



June 30, 2025

Ed Seymour
Caerus Cross Timbers LLC
143 Diamond Ave
Parachute, CO 81635

RE: Colony Shale Oil Project, Permit No. M-1980-047 , Technical Revision (TR-18), Adequacy Review-2

Dear Mr. Seymour:

The Division of Reclamation, Mining and Safety (Division) is in the process of reviewing the above referenced Technical Revision in order to ensure that it adequately satisfies the requirements of the Colorado Mined Land Reclamation Act (Act) and the associated Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal, and Designated Mining Operations (Rules). During review of the material submitted, the Division determined that the following issue(s) of concern need to be adequately addressed before the Technical Revision can be considered for approval. Items that have been completely addressed have been removed. **New or amended items are listed in red.** Please provide the following: [QB AR2 Response](#)

Reclamation Plan

1. Pursuant to Rule 6.4.5(2)(a) please explicitly state the type(s) of reclamation to be employed for each area. Additionally state why each was chosen, the amount of acreage associated with each, and a general discussion of methods of reclamation as related to the mechanics of earthmoving.
 - a. Include a table which states the post mine land use for each area and the acres associated with land use type.

[Bullet pointed list was added to the maps explaining an overview of the reclamation required for each area, which is consistent with the narrative.](#)

It's noted that the post mine land use is noted on Reclamation Plan Maps. Pursuant to Rule 6.4.5(2)(a) within the narrative portion of the Reclamation Plan please explicitly state the post mine land use for each area associated with the permit.

2. For all areas where revegetation is to occur state within the Reclamation Plan state the total number of acres to be seeded and the seeding method by area. Clarify if application of topsoil, fertilizers, mulch or nursery stock will be employed. Explicitly state if areas will require no additional seeding.



Please explicitly state this information within the narrative portion of the Reclamation Plan.

State the reclamation measures and total acres to be reclaimed for areas; 6, 6A, 7, 10A, 16A, 16B, and 17A.

- a. It may be beneficial to include a table summarizing all reclamation information required under Rule 6.4.5(2)(f). Be sure to break it out by area.

Summarize materials and application type and acreage for; fertilizer, tilling, mulch, seeding, and any other misc. reclamation treatments. Note if vegetation survey data cannot yet be provided the Division needs to assume that the entire area will need to be reclaimed.

3. Will any spot seeding be required in areas where recontouring will not be completed for the purpose of increasing vegetation density? If so, please specify which area(s), how many acres and anticipated methods used.

Has vegetation been surveyed in all areas where contouring will not take place to ensure that additional spot seeding is not required? The Division cannot assume areas have completely self-reclaimed. Provide additional documentation spot-seeding is not required or update the plan accordingly.

Vegetation survey is in the works and will be provided upon completion. Needs 70-80% of vegetation coverage comparative to adjacent. Take pictures and complete the vegetation survey. Break apart per area and provide pictures as well.

For all areas, please clarify what vegetation threshold is to be considered successfully reclaimed. The Division acknowledges that a vegetation survey is currently being completed. Clearly state which adjacent undisturbed areas the reclaimed areas will be compared to.

- a. For any areas where the vegetation cover is sparse additional language should be added to the Reclamation Plan narrative to include revegetation measures to be employed for those areas. Similarly, update maps to delineate areas where additional revegetation is necessary.
4. Please provide a table within the Reclamation Plan narrative that summarizes the total number of cubic yards of material that require grading by Area.
 - a. Volume table provided on Reclamation Plan map C1 does not match volumes listed within the Reclamation Cost Summary (Takeoff Estimate). Ensure that the volumetrics provided throughout the permit materials are consistent.
 - b. To aid with bonding within the table also include average push grade, push distance, material types and consistency (swell) by each area.

Area 6

5. The Reclamation Plan states that the water discharging from the portal has been sampled and tested. Please provide sampling results to demonstrate water quality. Rule 3.1.6
 - a. Clarify what water quality standard the sample results were compared to.

See analytical report completed by Entrada as part of this submittal.

Water sampling and analysis were provided by Entrada. It was noted in the report that the samples were compared to Regulation 41 (groundwater standards). The discharging water from the portal is considered surface water and subject to Regulation 31. Please revise Table 1 of the report to summarize sampled constituents against the standards of Reg 31. If you are applying in stream standards, also please specify which segment is applicable.

6. Until the Operator can provide documentation that the existing masonry wall at each of the portal entrances meets the IMP Bid Specs the Division will bond for installation of a new feature at each portal entrance.

Noted.

The Reclamation Plan narrative for the Upper Area 6 (Mine Bench) states that a masonry wall for the portal entrances already exists and the Operator will ensure it meets IMP specification. It continues to provide the two portal entrance dimensions. Are the dimensions provided the existing opening size that remains after the partial masonry wall, OR is it the overall dimensions of the rock opening? **Note that until the wall can be determined to meet IMP specs, the bond must cover a closure for the full opening. Please specify rock opening dimensions.

7. What sort of surface reclamation/revegetation will take place on Area 6-Mine Bench. Only the pull-out parking area is mentioned with regards to surface reclamation.

Vegetation throughout the entire mine bench is not comparable to adjacent undisturbed areas. Additional revegetation efforts will be required. Please explicitly state the number of acres to be revegetated and the methods utilized.

A vegetation survey is currently being completed and will be provided upon completion. This vegetation survey will include a comparison and a plan of what will be needed here will be addressed.

Please describe revegetation measures to be employed for Upper Area 6 (Mine Bench). The Reclamation Plan narrative indicates that only newly disturbed areas will be reclaimed. However, the vast majority of the mine bench pad does not have comparable vegetation cover to other undisturbed areas. Additional seeding to portions of the pad beyond just the newly disturbed areas should be described.

Area 7

8. Please describe the relationship of the new pipe to the abandoned steel pipe. Their proximity is unclear from the maps provided. In the narrative please further expand upon the relationship between the new and existing pipeline.
9. Additionally, notes on map C14 indicate that portions of the existing pipe may be removed as needed to install the new pipe. This will result in sections of open pipe to be buried. Will these cut outs also be capped?

10. In more detail describe the work scope to install the new pipe. What are the total estimated cubic yards of material estimated to be removed then replaced for installation of the new pipe? Will any concrete need to be poured or import of bedding material?

11. How many acres required noxious weed treatments only in Area 7?

Area 10B

12. What is the diameter of the delineator pipe that needs to be removed?

Area 10A and 16B

13. How many delineators need removed?

Please state the number of PVC delineators to be removed and the estimated volume of waste to be generated.

Area 18D, E, F, and G

14. What is the anticipated area that will require reclamation after grading?

Added to narrative for all of the areas. This can be found in the quantity takeoffs as well.

Information provided on maps and take off sheet. Include within narrative portion of Reclamation Plan.

Area 19 A/B

15. In the narrative portion of the Reclamation Plan it is stated that electrical infrastructure from this area has been removed. Has all removed infrastructure been disposed of offsite? If not, please provide the materials and volumes of infrastructure which still needs to final disposal.

ESR

16. Please provide an itemized list of all equipment located at the ESR that requires removal. State the building materials, dimensions, foundations, electrical, etc.

- a. Demolition of the lysimeter is not sufficiently described. Internal contents must be removed before exterior cement foundations can be demolished. What is the thickness of the foundation, and is it reinforced?

The Division has to assume that all materials will need to be taken to the landfill or buried on site. Please provide the dimensions of the Lysimeter.

Colony Water Wells No additional information was provided.

17. Repermitting applications were provided but no record of receipt on DWR website. Please provide documentation from DWR wells that may remain. If not, the Division will also have to bond for the abandonment of these wells until such time as they can remain.

Reclamation Plan Maps

18. Per Rule 6.2.1(2)(b) all maps must be prepared and signed.

Signature block has been added to the plans and will be signed once we approach approval.

19. Please update Map C11. No call out for fuel storage/secondary containment area. The weather station is removed but the building/call out is still on Reclamation Plan map. No outline for Southern generator shack just callout.
20. 8 wells were located on the maps but not labeled. Based on the Colony Water Well Table, 12 wells are slated to remain. Please label all wells to remain on the applicable map(s). Consider providing a well map separately.
21. Permeant roads are not depicted on all maps or are not always visually apparent based on satellite imagery. Please outline these features which will remain. Specifically maps C10, C11, C12, C16, C23
 - a. On map C14 there is a call out to "Access Road to Remain" but features outline cannot be recognized.
22. Map C 13 has a call out for "6' steel culvert to be abandoned". There is no mention of this feature or any sort of abandonment in the Reclamation Plan, nor is it included within Exhibit L. Please revise Exhibit(s) to be consistent.
23. Map C9 depicts Area 18G(3). The call out says Area 18F see Sheet C9, please update this call out to the correct map, C6.
24. Map C17 for Area 8B indicates the post-mine land use is Rangeland however the Reclamation Plan narrative indicates the area will be used for agricultural purposes and this why the gravel pad will not be revegetated. Ensure continuity throughout exhibits.
25. Map C17 please correct the header for reclamation notes pertaining to Area 1C. Area 7 (upper Area) is listed twice.
26. On all maps, indicate where revegetation measures (seeding) will be conducted vs areas that are undisturbed or successfully volunteer reclaimed.

Exhibit L

27. Incorporation of fertilizers or soil amendments are proposed Are the unit costs provided materials only or does that include the hydraulic application?
28. Exhibit L Area 4 does not include all remaining reclamation tasks described in the Reclamation Plan. Include costs for building removal and breaking up and on-site disposal (burying) of the weather station foundation. Off-site disposal costs associated with electrical and communication wire. As well as hand seeding disturbed area as described in the Reclamation Plan. Please update Exhibit(s) to be consistent throughout the revision.
29. Exhibit L Area 5 includes cost for soil amendments and seeding despite the Reclamation Plan narrative stating no seeding is to take place. Please update Exhibit(s) to be consistent throughout the revision.
30. Please further break down what cost are included under each line item for Area 6 and 6A capping the existing and installing a new 72" pipe. Additionally, this task is described as Area 7 in the

Reclamation Plan but Area 6 and 6A of the cost estimate. Please keep numbering consistent throughout exhibits.

31. Area 8B task E3 states that 85 CY are associated with regrading the berm around the pad while the Reclamation plan narrative states 400 CY. Update exhibit(s) accordingly.
32. Please include costs for all remaining reclamation activities to be completed in Area 16. According to the Reclamation Plan, pipe removal associated with Area 16B, and 49 jersey barriers still remain.
33. Map C6 for area 18F states revegetation of 18.5 ac while task Q3 states 15.5 ac. Please address discrepancy.
34. For the ESR please include a task for the game fence removal and disposal of materials.
35. Per the Reclamation Plan narrative import of topsoil is no longer big considered instead soil conditioners will be utilized for reclamation. Area 18A task M2, and Area 18D task O2 still include import of topsoil.
36. For task V3, where are these 16 additional poles and line to be removed?

Please submit your response(s) to the above listed issue(s) by Friday, July 18, 2025 in order to allow the Division sufficient time for review. If you cannot address the above issues by July 18, 2025 please request an extension to the decision due date to ensure adequate time for the Division to review materials. A decision due date of **August 15, 2025** has been set. If any adequacy issues remain by the decision due date the Division may deny your request.

The Division will continue to review your Technical Revision and will contact you if additional information is needed. If you require additional information, or have questions or concerns, please feel free to contact me.

Sincerely,



Amy Yeldell

Environmental Protection Specialist III

Ec: Travis Marshall, Senior EPS, DRMS