



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

1313 Sherman Street, Room 215  
Denver, CO 80203

December 2, 2016

Bill Schenderlein  
Blue Earth Solutions, LLC  
P.O. Box 2427  
Fort Collins, CO 80401

RE: Irwin/Thomas Mine; DRMS File No. M-2016-054; Preliminary Adequacy Review

Dear Mr. Schenderlein,

The Division of Reclamation, Mining and Safety (Division) has completed its preliminary adequacy review of your 112 Construction Materials Reclamation Permit Application. The application was received on September 29, 2016 and was called complete for review on October 11, 2016. The decision date for this application is January 9, 2017. **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.**

The review consisted of comparing the application content 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. In general the application was substantially adequate, however, as with most applications there are a few items that will require the submittal of additional information or clarification of the existing information. Inadequacies are identified under the respective exhibit heading along with suggested corrective actions to correct them.

1. As required by Rule 1.6.2(d) and 1.6.5(2), please submit proof of publication in a newspaper of general circulation in the locality of the proposed mining operation.
2. As required by Rule 1.6.2 (e), please submit proof of the notice to all owners of record of surface and mineral rights of the affected land and the owners of record of all land surface within 200 feet of the boundary of the affected land including all easement holders located on the affected land and within 200 feet of the boundary of the affected land. Proof of notice may be return receipts of a Certified Mailing or by proof of personal service.



3. The Division received comments from History Colorado and the Colorado Division of Water Resources. The letters are attached for your review. Please address the comments noted in the letters and make any changes to the application as necessary.

#### **6.4.1 Exhibit A – Legal Description**

No comment.

#### **6.4.2 Exhibit B – No Comment**

No comment.

#### **6.4.3 Exhibit C – Pre-mining and Mining Plan Map of Affected Lands**

4. The Groundwater Monitoring Plan section of Exhibit G states the proposed monitoring wells are depicted on Exhibit C-5: Water Resource Map. It appears the location of the proposed monitoring wells are actually depicted on Exhibit C-4: Pre-Mining Map. Please confirm.
5. The Pre-Mining Plan Map depicts overburden stockpiles, but does not show the location of the topsoil stockpiles. Please revise the map to show the location of the topsoil stockpile(s).
6. The Pre-Mining Plan Map does not show where imported backfill material will be stockpiled. Please revise the map to show the location of the backfill material stockpile(s).

#### **6.4.4 Exhibit D – Mining Plan**

7. The Mining Plan states a temporary material conveyor will be established under Highway 119 in order to mine Phase 2. Will the conveyor be necessary for the mining of Phases 3 and 4? If the conveyor will only be used for Phase 2, please specify at what point during the mining operation the temporary material conveyor will be removed.
8. Please describe how the temporary material conveyor will be constructed. Will any permanent features be necessary to install the conveyor, such as concrete footers?
9. The overburden stockpiles in MA1 are located immediately adjacent to the Bonus Ditch. Please describe what measures will be taken to ensure the ditch is protected and to ensure topsoil/overburden does not enter the ditch.
10. The Mining Plan states sediment ponds will be constructed if required. Please describe how this determination will be made? Also, the proposed sediment ponds are only depicted in Phase 1. Please explain why sediment ponds would not be required for Phases 2-4. If the Operator anticipates the need for sediment ponds in Phases 2-4, then the location of the sediment ponds should be depicted on a revised Exhibit C-4: Pre-Mining Map.

11. The Mining Plan states topsoil stockpiles will be stabilized with a fast growing seed mixture which includes white sweetclover. White sweetclover has the potential to invade off-site areas and is generally considered to be a weedy species. The Division recommends removing this species from the Stockpile Grass Seed Mixture and replacing it with a sterile triticales hybrid species which will not create a seedbank in the topsoil stockpile or invade nearby areas.
12. The Mining plan states Phase 1 and Phase 2 will have groundwater discharge points to the St. Vrain Creek. Please discuss how the dewatering equipment will be installed across the St. Vrain Creek Trail which lies north of Phase 1 and Phase 2. In addition, provide any agreements the Applicant has with the City of Longmont regarding the trail crossing.
13. The Mining Plan states all necessary permits will be obtained prior to disturbance in any jurisdictional Waters of the U.S. Please specify if the U.S. Army Corps of Engineers has determined if any portions of the proposed permit area are jurisdictional Waters of the U.S.
14. The Mining Plan identifies several different structures owned by the property owners of the affected area which may be removed or relocated during the mining operation. Please identify the structures which will be relocated or removed and provide the Division with the agreements between the structure owners and the Applicant which authorizes the proposed activities.
15. The Mining Plan states mining within cells 7, 8, 9 and 10 will maintain a 4H:1V slope or flatter during the flood season on the upstream sides of the mining cells and the sides that are adjacent to the St. Vrain Creek. In addition, the Mining Plan states the 4H:1V slopes will either be maintained or established during reclamation. Flooding can occur outside of the typical flooding season (May through August) as seen in the 2013 flood which occurred in September. The Applicant has not provided any basis to show that if mined slopes are not maintained at 4H:1V, they could be backfilled quickly enough to avoid headcutting in a flood event. In order for these protective measures to be effective, they must be maintained at all times during the life of the mine. Please commit to maintaining 4H:1V slopes at all times in mining cells 7, 8, 9 and 10 on the upstream sides of the mining cells and the sides that are adjacent to the St. Vrain Creek. Please see additional comments under Item No. 26.
16. The Mining Plan does not address the structures in MA3 including the irrigation ditch owned by Clean Energy LLC and the gas line and overhead electric line owned by Public Service Company of Colorado. Please clarify if the structures will be moved or relocated during mining or reclamation. If so, provide a discussion on how the structures will be mined through or around and then reestablished during reclamation.

#### **6.4.5 Exhibit E – Reclamation Plan**

17. The Applicant has proposed several different scenarios for reclaiming the Irwin/Thomas Mine. The different reclamation plans are contingent upon obtaining a court approved augmentation plan to cover the exposed groundwater resulting from mining and obtaining backfill material from the City of Longmont. The Applicant is proposing to post a financial warranty to cover the cost of installing a slurry wall in the event permanent augmentation of the exposed groundwater is not obtained. The proposed financial warranty does not include the cost to import backfill material to the site. Therefore, the primary reclamation plan which the Division is being asked to approve is for the scenario where a slurry wall is installed to eliminate the exposure of groundwater and all mined slopes are backfilled with available onsite materials. As such, the Reclamation Plan and Reclamation Plan Maps must be revised to account for the primary Reclamation Plan. In addition, an alternative set of Reclamation Plans and Reclamation Plan Maps must be developed. The following is a list of the primary and alternative Reclamation Plans:
- a) Install a slurry wall and backfill mined slopes with available onsite material. (Primary)
  - b) Install a slurry wall and backfill with imported materials. (Alternative)
  - c) Imported material is used for backfilling, augmentation plan is not obtained. (Alternative)
  - d) Imported material is used for backfilling, augmentation plan is obtained. (Alternative)
18. The Applicant has indicated the majority of the backfill material will be imported from off-site. Please specify the volume of material which will be imported to the site. Also, provide the Division with any assurances or agreements between the Applicant and the City of Longmont which demonstrates the required amount of backfill material will be available.
19. The Reclamation Plan states backfill materials will be placed to an elevation two feet above the normal high groundwater elevation. Please specify the normal high groundwater elevation and provide all data used to determine the elevation.
20. The Reclamation Plan states the City of Longmont may begin importing backfill material to the site prior to the commencement of mining. Please note that no importation of backfill material may occur until a Reclamation Permit has been issued by the Division.
21. The Reclamation Plan Map does not depict any access roads remaining on the reclaimed areas. Will any access roads remain for the landowner? If so, please depict the access road(s) on a revised Reclamation Plan Map and specify the dimensions of the access road(s).
22. The Reclamation Plan includes lined and unlined ponds, all of which will have side slopes of 3H:1V or flatter. Please commit to notifying the Division when reclamation of the ponds are complete, prior to filling the ponds with water, so the Division may conduct an inspection to verify the side slopes have been reclaimed in accordance with the approved Reclamation Plan.

23. The Applicant is proposing to replace topsoil at a minimum depth of 6 inches. The information provided in Exhibit I shows soil depths across the majority of the site range between 12 and 18 inches. In addition, large portions of the affected area are to be reclaimed to ponds, which will result in an excess of available topsoil. Please commit to replacing topsoil to a depth of 12 inches or greater.
24. The Reclamation Plan states fertilizer may be applied to re-soiled areas. Please commit to providing the Division with the results of any soil tests. In addition, if the Applicant anticipates applying fertilizer during reclamation, then the reclamation cost estimate must be revised accordingly.

#### **6.4.6 Exhibit F – Reclamation Plan Map**

25. Please see additional comments under Item No. 18.

#### **6.4.7 Exhibit G – Water Information**

26. Portions of the affected area lie within the 100-year floodplain of St.Vrain Creek. As such, the Applicant will need to demonstrate how disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area will be minimized. The Applicant shall provide a flood impact analysis to quantify the velocity and volume of flows expected on site from a 100-year flood event, as well as the elevation of the 100-year base flood event and its relation to the elevation of any proposed spillways and lake shore embankments. The Applicant will need to assess how much of the pit or ponds within the floodplain will be flooded, how the flood waters will be safely returned back to the main channel of St.Vrain Creek, and how the pit-side banks will be protected from excessive erosion. The flood control plan should address mitigation measures including pit side armoring, outflow channels, or other appropriate measures.

The Irwin/Thomas Mine is not situated within the jurisdictional boundary of the Urban Drainage and Flood Control District. However, the Division recommends the Applicant refer to the 2013 Urban Drainage and Flood Control District (UDFCD) Publication “Technical Review Guidelines for Gravel Mining Activities Within or Adjacent to 100-year Floodplains” as a reference for design criteria.

27. The Applicant is proposing to excavate aggregate using dry mining techniques. The Division will require the Applicant to define the cone of depression which will result from dry mining. The analysis should define, at a minimum, the horizontal and vertical extent of expected impacts. As part of this assessment, the Applicant shall identify the owner of any permitted and/or adjudicated water right that may be adversely affected. Also, prior to exposure of groundwater at the site, the Applicant shall provide the Division with written evidence of a damage waiver agreements from all owners of permitted and/or adjudicated water rights within 600 feet of the affected land.

28. The Applicant has identified six possible locations for groundwater monitoring wells. The proposed monitoring wells are a combination of existing wells and new wells to be constructed. Upon reviewing the groundwater monitoring plan, it is unclear if the well locations depicted on Exhibit C-4: Pre Mining Map will be used for groundwater monitoring. In order to approve the proposed groundwater monitoring plan, the Applicant must commit to these locations. Please respond.
29. The proposed groundwater monitoring plan did not specify the frequency which groundwater levels will be taken and did not specify when groundwater monitoring data would be reported to the Division. The Division will require monthly readings from the groundwater monitoring wells, with groundwater monitoring data reported to the Division in the Annual Report. Please respond.
30. The proposed groundwater monitoring plan did not discuss the collection of baseline groundwater elevations. The Division will require 5 quarters of baseline measurements to be collected prior to exposing groundwater. The measurements are to be taken monthly from the groundwater monitoring wells. Please respond.
31. Please specify the source of water in the historic drainage pond in MA4. If the pond contains groundwater, was the groundwater exposed prior to 1981, or have the evaporative depletions otherwise been accounted for through an augmentation plan?
32. The Applicant did not address the outlet pipe located on the south side of MA3. Please provide a brief description of the outlet pipe and indicate if it is currently functioning.

#### **6.4.10 Exhibit H – Wildlife Information**

No comment.

#### **6.4.11 Exhibit I – Soils Information**

No comment.

#### **6.4.12 Exhibit J – Vegetation Information**

33. The Applicant has acknowledged the presence of knapweed, musk thistle, canada thistle and cheatgrass on the proposed mine site. As such, the Applicant must develop a Weed Control Plan to address the control of these specific species and any others which may occur on the site. The Weed Control Plan should address the following:
  - a) Identify all noxious weeds which occur or may occur at the site.
  - b) Specify the timing and frequency of monitoring for noxious weeds.

- c) Specify the control measures which will be employed for each noxious weeds species i.e., chemical, mechanical or biological control.
- d) Provide a schedule for implementing control measures.
- e) Describe post-treatment monitoring of noxious weeds.

34. The Reclamation Plan states “non-noxious weeds, which are often native invaders, do not need to be controlled”. Pursuant to Rule 3.1.10(6) methods of weed control shall be employed for all prohibited noxious weed species, and whenever invasion of a reclaimed area by *other weed species*, seriously threatens the continued development of the desired vegetation. The Applicant should note that non-noxious weeds may need to be controlled in the event they threaten establishment of the planted grass species.

#### **6.4.11 Exhibit K – Climate**

No comment.

#### **6.4.12 Exhibit L – Reclamation Costs**

35. The Applicant has stated the point of maximum disturbance at the mine will occur when mining reaches the end of Phase 6. The Applicant has proposed to bond for the cost to install a slurry wall around MA1 to cover the liability associated with exposed groundwater. Furthermore, the Applicant has indicated an augmentation plan to cover the evaporative depletions will be obtained during the mining operation. However, the Applicant has not addressed how the reclamation liability associated with MA2-MA4 will be accounted for in the event an augmentation plan has not been obtained when mining of MA1 is complete. Please describe how the Applicant intends to bond for Phases 7-11 in the event an augmentation plan has not been obtained by the time mining is complete in MA1.

36. Please provide the acreages associated with each of the reclamation seed mixes.

37. The Division will perform a complete bond calculation when all the adequacy concerns have been addressed.

#### **6.4.13 Exhibit M – Other Permits and Licenses**

38. Please indicate what permits, if any, will be required to place a temporary material conveyor under Highway 119.

#### **6.4.14 Exhibit N – Source of Legal Right to Enter**

39. The Applicant’s legal right to enter the site to conduct mining and reclamation is only signed by Golden Farm, LLLP and RLSJ, LLC. However, the Applicant has also indicated the City

of Longmont is a surface owner of affected lands. Please explain why a legal right to enter the site has not been granted from the City of Longmont.

**6.4.15 Exhibit O – Owner(s) of Record of Affected Land (Surface Area) and Owners of Substance to be Mined**

40. The Applicant indicated in Exhibit N that the mineral rights have been severed from the surface ownership with the affected lands. If the surface ownership differs from the owners of the substance to be mined, then provide separate lists identifying the respective owners.

**6.4.16 Exhibit P – Municipalities Within Two Miles**

No comment.

**6.4.17 Exhibit Q – Proof of Mailing of Notices to Board of County Commissioners and Soil Conservation District**

No comment.

**6.4.18 Exhibit R – Proof of Filing with County Clerk and Recorder**

No comment.

**6.4.19 Exhibit S – Permanent Man-made Structures**

41. The Applicant has not identified the owner of the Bonus Ditch. Please provide this information to the Division and revise Exhibit C-1: Existing Site Condition & Surface Owners of Record Map accordingly.
42. The Mining Plan states structure agreements will be obtained with structure owners if mining is expected to come closer than 50 feet to a man-made structure. Under Exhibit S, the Applicant acknowledges structure agreements must be obtained for all permanent man-made structures within 200 feet of the affected land. Pursuant to Rule 6.4.19, where the mining operation will adversely affect the stability of any significant, valuable and permanent man-made structures, located within 200 feet of the affected land, the applicant may either:
- a. Provide a notarized agreement between the applicant and the person(s) having an interest in the structure, that the Applicant is to provide compensation for any damage to the structure\*; or
  - b. Where such an agreement cannot be reached, the applicant shall provide an engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation; or

- c. Where such structure is a utility, the Applicant may supply a notarized letter, on utility letterhead, from the owner(s) of the utility that the mining and reclamation activities, as proposed, will have “no negative effect” on their utility.

\* Structure agreements shall be sent by a trackable method, i.e. certified mail. In addition, the individual structure agreements shall be labeled with the certified mail number or other tracking number.

This concludes the Division’s preliminary adequacy review of this application. Please remember that the decision date for this application is January 9, 2017. 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)866-3567 x8116.

Sincerely,

A handwritten signature in blue ink, appearing to read "Mike C.", is positioned above the typed name.

Michael A. Cunningham  
Environmental Protection Specialist

Enclosures (2)

CC: Wally Erickson, DRMS