




MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Schwartzwalder Mine	MINE/PROSPECTING ID#: M-1977-300	MINERAL: Uranium	COUNTY: Jefferson
INSPECTION TYPE: Surety Release Inspection	INSPECTOR(S): Amy Eschberger, Michael Cunningham	INSP. DATE: January 21, 2021	INSP. TIME: 09:00
OPERATOR: Colorado Legacy Land, LLC	OPERATOR REPRESENTATIVE: Paul Newman, Elizabeth Busby, Billy Ray	TYPE OF OPERATION: 112d-2 - Designated Mining Operation	
REASON FOR INSPECTION: Surety Release Requested	BOND CALCULATION TYPE: Partial Bond	BOND AMOUNT: \$8,900,000.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: January 28, 2021	

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>Y</u>	(RD) ROADS----- <u>N</u>
(HB) HYDROLOGIC BALANCE----- <u>N</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>N</u>
(SM) SIGNS AND MARKERS----- <u>N</u>	(SP) STORM WATER MGT PLAN---- <u>N</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>N</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

OBSERVATIONS

This was a surety release inspection of the Schwartzwalder Mine (Permit No. M-1977-300) conducted by Amy Eschberger and Michael Cunningham of the Division of Reclamation, Mining and Safety (Division) in response to the operator's Surety Reduction request (SR-09) filed with our office on December 18, 2020. The operator was represented during the inspection by Paul Newman, Elizabeth Busby, and Billy Ray. The site is located approximately 6 miles northwest from Golden, CO in Jefferson County. Access to the site is off Glencoe Valley Road. The affected lands are owned by the operator. This site is on a quarterly inspection frequency. This inspection serves as the 1st quarter inspection for 2021. **Photos 1-10** taken during the inspection are included with this report.

At the time of the inspection, the mine pool was at 264 feet below the Steve Level, which is 114 feet below the required 150 foot depth. The water treatment plant was shut down for the winter. According to the operator, the plant was shut down in early November of 2020 and is currently expected to be brought back online in May of 2021. However, the mine pool will continue to be monitored throughout this period and the plant turned back on as needed. During the inspection, the mine pool recharge rate was reported to be 0.94 feet per day. While the average recharge rate may differ to some extent, at the current rate, the mine pool would reach the 150 foot depth below Steve Level within approximately 120 days, in the latter part of May. However, a 20-25 foot buffer is typically maintained to allow the operator sufficient time to bring the plant back online and resolve any issues prior to the mine pool reaching the compliance level. According to the operator, the plant has not yet been shut down for a full 6 month period. The longest shutdown period thus far lasted from December 2019 through April 2020. The current shutdown period is expected to continue for 6 months if site conditions do not significantly change (e.g., increased recharge rate).

The last in-situ injection treatment of the mine pool was completed in January of 2020, which included two tracers. The operator is currently analyzing the results of the in-situ treatment and tracer study, and will incorporate these analyses into the conceptual site model to be proposed in an upcoming Amendment application (to be submitted by September 30, 2021). The operator continues to collect water quality samples from the mine pool on a quarterly basis and reports this data with other site sampling data in its quarterly monitoring reports submitted to the Division.

Since the last inspection, the Division approved Amendment No. 5 (AM-5; on January 13, 2021) which increased the permit area by 3.98 acres to accommodate reclamation activities in the former Black Forest Mine and North Waste Rock Pile (NWRP) areas, giving a new permit area of 76.22 acres. The reclamation plan was revised through AM-5 to include the Black Forest Mine as an additional underground disposal location for the radionuclide-impacted alluvial valley soils. The previously approved underground disposal location in the CV Glory Hole of the Minnesota Adit has an estimated storage capacity of 56,000 cubic yards, which will not accommodate the remaining volume of alluvial soils to be excavated. The additional 15,000 cubic yards of capacity in the Black Forest Mine is needed in order to complete the alluvial excavation project. The excavation project has been put on hold for the winter, and is expected to recommence this spring once weather conditions are favorable. The operator estimates there to be approximately two weeks of hauling left before they reach capacity in the CV Glory Hole and will start disposing of the excavated soils in the Black Forest Mine. The operation is on track to complete the excavation project this year. However, final surveys of the project area may extend into 2022.

In SR-09, the operator requests a release of \$1,526,853 from the currently held financial warranty of \$8,900,000. The requested release includes \$350,000 for the initial in-situ mine pool treatment, \$246,400 for demolition and debris removal, \$215,494 for the excavation, hauling, and on-site disposal of radionuclide-impacted alluvial soils (which is 75% of the total cost held for this item - \$287,325), \$133,363 for the concrete

v-ditch stormwater drain installed on the NWRP, \$88,389 for the waste rock cap, and \$250,000 from the Denver Water - water treatment contingent cost (which is 21% of the total cost held for this item - \$1,187,529).

With regard to the amount requested for release associated with demolition and debris removal, the operator has clearly demolished and removed the old structures from the site (left by the previous operator, Cotter Corporation), including the old water treatment plant building, office trailer, parking apron, and concrete basins. Miscellaneous site debris has also been removed from the valley since the operator took over the permit in 2018. Removal of these structures and debris allowed the underlying impacted soils to be accessed for the valley excavation project. The Division has verified the demolition and debris tasks have been completed, and has determined this portion of the financial warranty can be released.

With regard to the amount requested for release associated with the concrete v-ditch stormwater drain, the design approved in Technical Revision No. 23 (TR-23) in March of 2017 was later revised through Technical Revision No. 28 (TR-28), approved in March of 2020. The operator completed installation of the NWRP diversion channel (approved in TR-28) in November of 2020. The Division inspected the site throughout the major phases of this project, and accepted the work completed for this project in its inspection report signed on December 10, 2020. The minimal disturbances on top of the NWRP associated with the channel installation have been graded and seeded per TR-28. The waste rock piles were never re-disturbed for the valley excavation project, and the existing topsoil "caps" remain intact with established vegetation. The Division has verified the minor disturbances associated with the installation of the NWRP diversion channel have been reclaimed, and has determined the portion of the financial warranty associated with the stormwater drain and also the waste rock cap can be released.

With regard to the amount requested for release associated with the excavation, hauling, and on-site disposal of the radionuclide-impacted alluvial valley soils, the Division has some additional questions regarding how the operator determined that 75% of the project is complete. The Division forwarded these questions to the operator in its adequacy review letter, dated January 21, 2021. Due to the nature of the project, where excavated areas are scattered throughout the valley and at various depths, it was difficult to visually assess during the inspection how much of the project has been completed. Additionally, the Division is uncertain which portions of the valley outside of current disturbance areas will require excavation. Therefore, the Division is also requesting the operator provide a map showing the anticipated horizontal extent of the project. It would be helpful if this map included estimated excavation depths throughout the project area. The Division agrees a significant amount of work has been achieved for this project. However, additional information is needed to better quantify the work remaining to be completed and to determine whether 25% of the amount currently held for this project would be sufficient to cover remaining costs.

With regard to the amount requested for release associated with the initial in-situ treatment of the mine pool and the Denver Water contingency cost held for water treatment, the Division informed the operator that no portion of the financial warranty associated with the long-term treatment and management of the mine pool can be released until the operator has complied with Conditions No. 2 and 3 of the Division's approval of the Succession of Operators (SO-01; see enclosed approval letter, dated February 20, 2018). This includes amending the permit to include a conceptual site model, a plan for addressing the physical and chemical stabilization of the mine pool, and to address the long-term costs of operating the water treatment plant and managing the mine pool. The Division anticipates such demonstration will be based on three consecutive years of data which verify the physical and chemical stabilization of the mine pool. Per Condition No. 3 of SO-01 approval, upon such demonstration, the operator may then request a reduction in financial warranty for that portion of the financial warranty attributable to the water treatment and management of the mine pool.

At this time, the Division is waiting for the operator's response to its January 21, 2021 adequacy letter in order

to determine exactly what portion of the financial warranty can be released under SR-09. The Division received two objections to SR-09 within the public comment period which closed on January 17, 2021. The objections were submitted by the City of Arvada and Denver Water (see enclosed letters). A meeting is currently scheduled for January 29, 2021 between the Division, the operator, and the objecting parties to discuss the issues raised in the objection letters. The operator must also submit a written response to Item No. 4 of the Division's January 21, 2021 adequacy letter, describing how the operator intends to address the concerns expressed by the objectors.

This concludes the report.

Any questions or comments regarding this inspection report should be forwarded to Amy Eschberger at the Colorado Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, via telephone at 303-866-3567, ext. 8129, or via email at amy.eschberger@state.co.us.

PHOTOGRAPHS



Photo 1. View looking northwest across valley from top of mesa (with new water treatment plant). Old structures have been removed from site (including old water treatment plant and concrete basins) so underlying radionuclide-impacted soils can be excavated.



Photo 2. View looking northwest across northwestern portion of valley where activities have been primarily focused for valley excavation project.



Photo 3. View looking northwest across northwestern portion of valley where activities have been primarily focused for valley excavation project. Black Forest mine openings visible in background (indicated).



Photo 4. View looking south across northwestern portion of valley where activities have been primarily focused for valley excavation project. According to operator, the deepest excavation depths were in this area along the southern edge of the valley, at approximately 12-13 feet deep.



Photo 5. View looking north across central portion of valley where excavation activities have begun, along northern toe of mesa (with new water treatment plant).



Photo 6. View looking southeast across central portion of valley where excavation activities have begun, along northern toe of mesa (with new water treatment plant, shown at top right).



Photo 7. View looking south across excavated area in central portion of valley, along northern toe of mesa (with new water treatment plant, shown at top left).



Photo 8. View looking north across central portion of valley where excavation project has not yet proceeded. It is not clear which portions of this area, if any, will require excavation. The Division has requested a map from the operator showing the anticipated extent of the excavation project.



Photo 9. View looking northwest across central portion of valley along northern toe of mesa (with new water treatment plant) where excavation project has not yet proceeded. It is not clear which portions of this area, if any, will require excavation. The Division has requested a map from the operator showing the anticipated extent of the excavation project.



Photo 10. View looking southeast across southern portion of valley where excavation project has not yet proceeded. It is not clear which portions of this area, if any, will require excavation. The Division has requested a map from the operator showing the anticipated extent of the excavation project.

Inspection Contact Address

Jim Harrington
Colorado Legacy Land, LLC
12150 E Briarwood Ave - Suite 135
Centennial, CO 80112

Encls: SO-01 approval with conditions letter, dated February 20, 2018
Objection to SR-09 from City of Arvada, received on January 14, 2021
Objection to SR-09 from Denver Water, received on January 15, 2021

EC: Billy Ray, Ensero Solutions at: bray@ensero.com
Elizabeth Busby, Ensero Solutions at: ebusby@ensero.com
Paul Newman, Colorado Legacy Land, LLC at: paul@coloradolegacy.land
Eric Williams, Colorado Legacy Land, LLC at: eric@coloradolegacy.land
Michael Cunningham, DRMS at: michaela.cunningham@state.co.us



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

February 20, 2018

Paul Newman
Colorado Legacy Land LLC
4601 DTC Blvd., Suite 130
Denver, CO 80231

RE: Revised Approval of SO-01 with Conditions, Transfer of Permit for Colorado Legacy Land, LLC as Successor Operator, Schwartzwalder Mine, Permit No. M-1977-300

Dear Mr. Newman:

On February 16, 2018, the Division of Reclamation, Mining and Safety approved the transfer of permit and succession of operator from Cotter Corporation to Colorado Legacy Land, LLC ("CLL") for the Schwartzwalder Mine, Permit No. M-1977-300, with conditions. The conditions for approval are as follows:

1. The new estimated liability amount of \$8,900,000.00 for the Schwartzwalder Mine exceeds the \$4,339,003.39 bond currently held. Please submit financial warranty in the amount of \$8,900,000.00. SO-01 will not be fully approved until the Division has received and approved a properly executed financial warranty not less than \$8,900,000.00. Questions regarding surety submittal should be directed to Financial Assurance Specialist, Barbara Coria, phone (303) 866-3567, extension 8148, or by email at Barbara.Coria@state.co.us. The financial warranty will be maintained at a level which reflects the current cost of reclamation, which includes all measures taken to assure the protection of water resources. Therefore, the financial warranty, currently set at \$8,900,000.00, 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.
2. CLL shall amend Permit No. M-1977-300, pursuant to Rules 1.1(6) and 1.10, affirming the permanent cessation of mining activities, provide a conceptual site model, provide 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 (the "Amendment"). In addition to the standard public notice requirements, CLL shall provide timely notice of the Amendment, which shall include the conceptual model and all underlying assumptions and data used in the model, to Denver Water and City of Arvada.
3. Subsequent to the Division's review and approval of the permit Amendment described above, CLL may further modify the permit through the Technical Revision or Amendment process, addressing the long term cost of operating of the water treatment plant and managing the mine pool. The Division anticipates such demonstration will be based on



three consecutive years of data which verify the physical and chemical stabilization of the mine pool. Upon such demonstration CLL may request a reduction in financial warranty in accordance with Rules and Regulations for that portion of the financial warranty attributable to the water treatment and management of the mine pool. In addition to the standard public notice requirements, CLL shall provide timely notice of any/all requests for reduction of financial warranty to Denver Water and City of Arvada.

4. CLL will share its monthly and quarterly water quality monitoring sampling data with Denver Water and the City of Arvada and allow Denver Water and the City of Arvada access to the site sample taps to collect samples.

With the acceptance of the above four conditions, CLL is now the permitted operator of the Schwartzwalder Mine, and as such is responsible for all provisions in M-1977-300, as well as those specified in the Rules and Regulations. Cotter Corporation is relieved of all responsibilities concerning this operation.

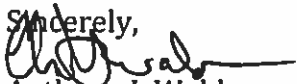
Please Note:

- All of the application materials, as amended and supplemented, are an integral part of your permit. They have been incorporated into the permit by reference. We presume you have a copy of all these materials; therefore, none have been enclosed with this mailing. We suggest you keep a copy of the permit and the permit application at the mining operation as a reference for operation personnel, to help ensure compliance with the terms of the permit.
- Changes in the mining and reclamation operations which differ from those described in the permit may require a modification to the permit. We suggest consulting the Rules and Regulations and/or contacting us to determine if a modification to the permit is necessary. Rule 1.10 pertains to Amendments, Rule 1.9 to Technical Revisions, and Rule 1.11 to Conversions.
- On your permit anniversary date each year, you must submit an annual fee and annual report to us. Please consult the Rules, Act, and your permit for specific requirements. Annual reports, maps and fees must be filed electronically using the Division's ePermitting portal. If you have not done so already, you will need to sign up for electronic filing of your annual report, map, and fee by visiting the Division's web site (<http://mining.state.co.us>) clicking on "ePermitting" on the home page, and then clicking on the "Sign up for Minerals Annual Report Electronic Filing" link.

The transfer of this permit does not result in the transfer of any other permits or licenses, with this Division, the State, or Federal Agency, which might be associated with this operation.

If you have any questions please contact me.

Sincerely,



Anthony J. Waldron
Minerals Program Supervisor



STATE OF
COLORADO

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

Schwartzwalder Mine / M-1977-300

Brad WYANT <bwyant@arvada.org>

Thu, Jan 14, 2021 at 3:30 PM

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

Cc: Lori Graham <lgraham@arvada.org>, Sharon Israel <sisrael@arvada.org>, Evelyn Rhodes <erhodes@arvada.org>, Hannah Gregory <hgregory@arvada.org>

Amy,

Attached is a signed copy of the City of Arvada's response/comments regarding the Colorado Legacy Land LLC, Request Surety Reduction - SR09. A letter was also overnighted in the mail today and should arrive tomorrow.
We appreciate all your help.

Thank you,

Brad

On Wed, Jan 6, 2021 at 10:13 AM Eschberger - DNR, Amy <amy.eschberger@state.co.us> wrote:

[Quoted text hidden]

[Quoted text hidden]



Colorado Legacy Land Letter to DMRS 011421.pdf

119K



UTILITIES DEPARTMENT
FACSIMILE: 720-898-7603 ▲ TDD: 720-898-7869
PHONE: 720-898-7760

January 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, Request for Full or Partial Surety Reduction - SR09

Dear Ms. Eschberger,

The City of Arvada ("City") has reviewed the request for surety reduction submitted by Colorado Legacy Land LLC for the Schwartzwalder Mine. We do not support this request and recommend it be denied.

We appreciate the progress Colorado Legacy Land ("CLL") has made and continues to make with remediations at Schwartzwalder Mine. As you know, Schwartzwalder 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 CLL maintain the appropriate treatment processes and continue to address any seepage or stormwater issues now and into the future.

Although we acknowledge CLL's request to reduce the surety due to progress it has made so far, we need to ensure that all commitments from the Revised Approval of SO-01 dated Feb 20, 2018 between CLL and the Colorado Division of Reclamation, Mining and Safety are met before we can support this endeavor. To date, we are not aware of receiving any water quality data from CLL and were not aware that we were allowed to sample at the sampling taps at Schwartzwalder. Although we understand that this may have been due to changes in personnel at the City, we simply do not have enough information at this time to support the request. In addition, Denver Water and its consultants are currently evaluating water quality data obtained from the mine pool to determine if treatment processes are working. We would like several year's worth of data to substantiate any claims of improvement. In fulfilling its responsibilities to its citizens, the City prefers a conservative approach based on water quality data that our drinking water sources will be protected to the utmost. We are wary due to past experiences around Colorado which have had devastating impacts to water resources.

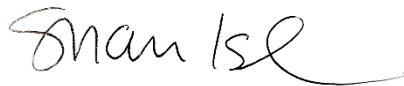
In addition, we received notice this week of an increase in surety requirements for the site associated with an amendment to the Schwartzwalder Mine permit. The amount of the

increase was \$15,880. In light of this, we further recommend that the full \$8,915,880.00 continue to be held in surety.

In summary, at this time, the City does not support the request to reduce the surety for CLL, and we support Denver Water's concerns as well. The protection of our drinking water source is our primary concern. For future consideration of a surety reduction request, we expect to see, at minimum, the completion of the conceptual site model, the stabilization of the mine pool through optimized treatment operation, and assurance of long-term operation and management of the treatment processes.

We welcome discussion and partnership with CLL in regards to Schwartzwalder Mine and hope that they are able to fully complete their commitments and have a prosperous outcome.

Sincerely,

A handwritten signature in black ink, appearing to read "Sharon Israel". The signature is fluid and cursive, with a long horizontal stroke at the end.

Sharon M. Israel, P.E., ENV SP

Director of Utilities



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,

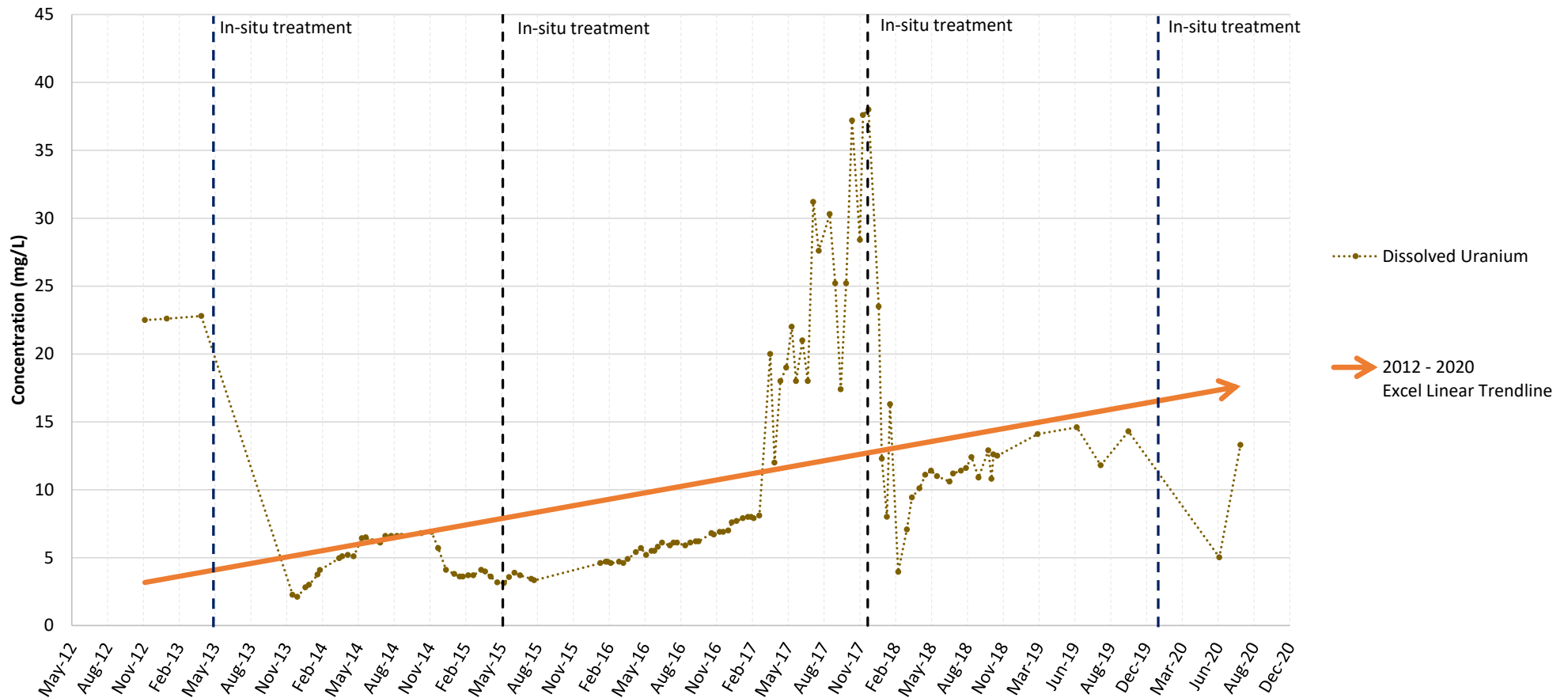
Daniel J. Arnold
Attorney
Denver Water

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 typed 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