



COLORADO
**Division of Reclamation,
Mining and Safety**
Department of Natural Resources
1313 Sherman Street, Room 215
Denver, Colorado 80203

June 9, 2023

Steve O'Brian
Environment Inc.
7985 Vance Dr #205A
Arvada CO 80003

**Re: Second Adequacy Review of a 112c Construction Materials Reclamation Permit Application Package,
L.G. Everist – West Farm Reservoirs, File M2022-048**

Mr. O'Brian:

The Division of Reclamation, Mining, and Safety has completed its second adequacy review of your 112 construction materials reclamation permit application. The application was called complete for review on November 30, 2022. All comment and review periods began on November 30, 2022. **The decision date for this application has been extended at the request of the applicant to June 30, 2023. Please be advised that if you are unable to satisfactorily address any concerns identified in this review before the decision date, it will be your responsibility to request an extension of the review period. If there are outstanding issues that have not been adequately addressed prior to the end of the review period, and no extension has been requested, the Division will deny this application. In order to allow the Division adequate time to review your responses to any adequacy issues, please submit your adequacy responses to the Division no later than one week prior to the decision date (June 23, 2023).**

Please note that any changes or additions to the application on file in our office must also be reflected in the public review copy, which has been placed with the Weld County Clerk and Recorder.

The review consisted of comparing the original application content and the provided adequacy response materials dated May 23, 2023 with specific requirements of Rule 6.1, 6.2, 6.4 and 6.5 of the Minerals Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials.

For consistency in addressing and reviewing adequacy items, DRMS will maintain the adequacy item numbering from the initial adequacy review. Items not identified in this letter have been adequately addressed by previous adequacy response submittals.

12) Please provide USACE documentation...

Please provide the supporting documentation (approved jurisdictional determination/maps) that accompany the USACE cover letter dated February 3, 2021



- 14) For Phase 1, no pit-side slope protection has been proposed, therefore, please adjust the mining setback from the river to be no less than 400'. If you wish to use a 300' setback for Phase 1, provide pit-side slope protection in the mining and reclamation plans for that phase.

The provided plan to only armor a portion of the eastern bank of Phase 1 is insufficient. If any portion of the setback between the top of the pit slope and the river will be less than 400 feet, the permittee will be required to armor the entire east (river facing) side of the pit at a minimum. Based on experience from recent flood events, DRMS strongly recommends that the permittee also consider armoring the north and south sides of the pit at least up to the elevation break from the terrace bench on the west side to preserve the slurry wall during potential inflow events.

If the applicant does not wish to armor, at least, the entire river facing (east) side of the Phase 1 pit, they may alternatively provide a design for reinforced inlet/outlet structures for Phase 1 designed to safely pass filling and overflow for a 100 year flood event.

Please also modify the provided cost estimate as needed for any updates.

EXHIBIT F - Reclamation Plan Map (Rule 6.4.6): The map(s) of the proposed affected land, by all phases of the total scope of the mining operation, shall indicate the following:

- (a) The expected physical appearance of the area of the affected land, correlated to the proposed mining and reclamation timetables. The map must show proposed topography of the area with contour lines of sufficient detail to portray the direction and rate of slope of all reclaimed lands; and
- (b) Portrayal of the proposed final land use for each portion of the affected lands.

21) *The reclamation plan map will need to be modified as necessary...*

No contour elevations or interval data are provided on the reclamation plan map. Please provide elevation data for the reclamation map contours.

EXHIBIT G - Water Information (Rule 6.4.7):

- (1) If the operation is not expected to directly affect surface or groundwater systems, a statement of that expectation shall be submitted.
- (2) If the operation is expected to directly affect surface or groundwater systems, you shall:
 - (a) Locate on the map (in Exhibit C) tributary water courses, wells, springs, stock water ponds, reservoirs, and ditches on the affected land and on adjacent lands where such structures may be affected by the proposed mining operations;
 - (b) Identify all known aquifers; and
 - (c) Submit a brief statement or plan showing how water from dewatering operations or from runoff from disturbed areas, piled material and operating surfaces will be managed to protect against pollution of either surface or groundwater (and, where applicable, control pollution in a manner that is consistent with water quality discharge permits), both during and after the operation.

- (3) You must provide an estimate of the project water requirements including flow rates and annual volumes for the development, mining and reclamation phases of the project.
- (4) You must indicate the projected amount from each of the sources of water to supply the project water requirements for the mining operation and reclamation.
- (5) You must affirmatively state that the Operator/Applicant has acquired (or has applied for) a National Pollutant Discharge Elimination System (NPDES) permit from the Water Quality Control Division at the Colorado Department of Health, if necessary.

22) The applicant will need to provide a site characterization and groundwater monitoring plan, including at least five quarters of baseline/background water level and groundwater analytical data, sufficient to demonstrate compliance with the requirements of the "Water Quality Control Commission Regulation No. 41 – The Basic Standards for Groundwater" for the life of the proposed operation. Please note that permanent monitoring wells and Point of Compliance (POC) wells should be placed where they will not be mined through.

23) The Mining Plan as submitted only includes a 15 foot setback from the permit boundary/utility corridor to the slurry wall on the south side of Phase 1, and does not include any provisions such as a French drain, to allow groundwater to flow unimpeded around the proposed slurry wall. No groundwater modelling data has been provided to demonstrate that the construction of this slurry wall will not result in excessive groundwater mounding on the adjacent property to the south of Phase 1, or adverse impacts to the irrigation return flows to the South Platte River which currently flow through Phase 1.

Please provide a detailed groundwater model illustrating the projected impacts to groundwater levels adjacent to the site after installation of the proposed slurry walls. This should include a groundwater contour map showing projected depths to groundwater and any mounding or shadowing on properties adjacent to the proposed permit area. If the modelling predicts excessive groundwater mounding on adjacent property, the applicant will need to provide a plan to minimize the impacts and maintain the prevailing hydrologic balance during and after mining activity.

Based on the historic data available for the site, please propose trigger levels for groundwater level mitigation and where the monitoring points will be located. For example: excessive mounding requiring mitigation could be a groundwater level increase of over 2 feet from baseline, or groundwater levels within 4 feet of the ground surface measured at the property boundary.

24) Please provide proposed locations for installation of additional groundwater monitoring wells outside of the proposed slurry wall along the south side of Phase 1 to monitor for excessive mounding on the south side of Phase 1.

The following comments refer to the provided Groundwater Elevation Model (Deere & Ault, May 19, 2023) and the Groundwater Quality Monitoring/Sampling Plans (Molen & Associates, May 17, 2023) which have been submitted to address adequacy items 22-24 listed above. Please revise these plans as needed to reflect the following comments.

DRMS will also take this opportunity to reiterate that at least 5 consecutive quarters of baseline analytical data will be required prior to exposure of groundwater at the site. Please acknowledge.

22a) Groundwater Quality Monitoring Plan section 2.1/Table 1 – DRMS will require that MW-8, MW-11, and MW-12 be designated as the POC wells (MW-1 does not need to be designated a POC well). The included map from Exhibit G should also be corrected, wherever included in the application, to show MWs 1, 2, and 5 as water quality monitoring points as designated in Table 1 of the GWMP.

22b) Groundwater Quality Monitoring Plan section 2.1/Table 1 – DRMS will require that MW-9 be included in the list for “regular monitoring”. Please clarify that the RM designation indicates that a well will be sampled for Groundwater Quality Parameters as outlined in the Plan. (or revise RM to WQM for consistency with the map from G-1 previously mentioned)

22c) Groundwater Quality Monitoring Plan section 2.2 – A generalized well construction diagram may be included for reference here. Also, please delete the last paragraph of this section as the POC wells have already been defined by Table 1.

22d) Groundwater Quality Monitoring Plan section 2.3 – DRMS will require that water level data be collected from all wells at least monthly, not quarterly.

22e) Groundwater Quality Monitoring Plan section 2.4 – DRMS would recommend that the first two paragraphs of this section be deleted as this information is more appropriately discussed in the Groundwater Sampling Plan (GSP), and the references to the Tables in these paragraphs do not seem to correlate.

22f) Groundwater Quality Monitoring Plan sections 3.0 through 3.3 - These sections may be deleted. It is not likely that valid statistical analysis can be conducted on 5 data points, although if LGE wishes to attempt to include 95% confidence intervals for the baseline data, DRMS will review them. LGE will be required to highlight where baseline data for listed analytes exceed INS Table Value Standards in a Baseline Water Quality Summary Report to be submitted as a TR when the data is collected and reviewed. If LGE wishes to reduce the list of analytes to an abbreviated set of “indicator parameters” upon review of the baseline data, this request can be made and justified in the Baseline Water Quality Summary Report submittal.

22g) Groundwater Sampling Plan (GSP) Section 4.3.4 - Delete last sentence in second paragraph (Portions of the list will....) Also edit last sentence in this section with reference to section 4.2.1 (which does not exist in this plan) to 4.3.1 which discusses decontamination.

22h) Groundwater Sampling Plan (GSP) Section 4.4 – Generally dissolved metals samples are preserved with HNO₃ to pH <2 after filtering. It may be more useful to state something to the effect of - LGE will consult with the lab providing the containers and analysis prior to sampling events to determine the required containers and preservation for samples to be collected. LGE will preserve all samples in accordance with lab and method requirements. Preservation methods will be documented on field forms for all samples, as well as on the COC.

22i) Groundwater Sampling Plan (GSP) Section 4.6 – Trip blanks may be omitted (see following comment on Appendix II), and Equipment/rinsate blanks are only required when non-dedicated sampling equipment is utilized. DRMS recommends that QA/QC samples focus on a Duplicate Sample to verify lab results unless there is reason to believe additional QA/QC is needed.

22j) Groundwater Sampling Plan (GSP) Section 5.0 – Analytical Reporting Limits must be low enough to determine if standards for applicable analytes in Tables 1-4 of the Interim Narrative Standards have been exceeded. (See comment on Appendix II)

22k) LGE will need to commit to retaining all completed field forms for submittal with the annual report, or upon request for DRMS review.

22l) Groundwater Sampling Plan (GSP) Appendix II – Water Quality Parameter List – This appendix is titled Appendix II on the divider sheet, and possibly as Appendix B in the TOC of this document. However, the materials in it are titled Appendix I - Tables Water Quality Parameter Lists. Please revise for consistency throughout.

22m) Groundwater Sampling Plan (GSP) Appendix II – Water Quality Parameter List – Organic Parameters/Table 2 – Although DRMS will review any organic parameters LGE wishes to sample to establish baseline data, collection of samples/data for organic parameters listed in Table 2, (or in Table A of Reg. 41) is generally not required by DRMS unless there is a specific reason to believe they may be present within the permit area in elevated levels.

22n) Groundwater Sampling Plan (GSP) Appendix II – Water Quality Parameter List – Tables 3 and 4 – The analyte lists provided in these tables are inconsistent with the parameters contained in Tables 1-4 of Reg. 41 Interim Narrative Standards, and no benchmark levels have been provided. Several analytes included in Tables 1-4 were omitted. Please revise Tables 3 and 4 to include all analytes in Reg. 41 tables 1-4, and include the lowest numerical standard for that analyte in those tables. Justification must be provided for removing any analytes from the baseline sampling program. DRMS certainly does not object to the collection of additional parameters (such as alkalinity, calcium, magnesium, potassium and sodium as included in Table 3) which may be useful for the purposes of groundwater chemistry.

23a) Based on the information provided in the Groundwater Elevation Model, and the shallow pre-mining depth to groundwater (less than 5' b.g.s. in MW7), DRMS will require the installation of an underdrain as depicted in Figure 5 of the Groundwater Elevation Model along the southeast area of the permit to maintain the prevailing groundwater levels in this area. Please provide detailed design/installation specifications for this underdrain and a commitment to install the underdrain in conjunction with the slurry wall installation for Cell 1.

24a) DRMS concurs with the placement of the additional groundwater monitoring wells shown in Exhibit G, and the Groundwater Quality Monitoring Plan. Please commit to providing well construction diagrams for all currently installed wells, and proposed wells upon installation.

EXHIBIT L - Reclamation Costs (Rule 6.4.12): All information necessary to calculate the costs of reclamation must be submitted and broken down into the various major phases of reclamation. You must provide sufficient information to calculate the cost of reclamation that would be incurred by the state.

25) DRMS will evaluate the reclamation bond calculation when the other adequacy issues have been resolved and the appropriate revisions made.

This concludes the Division's second adequacy review of this application. This letter shall not be construed to mean that there are no other technical deficiencies in your application. Other issues may arise as additional information is supplied. Please remember that the decision date for this amendment application is June 30, 2023. As previously mentioned, if you are unable to provide satisfactory responses to any inadequacies prior to this date, it will be your responsibility to request an extension of time to allow for continued review of this application. If there are still unresolved issues when the decision date arrives and no extension has been requested, the application will be denied. If you have any questions, please contact me at (303) 229-9414.

Sincerely,

A handwritten signature in blue ink that reads "Eric Scott". The signature is stylized with a large, flowing "E" and a cursive "Scott".

Eric Scott – Environmental Protection Specialist