



STATE OF
COLORADO

Zuber - DNR, Rob <rob.zuber@state.co.us>

Adequacy for TR1, Monarch DENM Mine

1 message

Zuber - DNR, Rob <rob.zuber@state.co.us>

Thu, Apr 11, 2024 at 5:17 PM

To: Kyle Regan <Kyler@civilresources.com>, Eric Leigh - DEN <eric.leigh@quikrete.com>

Hello, Eric and Kyle -

Please see attached adequacy letter. If you guys have any technical questions prior to sending your response, it might be best to set up a meeting with our groundwater expert, Patrick Lennberg.

Rob

Rob Zuber, P.E.
Environmental Protection Specialist
Active Mines Regulatory Program



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

I am working remotely and can be reached by cell at 720.601.2276.

Physical Address:

1313 Sherman Street, Room 215
Denver, CO 80203

Mailing Address:

Division of Reclamation, Mining and Safety, Room 215
1001 East 62nd Avenue
Denver, CO 80216

rob.zuber@state.co.us | <http://drms.colorado.gov>



M2022009_TR1_DRMS_Adequacy_Letter_and_Enclosure.pdf

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

April 11, 2024

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

**Re: Monarch DENM Mine, File No. M-2022-009;
Technical Revision Number 1 (TR-01) Adequacy Review**

Dear Mr. Regan:

The Division received the technical revision application that you submitted on March 13, 2024. This is referred to as TR-01. I asked one of the DRMS experts in groundwater hydrology to review this submittal. Patrick Lennberg's review memorandum is attached.

Please submit a response to this adequacy letter through the Division's e-permitting system. If you have any questions, please contact me by telephone at (720) 601-2276 or by email at Rob.zuber@state.co.us.

Thank you,

Robert D. Zuber, P.E.
Environmental Protection Specialist

Enclosure

Cc: Eric Leigh, MMMA



Date: April 11, 2024

To: Rob Zuber, DRMS

From: Patrick Lennberg, DRMS

RE: Monarch DENM Mine, Technical Revision No. 1 (TR-1), Groundwater Monitoring and Sampling and Analysis Plan and Site Groundwater Modelling Review Memo, File No. M-2022-009

On March 25, 2024, I was requested to review Technical Revision No. 1 (TR-1) for the Monarch DENM Mine, permit no. M-2022-009. Below are follow-up questions and/or clarifications that should be addressed.

1. Please provide a copy of the approved Substitute Water Supply Plan that allows for exposing groundwater at the site.
2. Please update the piezometer location map to include the major permit structures, current and proposed, e.g. slurry walls, freshwater and siltation ponds, and processing area.
3. The Operator proposes to collect groundwater samples from three locations, two downgradient and one upgradient. The Operator will need to expand sampling locations to demonstrate that existing and reasonably potential future uses of groundwater are protected (Rule 3.1.7(8)) and no unauthorized release of pollutants to groundwater shall occur from any materials mined, handled or disposed of within the permit area (Rule 3.1.5(11)). Please note PZ-1 is not part of the current monitoring network and is located in the area where the processing plant is to be located. The plant area is identified in Section 4 as the highest risk of potential contamination to groundwater.
4. Please update Table 1 with the following for each piezometer: top of casing elevation, ground surface elevation, depth to groundwater from top of casing, and distance from ground surface to groundwater.
5. Groundwater levels are to be collected monthly at the Site. The application was approved in July 2022 but was not issued until June 2023. During that time monthly measurements were not completed in October 2022 and February 2023. Additional monthly measurements were not completed in July and August 2023. Please provide an updated Table 1 with groundwater level measurements through March 2024 and update the associated graphs as needed.



6. Please provide another graph that depicts depth to groundwater from the ground surface.
7. In Section 3.0 it is stated, "The model demonstrated that upgradient of the Site, the groundwater table is expected to rise up to 5.7 feet above the baseline level of the model, without any mitigation. Depth to groundwater in this area after construction of the slurry walls ranges from 18.4 to 20.5 feet below ground." Please update this section to clearly state what the expected rise in groundwater level will be with the installed mitigation measures, and what the resulting rise will be relative to ground surface and other structures in the area such as basements (if any). Please clarify the predicted depth to groundwater after slurry wall and mitigation measures will be installed.
8. Pursuant to Rule 3.1.7(7)(b)(iv), please provide a description of the quality control and quality assurance methods (e.g., duplicate samples, rinsate samples) to be used during quarterly sampling.
9. Please commit to providing the quarterly groundwater monitoring results along with the monthly level measurements by the following deadlines:
 - First quarter report due by May 1st of every year.
 - Second quarter report due by August 1st of every year.
 - Third quarter report due by November 1st of every year.
 - Fourth quarter report due by February 1st of the following year.

At the end of five quarters the Operator may submit a Technical Revision to reduce the analyte list and frequency of monitoring with sufficient justification

10. Please commit to providing the Division a written report within five (5) working days when there is evidence of groundwater discharges exceeding applicable groundwater standards or permit conditions imposed to protect groundwater quality, in accordance with Rule 3.1.7(9). Please be advised, this notice requirement would apply to any exceedance of the groundwater monitoring standards set for monitoring wells. However, enforcement actions would only be pursued for exceedances at the approved point of compliance well (or wells).
11. Please commit to establishing a point(s) of compliance following five (5) quarters of baseline monitoring in accordance with Rule 3.1.7(6).
12. In Section 5.2 the full list of analytes referenced to be in Appendix B is missing. Please provide the missing Appendix B.

13. Please update Table 1 – Groundwater Baseline Data to clearly indicate which analytes are to be reported as Total and which are to be reported as Dissolved.
14. The mitigation triggers for groundwater level is specific to two piezometers PZ-20 and 27. The Division requests trigger levels be set for all piezometers at the Site. Please propose trigger levels for all locations at the Site and include a discussion of the proposed rise relative to ground surface and other structures in the area such as basements (if any).
15. Please note that DRMS will review any report submitted within 30 days of a complaint being received and will determine whether or not the mining activities are responsible for the impacts in the complaint.

Groundwater Model Review

16. In Section 6.2, page 9, in the last sentence of the first paragraph, the depth to groundwater needs to be clarified and updated to be consistent with what is in Table 3 at the top of the page.
17. In Section 7 – Conclusion, the third bullet states that the report is based on six months of piezometer data. Now that 20 level measurements, and more if data through March 2024 is included, have been taken at the site, how do those measurements impact the model and its findings?

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

Sincerely,



Patrick Lennberg
Environmental Protection Specialist

cc: Jared Ebert, DRMS