STATE OF COLORADO

Reilley - DNR, Robin <robin.reilley@state.co.us>

Re: Request for Assistance

2 messages

Simmons - DNR, Leigh <leigh.simmons@state.co.us> Thu, May 29, 2025 at 2:35 PM
To: "Reilley - DNR, Robin" <robin.reilley@state.co.us>
Cc: Amy Eschberger - DNR <amy.eschberger@state.co.us>, "Ebert - DNR, Jared" <jared.ebert@state.co.us>, Patrick Lennberg - DNR <patrick.lennberg@state.co.us>

Robin,

I will begin by apologising for the delay with which I responded to your request - too many competing priorities.

I have attached a memo for your review. While the decision is for you and Jared to make, my recommendation is that you do not approve TR-2 at this time. The currently approved permit does not meet the Division's standards for groundwater monitoring, and the changes to the mine plan proposed with TR-2 are such that additional impacts to the hydrologic balance are anticipated (so hydrologic monitoring must be re-evaluated).

My memo is certainly not perfect, and is not formatted quite right for you to copy and paste into an adequacy letter, but I need to send it now without further polishing; it should at least be sufficient for you to share with the applicant to get the ball rolling. I'll be away from June 3-17, but would be happy to discuss it briefly with you before I leave, or in greater detail after I return. In case you want to move forward in my absence I've copied Patrick into this conversation.

Leigh Simmons
Environmental Protection Specialist

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

P 720.220.1180
Physical address: 1313 Sherman Street, Room 215, Denver, CO 80203
Mailing address: Colorado Division of Reclamation, Mining and Safety, Room 215, 1001 E 62nd Avenue, Denver, CO 80216
leigh.simmons@state.co.us | https://drms.colorado.gov

On Thu, May 15, 2025 at 5:03 PM Reilley - DNR, Robin <robin.reilley@state.co.us> wrote:

> Hello there,
>
> Please find attached my request for assistance with groundwater analysis for the Kattenberg Pit. Currently the decision due date is 5 June 2025.
>
> Thank You
>
> **Robin Reilley, M.S. GISP**
> **Environmental Protection Specialist II**
>
> image.png
>
> P 303.866.3567|
> F 303.832.8106
> Physical Address: 1313 Sherman Street St., Suite 215, Denver, CO 80203
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M2004017_KattenbergPit_TR2_LDSMemo1.pdf
259K

Reilley - DNR, Robin <robin.reilley@state.co.us> Fri, May 30, 2025 at 8:38 AM
Draft To: "Simmons - DNR, Leigh" <leigh.simmons@state.co.us>

Robin Reilley, M.S. GISP
Environmental Protection Specialist II

image.png

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[Quoted text hidden]

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

May 29, 2025

From: Leigh Simmons
To: Robin Reilley

Subject: **M2004017 Kattenberg Pit**
TR-2

As you requested, I reviewed the material submitted with the Kattenberg Pit TR-2 application. My focus was on potential impacts to groundwater, and the permitting implications of exposing groundwater. I have organized my comments under sub-headings rather than rule citations.

My general comment is that the M2004017 permit is deficient in its consideration of groundwater. The Division has published two groundwater guidance documents since this permit was originally approved, a technical bulletin in 2019 and a "Sampling and Analysis Plan Guidance" that is more specific to construction materials sites, in 2024,

In the 2024 document the introduction states:

> *"[DRMS] has statutory mandates to monitor groundwater and protect the hydrologic balance during and after mining operations under the Colorado Mined Land Reclamation Act (C.R.S. Title 34, Article 32), and the Colorado Land Reclamation Act for the Extraction of Construction Materials (C.R.S. Title 34, Article 32.5). The Division is requiring groundwater monitoring throughout the life of mine to demonstrate compliance with these statutes for mines that have, or potentially will affect the hydrological balance."*

With TR-2 the applicant is proposing a revised mining plan that is likely to expose groundwater, so certainly has the potential to affect the hydrological balance. Currently there appears to be no groundwater monitoring at the site, and none of the baseline characterization that would inform a monitoring program.

As is laid out in the 2024 document, there are three broad areas that should be considered:

1. Site description/baseline characterization
2. Prediction of hydrologic impacts
3. Ongoing monitoring plan

Site description/baseline characterization

In Exhibit D the geology is briefly described, first as a "Slocum alluvial terrace deposit", then as "colluvium and glacial till lying on top of Pierre Shale bedrock". The strike and dip of the underlying shale is given, and the depth of gravel has apparently been confirmed in at least one location within the permit area (although no supporting evidence is given). I would assume that some exploration drilling would have taken place, but no information has been presented.

The hydrogeology at the site is not well characterized in the application material. Three wells are cited in the text of Exhibit G for water level information:

- 7599-F
- 22403
- 264287

Additionally, 88169-F is shown on Maps C1a and C2 (but not discussed in the text).

Where wells are discussed, a depth to water is given, but not an actual elevation. No information is given about the saturation of the unconsolidated material to be mined, or any underlying aquifers. No attempt has been made to project a water table or a potentiometric surface.

A spring is mentioned in Exhibit D, at an elevation of 8110 feet, in the southwest corner of the permit area, at a bedrock outcrop. No information about the discharge rate of the spring or its water quality is given. The spring is not shown on any of the maps I've reviewed. It's not clear whether the spring water comes from the unconsolidated material or the bedrock.

Additional characterization is needed to describe the hydrogeology of the site and establish baseline conditions.

Prediction of hydrologic impacts

(i) Groundwater exposure

In Exhibit D the applicant states that the operation is likely to expose 0.1 acres of groundwater, and goes on to state:

> *"This exposure is permitted under Stormwater Water Discharge Permit (SWSP) WDID 1407801"*

The quoted sentence is confusing. It appears to conflate the permitting requirements of exposing groundwater with those of discharging surface water runoff to groundwater.

Recent (March 27, 2025) guidance was issued by the Division with respect to Mining Operations with Exposed Groundwater. It clarifies that:

- (as the applicant acknowledges) a well permit is needed before groundwater is exposed;
- and **the applicant must also obtain a water court approved plan for augmentation or a Substitute Water Supply Plan (SWSP) approved by DWR**.

Furthermore, the guidance lays out three options for operators with respect to bonding:

1. Obtain a water court approved augmentation plan prior to exposing groundwater; or
2. File a financial warranty that addresses backfilling the pit to cover exposed groundwater to a minimum depth of two feet above the mean high groundwater level, or
3. File a financial warranty that addresses installing a liner system (e.g., clay liner, slurry wall) that meets DWR's requirements for preventing groundwater exposure.

(ii) Discharge of stormwater runoff to groundwater

I agree that for stormwater to be allowed to discharge by infiltrating into exposed groundwater (or, in other words, to allow the exposed groundwater to act as a sediment pond) a discharge permit with CDPHE will be necessary. **A copy of the permit should be provided to the Division**.

(iii) Other impacts

The applicant should explicitly contemplate all other potential impacts to groundwater quantity and quality. For example, is there any potential to impact neighboring wells? How will the spring be impacted? What is the maximum spatial extent of drawdown caused by dewatering and the time-scale over which it will be observed?

The prediction of impacts to groundwater quality should include a discussion of water quality parameters that may be elevated as a result of the proposed operation, and the likely spatial and temporal extent of the impact.

Groundwater Monitoring Plan

[This text contains excerpts from the Sampling and Analysis Plan Guidance document – please refer to the document itself for more detail]

A monitoring plan sufficient to verify the predictions of hydrologic impacts should be proposed. The locations of sampling points, and the frequency at which they will be sampled should be specified. A complete list of groundwater quality parameters to be sampled for should be given. A description of sampling methods should be included in sufficient detail to ensure that the procedure can be replicated throughout the life of the permit.

It is likely that one or more Groundwater Points of Compliance (POC) will be established, these are locations at which compliance with the applicable standard will be assessed.

The Division does not have the authority to set groundwater quality standards, but it does have both the authority and the obligation to apply the standards set by the Water Quality Control Commission, (in practice, this often involves the determination of how the Interim Narrative Standard from Reg. 41 should be applied at a site). For the sake of clarity, the numerical values for groundwater quality parameters that represent the applicable standard should be agreed and recorded in a table at the same time the POCs are established.