6 and 6A that were provided? Please update the text as needed or provide the missing figures.

9. Please provide the details of the drain recharge manhole and associated piping to be installed to mitigate the shadowing to the north of the site, also referred to as Option1. Additionally, the paragraph before Table 7 states that water will routed to the river for Option 1. Please clarify if the water will be routed to the drain recharge or to the river.

10. Option 2 of the three mitigation options states water will be routed via the surface to discharge to the river. Please show the route the piping will take to get to the river and where the discharge point will be located.

If you need additional information or have any questions, please let me know.

Sincerely,

Patrick Lennberg
Environmental Protection Specialist

cc: Jared Ebert, DRMS