

STATE OF
COLORADO

Eschberger - DNR, Amy <amy.eschberger@state.co.us>

Comments on Schwartzwalder Mine - File No. M-1977-300, Colorado Legacy Land LLC Amendment Application (AM-6)

Sharon Israel <sisrael@arvada.org>

Wed, Sep 15, 2021 at 1:59 PM

To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>, Aimee Konowal <aimee.konowal@state.co.us>, "Arnold, Daniel J." <Daniel.Arnold@denverwater.org>, jill.ryan@state.co.us, Meg Parish <meg.parish@state.co.us>, "Opila - CDPHE, Jennifer" <jennifer.opila@state.co.us>, Nicole Rowan - CDPHE <nicole.rowan@state.co.us>, James Grice <james.grice@state.co.us>, thomas.debrah@epa.gov, Shiya Wang <shiya.wang@state.co.us>

Hello Amy,

Please see the attached letter with the City of Arvada's comments on the recent amendment application for the Schwartzwalder Mine in Jefferson County, Colorado.

We sincerely appreciate your efforts and the work by DRMS to oversee the operations at this decommissioned uranium mine in the watershed upstream of Arvada's drinking water supply.

As you see, we are also cc'ing the Colorado Department of Public Health and Environment and USEPA Region 8 on our comments. We request DRMS consult with these agencies on environmental and public health impacts associated with the high levels of uranium and other materials in the underground mine pool. We further request a meeting with the City of Arvada, Denver Water, and the regulatory agencies to discuss the future of this site. It is our opinion that a plan for perpetual operation needs to be contemplated for the long-term future, and it is time to start those discussions.

Thank you,
Sharon

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Sharon Israel, P.E.
Director of Utilities
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Colorado Legacy Land permit amendment comments to DRMS 091421.pdf
219K



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September 14, 2021

Ms. Amy Eschberger
Colorado Division of Reclamation, Mining and Safety
1313 Sherman Street Rm 215
Denver, Colorado 80203

Re: Colorado Legacy Land, LLC – Permit M-1977-300 - Amendment Application
(Amendment 6)

Dear Ms. Eschberger,

The City of Arvada ("City") has reviewed Application Amendment 6 for mine permit M-1977-300 ("Amendment 6") submitted by Colorado Legacy Land LLC ("CLL") concerning the Schwartzwald Mine in Golden, Colorado. The City believes the Division of Reclamation, Mining and Safety ("DRMS") should deem Amendment 6 deficient and require CLL to supplement with additional information. Additionally, we request that DRMS increase CLL's financial warranty due to the inability of CLL to stabilize the mine pool chemistry with its current method of operation.

The City further requests DRMS consult with the Colorado Department of Public Health and Environment and the US Environmental Protection Agency, Region 8 on this amendment. The City has serious concerns about the approach CLL is taking to their management of the site. There is high concentration of uranium in the Mine Pool, the conceptual site model is inadequate, and there is general lack of data and analysis providing evidence that the uranium is not migrating in the groundwater. We also believe there is inadequate protection of the environment in case of a flood or wildfire emergency.

These are all aspects of the site that have serious risk to public health and the environment. The City believes CDPHE and USEPA need to have a role in oversight of the Schwartzwald Mine operation in the context of the Clean Water Act and state and federal regulatory authority related to radioactive contaminants.

We do appreciate the progress CLL has made and continues to make with remediation at the Schwartzwald Mine. As you know, Schwartzwald Mine discharges directly impact the drinking water supply to a large number of Colorado residents, including residents of the City. The City has a vested interest in the public health, safety and welfare of its citizens. Increased levels of uranium or other contaminants can harm public health as well as cause increased treatment and residual disposal costs due to

TENORM. When the City is required to dispose of TENORM, the cost is 700% higher than our standard disposal cost.

Accordingly, it is imperative that this site is sustainably operated with drinking water source water protection and public health as priorities in both the near and long-term.

The City has received the results and findings of Denver Water's extensive technical review of the amendment, and we are in agreement, in particular with the following conclusions:

- 1) CLL's Conceptual Site Model is deficient: The current Conceptual Site Model lacks sufficient data and quantitative analysis. It does not meet ASTM or EPA standards and guidance for the content of Conceptual Site Model. There is inadequate evidence that the subsurface hydrogeology and groundwater flows are well-characterized. Is uranium migrating offsite in the regional groundwater? This has not been studied with a quantitative groundwater model.
- 2) CLL has not stabilized the Mine Pool: Uranium and radium levels in the Mine Pool are extremely high. On Page 21 of the amendment, CLL states that the Mine Pool contains Uranium at levels of 12 mg/L, which is 400 times the Maximum Contaminant Level of 0.03 mg/L allowed in drinking water. Further, according to Table E-2 on Page 23 of the amendment, the average level of Radium-226 in the Mine Pool is 61 pCi/L, which is over 12 times the Maximum Contaminant Level of 5 pCi/L for combined Radium allowed in drinking water. The data in Figure E-5 also demonstrate that uranium levels are increasing in the Mine Pool. This is logical because concentrated brine from the Reverse Osmosis treatment process is not being removed from the site, but rather is being discharged back into the Mine Pool.

The City does not believe CLL provides sufficient evidence to exclude the "suspect data" showing very high levels of uranium in Figure E-3 in the amendment. This needs additional study before we have confidence in the stability of the Mine Pool.

Further, with only two monitoring wells used to estimate groundwater gradients, there is insufficient evidence that the Mine Pool is contained. Data on only two wells (MW-15 and MW-18) were provided in the amendment in Table E-1.

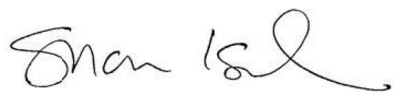
- 3) The long-term operational costs to minimize harm to the prevailing hydrologic balance and avoid unauthorized discharges should be reevaluated: On Page 44 of the amendment, there is a statement that the costs are "consistent with the remaining scope of work at the site." However, the current method of operating the site will require perpetual pumping and onsite treatment. This inconsistency of planning periods (limited scope vs perpetual) is very concerning to the City. The estimate of cost of operating this site (Table L-1 in the amendment) appears unrealistically low, and it also does not reflect perpetual operation. One example

is the estimate of \$30,000 to decommission the water treatment plant. By comparison, the City recently began demolition of a small decommissioned water treatment plant, which did not include membranes used for radionuclide treatment, and the cost is exceeding \$250,000. We believe the operational costs need a more detailed review, and an increase in CLL's financial warranty to be set accordingly.

We understand that the timeframe for CLL to operate the site is less than 20 years. After that time, will this site become a public obligation to operate and care for into the indefinite future? This question remains unanswered. As part of this amendment process, we request a meeting with DRMS, CDPHE, US EPA Region 8, Denver Water, and the City of Arvada to discuss the future of this site.

Thank you for the opportunity to comment. If our comments are not addressed and incorporated into the amendment permit, we reserve our right to a hearing in front of the Colorado Mined Land Reclamation Board (CMLRB).

Sincerely,

A handwritten signature in black ink, appearing to read "Sharon Israel", with a stylized flourish at the end.

Sharon M. Israel, P.E., ENV SP
Director of Utilities

CC (by email):

Daniel Arnold, Attorney, Denver Water

Jill Hunsaker Ryan, Executive Director, CDPHE

Jennifer Opila, Director, Hazardous Materials and Waste Management Division, CDPHE

Nicole Rowan, Director, Water Quality Control Division, CDPHE

Deb Thomas, Regional Administrator (Acting) and Deputy Regional Administrator, US EPA Region 8