



STATE OF
COLORADO

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

CLL Financial Warranty Request Permit No. M-1977-300

Arnold, Daniel J. <Daniel.Arnold@denverwater.org>

Fri, Jan 15, 2021 at 3:54 PM

To: "Eschberger - DNR, Amy" <amy.eschberger@state.co.us>, "Cunningham - DNR, Michael"

<michaela.cunningham@state.co.us>, "russ.means@state.co.us" <russ.means@state.co.us>

Cc: "Poncelet, Nicole" <Nicole.Poncelet@denverwater.org>, "Witheridge, Alison" <Alison.Witheridge@denverwater.org>, Sharon Israel <sisrael@arvada.org>, Jim Harrington <jim@coloradolegacy.land>, Jeff Fugate <Jeff.Fugate@coag.gov>

Attached, please find Denver Water's letter and enclosed attachments objecting to CLL's December 7, 2020 request for financial warranty reduction for the Schwartzwalder Mine.

If you have any questions regarding Denver Water's attached letter, please do not hesitate to contact me.

Daniel J. Arnold | Office of General Counsel | Attorney

Denver Water | office: 303-628-6460 | direct: 303-628-6469 | fax: 303-628-6478

[1600 West 12th Ave | Denver, CO 80204-3412](#)

daniel.arnold@denverwater.org

3 attachments



Attachment 1, Schwartzwalder Mine Pool Trends.pdf

207K



20210115 Ltr to DRMS Re Schwartzwalder Financial Warranty Reduction.pdf

141K



2018-02-21_REVISION - M1977300.pdf

54K

Sent Via E-mail

January 15, 2020

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

Re: Schwartzwalder Mine – File No. M-1977-300, Colorado Legacy Land, LLC Surety
Reduction Request Application

Dear Ms. Eschberger:

I am writing on behalf of Denver Water to object to Colorado Legacy Land, LLC's ("CLL") December 7, 2020 request to release a portion of the performance and financial warranties for the Schwartzwalder Mine reclamation permit.

Denver Water currently serves drinking water to 1.5 million customers in the City and County of Denver and surrounding suburbs. Denver Water owns and operates Ralston Reservoir, an on-channel drinking water reservoir located a few miles downstream of Schwartzwalder Mine. As a terminal drinking water reservoir, Ralston currently feeds Denver Water's Moffat Treatment Plant and will feed its new Northwater Treatment Plant beginning as early as 2023. Constituents of concern discharged by the Schwartzwalder Mine, including uranium, arsenic and sulfate, can impact Denver Water's treatment process and operations.

CLL is seeking a release of \$1,526,853.00 of the \$8,900,000.00 financial warranty for the Schwartzwalder Mine. The request is based on CLL's completion of activities related to reclamation of alluvial fill material disposed in Ralston Creek and storm water improvements to previously reclaimed waste rock piles. This amount also includes a request to release \$250,000 for a Denver Water contingency for testing the six month treatment cycle at the mine pool.¹

Denver Water acknowledges that CLL has accomplished several reclamation tasks, and deserves recognition for its work to date. However, the full amount of the current financial warranty is needed as a surety for the potential long-term operation and maintenance of the mine pool pumping and in-situ treatment system until CLL has provided sufficient data to

¹ In January 24, 2018, Denver Water questioned the long-term feasibility of treating the mine pool on a seasonal basis. Denver Water argued that it would be necessary to operate the pumping system year around as opposed to seasonally to avoid the wet/dry cycling that occurs with seasonal operation. The wet/dry cycling can expose and submerge mine rock, resulting in the continual generation of constituents of concern. Although CLL is currently reducing the cost of replacement of reverse osmosis membranes through seasonal operation, to stabilize the mine pool it may need to operate on a year around basis.

demonstrate that the recent reclamation activities are self-sustaining and CLL has met the conditions of DRMS's February 20, 2018 transfer request approval letter.

In the transfer request approval letter, DRMS required a financial warranty to be "maintained at a level which reflects the current cost of reclamation, which includes all measures taken to assure the protection of water resources." At that time, DRMS concluded that an amount of \$8,900,000.00 would be sufficient. This amount is "subject to adjustment and may be increased or reduced as necessary to ensure the completion of reclamation in the event of permit revocation and forfeiture of financial warranty."

The transfer request approval letter provides that as a condition of release of the financial warranty, several terms and conditions must be met, including requirements that CLL provide:

- A conceptual site model, and provide all underlying assumptions and data used in the model to Denver Water and City of Arvada.
- A plan addressing the physical and chemical stabilization of the mine pool and specifically addressing the concentrations of dissolved uranium and other constituents as required under the conditions of the permit, and updating the reclamation and environmental protection plans.

To date neither of these critical items have been met. Although CLL has shared a slide deck containing a cartoon of the mine site, it has yet to develop a reliable model that can be used to make informed reclamation and long-term water treatment decisions. The Schwartzwalder Mine site is an extremely complex site with several data gaps as identified in the U.S. Geological Survey's ("USGS") 2011 Report.² To help fill these data gaps, the USGS recommended the development of a numerical groundwater flow model, tracer dilution studies in Ralston Creek to help accurately locate and quantify groundwater inflows to the stream and the chemistry of those inflows, and additional uranium and sulfur isotopic measurements of all sampled water. As a first step to developing a reliable conceptual site model, CLL should be working to fill these data gaps, but Denver Water is unaware of any efforts by CLL to begin to develop a conceptual site model, let alone to collect the necessary data to develop such a model.

In addition, Denver Water remains very concerned that CLL has not developed a plan to achieve long-term stability of mine pool chemistry. A review of historic data and trends in the mine pool shows that concentrations of dissolved uranium within the mine pool are not stable and continue to increase. Although in-situ treatment helps to decrease uranium concentrations on a temporary basis, the upward trend of uranium concentrations appears to resume after each treatment. The injection of reverse osmoses ("RO") brine from the treatment system into the mine pool appears to also be contributing to a lack of stabilization of the mine pool. A graph showing trends in uranium concentrations in the mine pool is enclosed as Attachment 1. In addition, with regard to the Denver Water contingency, we currently lack sufficient data to make a determination of how the mine pool is responding to the six-month treatment schedule. As of the date of this letter, we only have four months of observational data, so it is premature to draw

² This report is available at: <https://pubs.usgs.gov/of/2011/1092/> (last visited 1/15/2021).

any conclusions about the long-term viability of CLL's treatment approach based upon the limited amount of data that is available.

Because of the long-term operation and maintenance costs associated with CLL's planned reclamation effort, in 2018 Denver Water requested a financial warranty of \$17.6 million as a condition of CLL's permit transfer request. Denver Water was willing to accede to an \$8.9 million financial warranty subject in part to the understanding that upon CLL's completion of the alluvial mining activities, that portion of the financial warranty would be committed to cover the long-term costs of the operation and maintenance of the mine pool in-situ treatment system. This understanding is documented in Denver Water's February 21, 2018 letter to Ms. Virginia Brannon, a copy of which is attached.

In closing, at this time Denver Water objects to the release of any portion of CLL's financial warranty and requests that CLL be required to focus on developing a reliable conceptual site model before any future permit amendments are approved. While CLL has made progress in stabilizing the waste rock piles and addressing mine tailings disposed in alluvial fill material, additional data and time is required to measure whether the reclamation efforts have been successful at stabilizing the mine pool and reducing the need for long term treatment.

Please do not hesitate to contact me if you have any questions regarding the contents of this letter.

Sincerely,

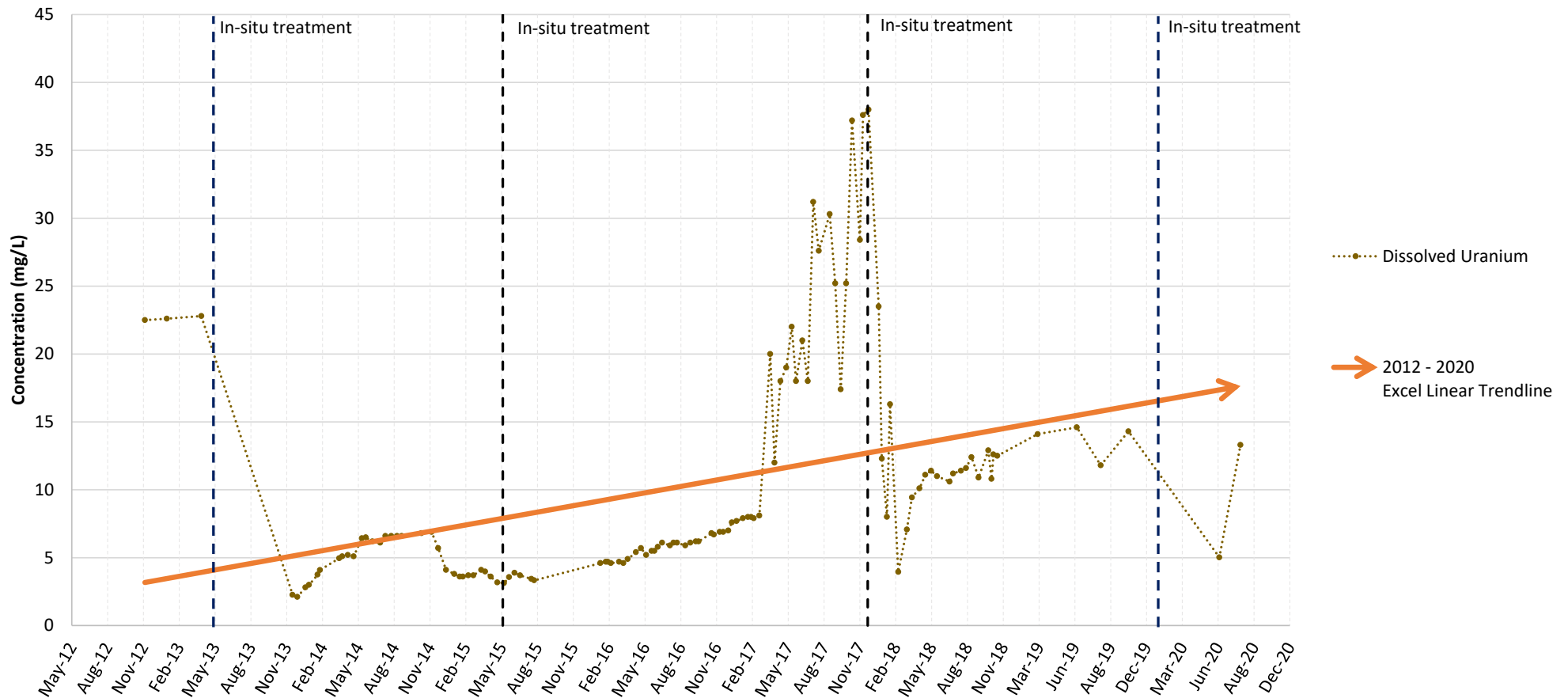
Daniel J. Arnold
Attorney
Denver Water

Cc: Jim Harrington, Colorado Legacy Land, LLC
Sharon Israel, City of Arvada

Enclosures: Attachment 1, Graph of Uranium Concentrations at Schwartzwalder Mine
February 21, 2018 Letter from Denver Water to DRMS

DRMS Requirement, Feb. 2018: "...provide a plan addressing the physical and chemical stabilization of the mine pool and specifically addressing concentrations of dissolved uranium as required under the conditions of the permit..."

Uranium Concentrations in the Mine Pool



Sent Via E-mail and U.S. Mail

February 21, 2018

RECEIVED

FEB 21 2018

**DIVISION OF RECLAMATION
MINING AND SAFETY**

Ms. Virginia Brannon
Division Director
Division of Reclamation, Mining & Safety
1313 Sherman Street, Room 215
Denver, CO 80203

Re: Succession of Operators - Schwartzwalder Mine (M-1977-300) Jefferson County,
Colorado

Dear Ms. Brannon:

On behalf of Denver Water, I am writing in response to the Division of Reclamation, Mining and Safety's ("DRMS") decision to approve Colorado Legacy Land, LLC's ("CLL") application ("transfer application") requesting a transfer and succession of operators of the Schwartzwalder Mine, in Jefferson County, Colorado.

Denver Water appreciates the extensive time and effort DRMS has expended in reviewing the CLL transfer application. It is Denver Water's understanding that DRMS is approving the transfer application conditioned upon the following:

- an increase in the financial warranty from \$4.3 million to \$8.9 million;
- a requirement that CLL complete a conceptual site model of the Schwartzwalder Mine site and a plan for stabilizing the mine pool; and
- a condition providing that the financial warranty may be increased, if necessary, to address the long-term cost of operating the treatment system and managing the mine pool.

In Denver Water's January 24, 2018, letter, Denver Water requested a financial warranty based on \$361,000 per year in operation and maintenance costs. This amount was for operation and maintenance costs in perpetuity, and based upon a worst-case scenario. Denver Water understands the limitations on DRMS' authority, and will not oppose a financial warranty of \$8.9 million with the additional conditions referred to above. It is Denver Water's understanding that should the financial warranty be required, this amount will cover water quality treatment at the mine site for an extended period of time.

The conditions required by DRMS also provide additional assurance for Denver Water and its ratepayers. The conditions allow an increase of the financial warranty if the mine pool does not stabilize and remain stable for at least three years. The conditions also impose a

requirement that a conceptual site model be developed, which is an essential first step to support a decision-making process to manage and more effectively develop a treatment solution for the mine site.

Although Denver Water does not oppose the permit transfer request, because of the proximity of the mine to the public's water supply, it is critical that DRMS continue to closely monitor conditions at the Schwartzwalder Mine and hold CLL accountable for its obligations under the Schwartzwalder Mine permit. If the conditions and triggers described above are not met, it is also imperative that DRMS increase the financial warranty as appropriate to provide adequate protection for our drinking water supplies.

If you have any questions regarding the contents of this letter, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "James S. Lochhead", is written over the printed name and title.

James S. Lochhead
CEO/Manager
Denver Water

Cc: Colorado Legacy Land, LLC
City of Arvada
North Table Mountain Water and Sanitation District