STATE OF COLORADO

Renfro - DNR, Joel <joel.renfro@state.co.us>

Cogburn Sand, Gravel, and Reservoir Project Adequacy Review Letter

1 message

Renfro - DNR, Joel <joel.renfro@state.co.us> Wed, Jul 2, 2025 at 8:50 AM
To: Robert Haun <rhaun@eaglematerials.com>
Cc: Quentin Borum <qborum@raptormaterialsllc.com>, Amy Eschberger - DNR <amy.eschberger@state.co.us>, Ben Hammar - DNR <ben.hammar@state.co.us>, Patrick Lennberg - DNR <patrick.lennberg@state.co.us>, Garrett Varra <gvarra@raptormaterialsllc.com>

Good morning,

Please find the Division's adequacy review letter for the Cogburn Sand, Gravel, and Reservoir Project (M2025-016). Please let me know if you all have any questions or need clarification on any of the items.

Best,

Joel Renfro
Environmental Protection Specialist

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

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M2025-016 Cogburn SGRP Adequacy Review Letter #1.pdf
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COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

July 2, 2025

Bob Haun
Raptor Materials LLC
8120 Gage Street
Frederick, CO 80516

Re: Cogburn Sand, Gravel, and Reservoir Project, File No. M-2025-016, 112 Construction Materials Reclamation Permit Application, Preliminary Adequacy Review

Dear Mr. Haun:

The Division of Reclamation, Mining and Safety (Division) completed its preliminary adequacy review of your 112 Construction Materials Reclamation Permit Application submitted for Cogburn Sand, Gravel, and Reservoir Project in Weld County. The application was called complete on March 28, 2025. The current decision date for the application is set for August 15, 2025.

The Division's review consisted of comparing the application content with the requirements of the Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials. The Division has identified the following adequacy items in the application which require clarification or additional information:

Application Form

1. On pages 5 and 6 of the application form, under the section called Responsibilities as a Permittee, the initials provided are "gcv", which the Division assumes to be for Garrett Varra. This section must be initialed by the Applicant/Operator contact, which the application lists as Bob Haun. Please provide revised pages 5 and 6 with initials of the Applicant/Operator contact or provide a revised page 3 with Garrett Varra listed as the Applicant/Operator contact.

2. On page 8 of the application form, under the section called Certification, Garrett Varra signed on behalf of the Applicant/Operator. This page must be signed by the Applicant/Operator contact, which the application lists as Bob Haun, or an authorized representative of the Applicant/Operator. Please provide a revised page 8 that is signed by Bob Haun or provide an affidavit on company letterhead authorizing Garrett Varra to act on behalf of Raptor Materials LLC.

3. On the notice certification page (for the sign), Garrett Varra signed on behalf of the Applicant/Operator. However, Mr. Varra is not listed as the Applicant/Operator or Permitting Contact in the application. Please provide an affidavit on company letterhead authorizing Garrett Varra to act on behalf of Raptor Materials LLC.

Rule 6.4.1 EXHIBIT A – Legal Description

4. Per Rule 6.4.1, the location of the main entrance to the mine site must be reported and also located based on a USGS topographic map showing latitude and longitude or UTM. The materials submitted in this exhibit include the latitude and longitude for a Northeast Entrance and a Southeast Entrance. Will one of these entrances be considered the main or primary entrance to the mine? If so, please specify which one. This exhibit did not include the required map showing the main entrance to the mine site per Rule 6.4.1(2). Please submit the required Exhibit A map. Alternatively, if the applicant wishes to submit one map that meets all requirements of Exhibits A and B, please ensure the map is labeled accordingly. For example, the Exhibit B Index Map submitted could be changed to "Exhibit A/B Index Map" and include the location of the main entrance to the mine site.

5. The application includes a copy of a Selected Parcels Report generated on 10/22/2024 using the Weld County Online Mapping tool. This report includes a map of the proposed project area with adjoining parcels identified. Below the map, the owners (10 different ones altogether) are listed with their physical address. It is unclear which exhibit this document was intended for and which landowner is associated with which parcel. If the applicant would like the Division to consider this document in its review of the application, please resubmit the document with the appropriate Exhibit heading. If this document is intended to provide all adjoining surface owners of record, please indicate on the document which parcel(s) on the map is owned by which landowner (this might be done by adding numbers to the landowners in the list and adding the corresponding numbers to the parcels shown on the map). Please provide the mailing address for each landowner, rather than the physical address, so this information can be used to confirm that copies of the newspaper notice required by Rule 1.6.2(1)(d) were sent to all surface owners of record within 200 feet of the boundary of the affected lands per Rule 1.6.2(1)(e)(ii).

Rule 6.4.3 EXHIBIT C - Pre-mining and Mining Plan Map(s) of Affected Lands

Exhibit C-1 - Existing Conditions Map:

6. This map contains many additional features, making it difficult to identify all the required ones. Given the large number of existing features and structures at the site, the Division recommends that the applicant update this map to remove the wells located within 600 feet of the proposed permit area. This information is not required for this map, and including it makes the scale of the proposed permit area too small. Ideally, the scale of this map should be the same as that used for the Exhibit C-2 map, so that all required features can be easily identified inside of the proposed permit area and within 200 feet of the proposed permit area.

7. Please clearly label and differentiate the proposed permit boundary and the proposed affected land boundary (if it is different). The legend includes a symbol for "Boundary – Approximate" (thick red line), which the Division believes to represent the proposed permit boundary. If this is correct, please revise the symbol text accordingly and also add the proposed affected land boundary, if needed.

8. The symbol used to identify the 200 Foot Boundary Offset – Approximate (thin yellow line) is difficult to identify in some places. Please revise this symbol (e.g., thicken the existing line, use

a more visible color) so that it can be easily identified on the map.

9. Please identify the owner of record of all rights-of-way and easements located on or within 200 feet of the proposed permit area.

10. Please ensure the location and type of all permanent, man-made structures located inside the proposed permit area and within 200 feet of the proposed permit area are clearly identified on this map, along with the owner's name of each structure (including structures owned by the applicant). This should include all roads, fences, ditches, other water conveyance or storage structures, ponds, lined reservoirs, bridges, conveyors, wells, parking lots, above or below ground utilities, buildings, houses, barns, railroad tracks, etc. The structures shown on this map should correlate with the structure list provided in Exhibit S, which separates structures located inside the proposed permit area from those located within 200 feet of the proposed permit area. In particular, the satellite imagery on the map shows structures located to the northwest of the proposed permit area (e.g., buildings, roads, lots, pond), and ponds located north, east, and southeast of the proposed permit area that are not labeled. Additionally, there appear to be roads and fences located to the north, east, and south of the proposed permit boundary and a building and other structures located to the east of the triangular shaped area not included in the permit area, that are not labeled.

11. Please label the river that crosses the central portion of the permit area. If this river does not have a name, you can label it as "unnamed".

12. The table provided in the lower right corner of the map which lists parcels and their associated owners of record does not include a header. Please add a header to this table that describes the information provided (for example: "Surface Owners of Record for Affected Lands and Adjoining Lands"). Additionally, if this table is meant to include all owners of record listed in the Selected Parcels Report provided with the application, please clarify why this list does not match up with the owners of record listed in that report.

13. Please ensure this map shows all existing uses of the land.

14. On this map or a separate Exhibit C map, please indicate the type of present vegetation covering the affected lands as required in Rule 6.4.3(e).

Exhibit C-2 – Extraction Plan Map:

15. Please clearly label and differentiate the proposed permit boundary and the proposed affected land boundary (if it is different). The legend includes a symbol for "Boundary – Approximate" (thick red line), which the Division believes to represent the proposed permit boundary. If this is correct, please revise the symbol text accordingly and also add the proposed affected land boundary, if needed.

16. Please label the river that crosses the central portion of the permit area. If this river does not have a name, you can label it as "unnamed".

17. Please ensure all text provided on the map is legible. For example: the text boxes for the Last Chance Ditch and a few features located in the northeastern portion of the proposed permit area have small, faded text, making them difficult to read.

18. Please ensure the location of the proposed mine entrance(s) is more clearly marked on the map.

19. Please ensure all proposed setbacks or buffers to be maintained by the mining operation are shown on this map.

20. Please show the location of all proposed topsoil and overburden stockpiling locations. One small "Temporary Topsoil Stockpile" area is identified at the northern edge of the P-125A pit. However, Section A of the Exhibit D – Extraction Plan describes smaller short-term topsoil stockpiles that may be created along the pit edges. Please identify these possible locations for topsoil stockpiles (and any others) on this map. Note that per Rule 3.1.9(4), once stockpiled, the topsoil shall be rehandled as little as possible until replacement on the regraded, disturbed area, and relocations of topsoil stockpiles on the affected land require Division approval through a Technical Revision submittal.

21. Please ensure all features of the proposed mining operation are shown on this map, including all proposed access points, roads to access each mining area, offices, truck scales, conveyors, equipment storage areas, parking areas, temporary material stockpiling areas, stormwater management structures, water conveyance and storage structures to be used for dewatering, and discharge locations.

22. Please outline and show the approximate acreage for each of the proposed pits. This information should correlate with the proposed mining and reclamation plans.

23. The proposed mining area labeled P-125B does not match what is shown on the Exhibit F – Reclamation Plan Map. In particular, the western portion of that pit is labeled as a "Mineral Reserve Area" and not an "Area of Extraction"; however, the Exhibit F map shows the entire P-125B pit to be reclaimed as a lined reservoir. The mining plan must correlate with the reclamation plan. Therefore, please revise this map to have the proposed extraction area match the reservoir shown on the Exhibit F map. Alternatively, the applicant may revise the Exhibit F map to match this one. Please be advised, the Division must approve mining and reclamation plans for all lands proposed to be affected. If the applicant chooses to not provide plans for certain areas at this time, the required information for these areas must be provided later through an Amendment submittal. Additionally, the applicant will be required to post a reclamation bond for reclaiming the entire planned enclosure for any lined reservoir. This is because the Division must bond for the worst-case conditions at the site, which for this operation, would include having a pit mined below the groundwater table that does not yet have an installed liner approved by the Office of the State Engineer (SEO) (after performing the required 90-day leak test).

24. This map shows another "Mineral Reserve Area" in the northern portion of the proposed permit

area, labeled as P-125C. As mentioned above, the Division's approval of this application would not authorize the operation to disturb areas that do not have approved mining and reclamation plans, including any areas labeled as a "Mineral Reserve Area". These areas could only be disturbed after the Division's approval of an Amendment application. Therefore, please ensure the mining and reclamation plans and maps submitted with this application accurately reflect all lands proposed to be affected by the operation.

25. A large "Settling Basin" and associated discharge pipe is shown on this map at the southern edge of the Mineral Reserve Area labeled as P-125C. However, the applicant is not currently proposing to mine the P-125C area. Therefore, please remove the settling basin and discharge pipe from this map. Any proposed features associated with this mining area, including any water management structures, must be included in the Amendment application (mentioned above).

26. Two conveyors are depicted on this map, including the one connecting P-125B to P-125A and the one extending east from P-125A to the eastern edge of the proposed permit boundary. In the proposed mining plan, the application mentions that material mined at the site will be conveyed to an existing conveyor adjacent to County Road 17. However, it is not clear on this map where the existing conveyor is located or how material mined from P-125_S1 will be transported off site for processing (since no conveyors are shown in that mining area). Please clearly show the location of the existing conveyor and any proposed conveyors to be used by the operation on this map.

27. Please be sure that any changes made to the mining plan through this adequacy review process, including any plans for the identified mineral reserve areas, are reflected on this map.

Rule 6.4.4 Exhibit D – Mining Plan

28. On page 1, in the 2nd paragraph, the applicant states "In the event the native seed mixture fails, an optional mixture of predominantly introduced species will be used as a fall back to better assure a stabilizing cover of vegetation". Please commit to submitting a Technical Revision to propose any changes to the seed mixture(s) approved in this application.

29. On page 1, in the 3rd paragraph, the applicant mentions potentially moving stockpiled topsoil to the southeastern corner of the P-125A pit. Please be advised, the Division must approve all proposed topsoil stockpile locations. If the operation plans to relocate or create new topsoil stockpiles in the future, this proposal must be reviewed and approved by the Division through a Technical Revision.

30. On page 1, in the 5th paragraph, the applicant states "Excess soil not needed on site may be sold". Please be advised, all salvaged topsoil and overburden must be used in final reclamation, as needed to fulfill all components of the reclamation plan. The amount of topsoil and overburden needed to fulfill the proposed reclamation plan will be determined through this adequacy review process. Please commit to keeping on site no less than 1.3 times the total amount of topsoil and overburden needed for reclamation.

31. According to the applicant, none of the mined material will be processed on site, and will instead be transported off site via a proposed conveyor that will tie into an existing conveyor to another permit operated by the applicant (M-1999-006; Kurtz Resource Recovery & Land Development Project) for processing. Please confirm that all proposed and existing portions of the conveyors that will be used by this operation are covered by the affected lands proposed in this application or by the affected lands approved for the applicant's existing M-1999-006 permit.

32. Please describe how the P-125_S1 mining area will be accessed by the operation and clarify whether the operation will be crossing the rights-of-way and easements identified in this area (on the Exhibit C-1 map) to access this area or to access other portions of the permit area from this area.

33. Please specify where the backfill material and topsoil needed to reclaim the P-125_S1 mining area will be stored.

34. Please describe how material mined in P-125_S1 will be transported off site for processing. There appear to be no proposed conveyors from this mining area.

35. On page 1, in the last sentence, the applicant states "the planned 1st discharge point is shown on Exhibit Map C-2 from the northwest corner of Pit P125_S1 to the Last Chance Ditch". However, the Division was unable to locate any proposed discharge points on the referenced map. Please ensure all proposed discharge points for the operation are shown on the Exhibit C-2 map and also discussed in this exhibit.

36. On page 2, in the 4th paragraph, the applicant notes the topsoil stockpile location and initial extraction area shown on the Exhibit C-2 map are idealized and may vary in shape, size, and location presented. The Division understands the graphic used to identify any proposed topsoil stockpile location on the Exhibit C-2 map may not be directly representative of the shape and size of the topsoil stockpile. However, as mentioned above, the Division must approve the location of any topsoil stockpile locations. Therefore, any change to the locations proposed in this application will require a Technical Revision submittal. Please revise this exhibit accordingly.

37. On page 2, in the 7th paragraph, the applicant states "It is currently anticipated that the fill material will come from excess material currently available on the adjacent Raptor materials Kurtz operation (DRMS permit M-1999-006)". Please provide an estimated volume of fill material (in cubic yards) expected to be imported to the site for reclamation. Please provide all information required by Rule 3.1.5(9) for any proposed backfill material to be imported to the site.

38. Please provide the estimated volume of material (in cubic yards) needed to backfill the P-125_S1 pit.

39. Please provide the estimated volume of material (in cubic yards) needed to backfill pit slopes

from 1.25H:1V to 3H:1V for the P-125A and P-125B pits.

40. On page 2, in the last paragraph, the applicant mentions there could be delays in backfill cut perimeter slopes which makes it hard to accurately forecast concurrent backfill at this time. The Division understands there may be some variation in the amount of concurrent reclamation being achieved at any one time. However, since the Division must consider the worst-case conditions when calculating the required reclamation bond for the site, the applicant must commit to a maximum length of highwall that will be unbackfilled at any time. This will be 2,000 feet (as proposed by the applicant) unless the applicant decides to revise this figure. Any future increase to this maximum length of unbackfilled highwall at any time would require the submittal of a Technical Revision, including an updated bond estimate.

41. On page 3, in the first two paragraphs, the applicant discusses how pit-run materials will be conveyed to an existing N-S conveyor along the west side of Weld Co Rd 17, which will convey material to the existing Kurtz permit for processing.

    a. Please provide approximate lengths and the number of footings expected for all proposed conveyors.
    b. Please confirm that all portions of the proposed conveyors for this operation, including any ditch or road crossings, will be part of the affected lands approved for this permit.
    c. Please provide the design details for the proposed conveyor crossings over the Last Chance Ditch and County Road 17. If this information is not known at this time, please commit to providing this information in a Technical Revision prior to construction of the crossings.

42. On page 3, in the 5th paragraph, the applicant discusses a plant. However, the application is not proposing to process mined materials on site. Therefore, this text appears to be an error and needs to be removed from this exhibit.

43. On page 3, in the last paragraph, the applicant mentions the actual location, extent, and nature of conveyor systems will be updated in the annual reports. Please be advised, the Division must approve the location, extent, and nature of all structures that are proposed to be used by the operation, including any conveyors with components that will need to be removed for reclamation. This cannot be done through an annual report submittal. Therefore, please commit to submitting a Technical Revision with any planned changes to the conveyor system proposed in this application.

44. Please commit to obtaining the required well permit(s) and Substitute Water Supply Plan from the Division of Water Resources prior to exposing any groundwater at the site and providing copies of these approvals to the Division. Any renewals or modifications of these permits/plans must be updated with the Division throughout the life of mine.

45. On page 4, in the 5th paragraph, the applicant discusses the initial dewatering activities and associated structures, then mentions that any changes to these activities or structures will be included in the annual reports. Please be advised, the Division must approve any changes to the

dewatering activities or structures proposed in this application. This cannot be done through an annual report submittal. Therefore, please commit to submitting a Technical Revision with any planned changes to the dewatering activities or structures proposed in this application.

46. On page 5, in the 2nd paragraph, the applicant states that temporary topsoil, backfill, or liner material stockpiles may occur in the floodplain. However, the Exhibit C-2 map submitted does not show any proposed stockpile areas in the floodplain, which appears to cross the western edge of the proposed P-125B pit. Please remove this language or show the proposed stockpile areas on the Exhibit C-2 map. If the application is proposing to stockpile material within the floodplain, additional details will be needed on how stormwater will be managed on site to prevent stockpiled material from being impacted by flood events, possibly resulting in off-site damage.

47. On page 5, in the 3rd paragraph, the applicant states the affected lands will be set to the 196.4 acre permit acreage, and "as a result, any changes required in the nature of planned extraction or reclamation will be made only through DRMS by Technical Revision only." Please be advised, regardless of whether the applicant chooses to set the affected area equal to the permit area, if the operation plans to create any disturbance in areas that do not have approved mining and reclamation plans (such as the areas identified as "Mineral Reserve Areas" in this application), an Amendment application will be required. Please revise the text accordingly.

48. On page 5, in the 4th and 5th paragraphs, the applicant states there are "3 identifiable areas designated for primary extraction", including the 10.4 acre P-125_S1 pit, the 22.1 acre P-125A pit, and the 28.2 acre P-125B pit, for a total proposed extraction area of 60.7 acres. The applicant then lists 135.7 acres of "affected lands beyond planned extraction limits". Please describe how the operation intends to "affect" the 135.7 acres, and ensure these activities are shown on the Exhibit C-2 map. If the applicant does not wish to provide plans for the 135.7 acres at this time, please commit to submitting an Amendment application with this information prior to creating any disturbances in these areas.

49. On page 5, in the last paragraph, the applicant states "Extraction is set back uniformly at a minimum 10.0 feet from the edge of property lines; easements and rights-of-way; underground gas lines or other underground facilities, irrigation ditches and seep ditches, wells and other structures". Please ensure all proposed setbacks are shown on the Exhibit C-2 map. Additionally, please ensure the engineering evaluation submitted demonstrates that a 10-foot mining setback from these features/structures will be sufficient to prevent any impacts to these structures or off-site impacts.

50. Please clarify whether any mining is proposed to occur within 400 feet of a river or perennial stream. If so, please refer to the Division's February 2024 Floodplain Protection Standards for Sand and Gravel Pits Adjacent to Rivers and Perennial Streams (available on the Division's website at: https://drive.google.com/file/d/1GreTdF8O0T9gAlWgCGwPKI1COujlmYK-/view) and provide the required information.

51. On page 6, in the 3rd and 4th paragraphs, the applicant mentions the portions of the permit area

designated as "Mineral Reserve Areas" and that extraction will not occur in these areas unless approval has been obtained under a Technical Revision. As mentioned above, these plans must be submitted in an Amendment application and not a Technical Revision. Please revise the text accordingly.

52. On page 6, in the 5th paragraph, the applicant lists several potential structures and uses of the proposed affected lands. Please commit to submitting the appropriate revision if any of the structures or uses of the affected lands are expected to change from what is proposed in this application.

53. Considering this reclamation plan, it appears that phased reclamation will not be implemented into this operation. If there are no phases and all identified pits may be worked on at the same time, then the Division will need to bond for the maximum disturbance that could occur at any time. Please specify the proposed maximum disturbed acreage (to be correlated with the reclamation bond). Please ensure this maximum acreage includes all proposed disturbances by the operation such as any extraction areas; equipment or material storage areas; office, scale, scale house, or parking areas; water diversion or detention structures; discharge locations and associated infrastructure; roads; and conveyors or other structures to be constructed and/or utilized by the operation. Please ensure the proposed maximum disturbance is reflected on the mining and reclamation plan maps.

54. On page 7, in the 4th paragraph, the applicant states that any changes to which areas will be mined will be addressed in the annual reports. As mentioned above, the Division must approve all areas planned to be mined, and this cannot be done through annual reports. Therefore, please commit to submitting the appropriate revision for any proposed changes to the mining and reclamation plans provided in this application.

55. On page 8, in the 1st paragraph, the applicant states "This submittal is unable to fully forecast the maximum extent of disturbance within the affected lands expected at any given point in time, beyond an annual basis" and indicates that any changes to the planned disturbance will be handled through the annual report submittal. As mentioned above, the Division must approve a maximum disturbance planned for the site (to be correlated with the reclamation bond). If the operation intends to increase this disturbance in the future, the appropriate revision will need to be submitted (Technical Revision or Amendment, depending on whether mining and reclamation plans have already been submitted for the new areas proposed to be disturbed). Please acknowledge this requirement.

56. On page 8, in the 2nd paragraph, the applicant estimates soil depth to vary 0 inches to 6 feet and the maximum gravel depth to be 50 feet. First, the Division believes the "6 feet" maximum of soil depth is an error, and the applicant meant for this to be 6 inches. Please provide clarification and/or correct this error. Additionally, please specify the maximum mining depth for each of the proposed pits.

57. On page 9, in the 1st paragraph, the applicant states that "access purpose and usage may change in time from that indicated here-in" and that "modifications may occur as needed and will be

reported in (the annual report)". The applicant then lists 3 primary access points to the mine. First, the Division was unable to find 3 proposed access points on the Exhibit C-2 map. Please revise this text and/or the Exhibit C-2 map to reflect all proposed access points to the site. Additionally, please commit to submitting a Technical Revision to make any changes to the access points proposed in this application.

58. On page 10, in the 1st paragraph, the applicant states "future agreements may be reached allowing mining in areas currently identified as being restricted to mining containing certain structures, easements or rights-of-way". Please commit to submitting the appropriate revision to address any proposed changes to the mining areas proposed in this application.

59. On page 10, in the last paragraph, the applicant states "To the extent possible, pond bottoms will be left rough, with the possible introduction of logs or other non-putrescent inert material to add in aquatic habitat and cover". This statement appears to conflict with the reclamation plan and post-mining land use proposed for the site, which includes creating lined reservoirs for use as developed water resources. Please clarify this discrepancy or remove this statement from the text if it is an error.

60. A temporary topsoil stockpile is identified on the map in the northern corner of P-125A. Please clarify the nature of this temporary stockpile area. Will it store topsoil for every mined pit? What will be done with the topsoil stored there when that corner of the pit is mined?

61. Please provide the seed mixture to be used for stabilizing topsoil stockpiles.

62. While a list of commodities to be sold is helpful, please identify the primary and secondary commodities to be mined/extracted (e.g., sand, gravel, clay) and describe the intended use as required by Rule 6.4.4(g).

63. Per Rule 6.4.4(h), please name and describe the intended use of all expected incidental products to be mined/extracted.

64. Per Rule 6.4.4(j), please specify the dimensions of any existing or proposed roads that will be used for the mining operation. Additionally, please describe any improvements necessary on existing roads and the specifications to be used in the construction of new roads.

65. Per Rule 6.4.4(j), please describe any associated drainage and runoff conveyance structures to include sufficient information to evaluate structure sizing.

Rule 6.4.5 Exhibit E – Reclamation Plan

Exhibit E – Backfill Notice:

66. This backfill notice does not include all information required by Rule 3.1.5(9) for plans to import inert material to the site for use as reclamation backfill. Please revise this notice accordingly. Alternatively, if this information is not currently known for all backfill material

planned to be imported to the site, please commit to submitting a Technical Revision with this information once it is known, and prior to importing the material.

Exhibit E – Reclamation Plan:

67. On page 1, in the 1st paragraph, the applicant indicates there may be other post-mining land uses for the affected lands than developed water resources, which is proposed in this application. Please be advised, the Division must approve all planned reclamation and post-mining land uses for the site, and any significant changes to the approved reclamation plan or post-mining land use will require an Amendment application. The Division understands the primary post-mining land use proposed for the site is developed water resources, but any other proposed uses that are not consistent with developed water resources must be described in the application (and shown on the Exhibit F Reclamation Plan Map).

68. On page 1, in the 1st paragraph, the applicant states the backfill material required for reclamation will at least partially come from off site. Please provide the estimated volume of material (in cubic yards) that is available on site for use in reclamation backfill. Additionally, please provide the estimated volume of material (in cubic yards) that will need to be imported to the site to achieve the reclamation plan proposed.

69. On page 1, in the 2nd paragraph (under Section 2.B), the applicant discusses a diverse multiple land use potential for the site. However, no other post-mining land uses, besides developed water resources, are proposed for the site. Please describe all proposed post-mining land uses for the affected lands (and ensure these uses are portrayed on the Exhibit F map).

70. Please provide a comparison of the proposed post-mining land use(s) to other land uses in the vicinity and to adopted state and local land use plans and programs.

71. On page 2, in the 1st paragraph, the applicant states the P-125_S1 pit will be backfilled for use to be chosen at a future date by the property owner. As mentioned above, the Division must approve all proposed post-mining land uses for the affected lands. Therefore, unless otherwise specified in the application, the post-mining land use for the reclaimed P-125_S1 pit will be considered a use that is consistent with developed water resources. Please commit to submitting the appropriate revision if there are any planned changes to the reclamation plan or post-mining land use for this area.

72. On page 2, in the last paragraph, the applicant discusses concurrent lining of pit walls that exceed 30 feet below the ground surface (bgs), stating the "extracted final walls will be lined to 25 feet bgs prior to placement of any backfill and as soon after extraction as practically possible to allow later tie in to the upper liner between 25 feet bgs and 5 feet bgs" and "they will then be backfilled at slopes no steeper than 3H:1V for depths 30 feet bgs and greater". Later, "the cut slopes along the extraction limits perimeter will be finish graded by methods including pushing the resulting pit bottom with a dozer upslope, excavation, hauling and placement of pit bottom backfill, or backfilling using previously excavated surplus material of limited or low market value until the resulting basin slopes conform with Rule 3.1.5(7)" and "all finished grades in Pits

P-125A and P-125B will be 3H:1V with an underlying liner". The applicant refers to Figures 1 and 2 for graphical representations of these proposals. The Division is not familiar with this proposed method for installing a clay liner on a mined pit. Typically, the clay liner is installed in a series of lifts over the entire pit after it has been excavated to the correct subgrade, backfilled, and sufficiently compacted. Additionally, the clay liner is typically installed up to or near the ground surface, to ensure proper mitigation of groundwater exposure.

a. Please explain why this method for reclaiming pit slopes was selected.
b. Is this liner installation method approved by DWR?
c. What is the purpose of the intermediate lining and backfilling scenario, considering the applicant will be bonded up front for the full reclamation plan proposed for the slopes?
d. Why is the applicant proposing to line the excavated pits only up to 5 feet bgs and not to the actual ground surface? Will this level be adequate to mitigate any potential groundwater seepage from above the liner?
e. Will the fill material placed above the liner to create the final slope configuration be compacted? How will this material be placed without damaging the liner?

73. On Figure 2, please add the approximate groundwater level outside of the lined pit, specify the expected static groundwater level inside the lined pit, indicate the minimum distance that will be maintained between the top of the liner and the water level outside of the lined pit, specify the approximate pit depth, specify the approximate dimensions of the keyway, and state (in the key) whether the backfill above the liner will be placed in lifts and/or compacted.

74. Please specify where material for creating the liners will be derived from and the estimated volumes (in cubic yards) that will be required for each pit.

75. Please specify where material needed to backfill lined slopes to 3H:1V will be derived from and the estimated volumes (in cubic yards) that will be required for each pit.

76. Please commit to providing approval from the Division of Water Resources (DWR) for each lined reservoir after construction is completed, certifying that each lined reservoir has passed a leak test.

77. On page 4, in the 3rd paragraph, the applicant notes that certain fill portions of the extracted lands may have final end use potentials beyond water storage, which may include residential, commercial, or industrial structures, or other uses. Please be advised, the Division must approve all post-mining land uses proposed for the site. Therefore, any changes to the post-mining land uses proposed in this application must be reviewed and approved through the Amendment process. Accordingly, please specify the proposed post-mining land use for all affected lands or remove any language referring to other potential uses from the application.

78. On page 5, under Section 3.1.9, the applicant mentions potentially relocating the topsoil stockpile location from the north end of pit P-125A to a different location after complete extraction of pit P-125_S1 and the near complete extraction of pit P-125A. Please commit to submitting a Technical Revision if the operation plans to relocate any topsoil stockpiles or

approved topsoil stockpile locations.

79. On page 6, in the last paragraph, the applicant states that for reclamation, all affected lands between the extraction limits and remaining above the anticipated high-water mark of the basins will be capped with a minimum of 6 inches of soil. Please provide approximate acreages for each reservoir and the areas around the reservoirs that will be retopsoiled. In this same paragraph, the applicant also states that ripping remains a contingency of the application as there are no known areas of compaction at the time of this application which would require such activity. Based on the proposed operation, all disturbed areas around the reservoirs that will be retopsoiled for reclamation (not including the backfilled P-125_S1 pit) will be considered compacted due to the various roads, equipment storage, truck traffic, and stockpiling activities that will occur in those areas.

80. On page 7, in the 1st paragraph, the applicant again discusses other potential post-mining land uses for areas around the reservoirs, including general agriculture, light residential, commercial, or industrial. As mentioned above, the Division must approve all proposed post-mining land uses of the affected lands. Therefore, please remove this language or add a commitment to submit the appropriate revision if other uses of the affected lands (besides uses in support of developed water resources) are planned.

81. In accordance with Rule 6.4.5(2)(f)(ii), please specify types, mixtures, quantities, and expected time(s) of seeding and planting in this exhibit. This can be a table showing the specific seed mix along with seeding rates. Please provide these rates in pounds PLS/acre.

82. On page 7, in the 6th paragraph, the applicant states "The need for fertilization and any subsequent fertilizer rates will be determined based upon soil tests taken at the time of reapplication of salvaged soil to affected lands remaining above water level. Status of fertilization and soil test results can be included in OMLR Annual Report, as warranted". The Division must calculate a reclamation bond based on the worst-case conditions, which in this case, would be that fertilizer is required. Therefore, please provide a fertilizer type and application rate. Then if the soil tests taken prior to retopsoiling indicate that fertilizer is not needed, or that a different fertilizer or amendment is needed, a Technical Revision can be submitted to revise the revegetation plan accordingly (including the results of the soil tests). Please note, changes to the approved revegetation plan must be reviewed and approved through the appropriate revision, and not the annual report.

83. On page 8, in the 2nd and 3rd paragraphs, the applicant mentions using a sterile hybrid live cover crop in lieu of mulch for revegetation. Please specify the type of cover crop that will be used, the seed rate in PLS/acre, and the application method. Additionally, please specify the time of year the cover crop will be planted. Make sure costs for planting this cover crop are included in the Exhibit L bond estimate.

84. On Table E-1: Mining-Regrading Schedule, please add the approximate depth of each of the three pits and the approximate acreage of the P125_S1 pit that will be backfilled for reclamation.

85. Please describe specific compaction methods for all backfill materials, not just liner material. This can include lifts, passes, equipment, etc. This is especially important for Pit 125_S1, which will not have a liner.

86. Rule 3.1.5(10) and (11) detail preventing pollutants from being released. Although the applicant is not expecting the excavation activity to result in the release of pollutants to surface or groundwater, it should still be detailed what measures will be taken to prevent the release of pollutants. This may include sediment and erosion control plans and monitoring of surface and groundwater. Please feel free to tie this response with the response to the technical review letter from Patrick Lennberg.

87. Although the planting of trees, shrubs, forbs, etc. were described as being under the discretion of the landowner, the Division needs a clear plan prior to application approval on whether any trees, forbs, or shrubs will be planted and at what rate. If any of these plants will be incorporated into the reclamation plan, please provide the Division with the planting rate (trees/acre, pounds PLS/acre, etc.) for each species. This is essential to calculating an adequate bond for this operation. The rate and species of these plants can be changed through a Technical Revision after permit approval.

88. Please specify if the monitoring wells proposed to be used for the operation will be abandoned for reclamation. If so, please provide a detailed reclamation plan for the wells.

Rule 6.4.6 Exhibit F – Reclamation Plan Map

89. Please ensure the reclamation plan depicted on this map correlates with the mining plan shown on the Exhibit C-2 map. In particular, this map shows the entire pit P-125B will be mined and turned into a lined reservoir; whereas, the Exhibit C-2 map shows this pit will only be partially mined.

90. Please add the approximate acreages for each of the reservoirs and for the backfilled P-125_S1 pit.

91. Please add the proposed final slope gradient (H:V) for all reclaimed lands.

92. Please indicate all areas that will be revegetated for reclamation. This information should correlate with the approximate acreages provided in Exhibit E.

93. Please label the proposed clay liners.

94. Please add the proposed post-mining land use for the backfilled pit P-125_S1.

95. Please ensure all features and structures that are expected to remain for reclamation are depicted on the map (e.g., roads, wells, utilities, water management structures). If the monitoring wells proposed for the operation will be abandoned for reclamation, they should be removed from this map.

96. Please be sure that any changes made to the reclamation plan through this adequacy review process are reflected on this map.

Rule 6.4.7 Exhibit G – Water Information

97. Please see the enclosed Technical Review letter from Patrick Lennberg, DRMS, and address the items detailed in that letter.

Rule 6.4.8 Exhibit H – Wildlife Information

98. The application included a Technical Memorandum File and Literature Review prepared by ERO Resources Corporation (ERO) on September 13, 2024, which provides a cultural resource review for the proposed mining operation. This report states that if a permit is required by the U.S. Army Corps of Engineers (USACE), additional work may be necessary to satisfy Section 106 of the National Historic Preservation Act (NHPA).

    a. Please clarify if a permit will be required from the USACE for the proposed operation. And if so, has it been determined whether additional work will be needed to satisfy Section 106 of the NHPA?
    b. Has the applicant provided a copy of this report to the State Historic Preservation Office?

99. The application included a Natural Resources Assessment prepared by ERO on September 23, 2024 for the proposed mining operation. In this report, ERO assesses the project area for potential wetlands and other waters of the U.S., threatened and endangered species habitat, natural resources, and general wildlife use. ERO identified 5 wetlands and 27 unnamed agricultural ditches in the project area and recommended that if any work is planned in the wetlands or unnamed agricultural ditches, a jurisdictional determination should be requested from the USACE. The applicant provided a copy of the USACE Approved Jurisdictional Determination (NOW-2024-01795-DEN) dated December 17, 2024, which determined the 27 agricultural ditches in the project area are not waters of the U.S. and thus are considered "non-jurisdictional". However, the application did not include a USACE Approved Jurisdictional Determination for the wetlands.

    a. Please clarify whether a jurisdictional determination has been requested from the USACE for the wetlands identified within the proposed affected lands.
    b. ERO also had several recommendations pertaining to the Eastern Black Rail (a federally-listed threatened species with habitat identified in the project area), Black-Tailed Prairie Dogs (a Colorado species of concern with burrows identified in the project area), the Western Burrowing Owl (a Colorado listed threatened species and federally protected species with suitable habitat identified in the project area), migratory birds (federally protected under the Migratory Bird Treaty Act with various types of habitats identified in the project area), bald eagles (federally protected under the Bald Eagle Protection Act and the Bald and Golden Eagle Protection Act with an active nest

identified approximately 0.11 mile northeast of the project area), and the two high priority habitat (HPH) areas identified within the project area, including Aquatic Native Species Conservation Waters and Mule Deer Migration Corridors and Severe Winter Range. To demonstrate that all aspects of the mining and reclamation plans take into account the safety and protection of wildlife, as required by Rule 3.1.8, please commit to all of ERO's recommendations, and update the mining and reclamation plans and maps as needed to incorporate their recommendations into the permit (e.g., buffers).

100. The Division received timely comments from Colorado Parks and Wildlife (CPW) in accordance with Rule 6.4.8(2). CPW provided several recommendations pertaining to Mule Deer Severe Winter Range High Priority Habitat, Mule Deer Migration Corridor High Priority Habitat, two active bald eagle nests identified in the project area (including a new nest that was not identified in ERO's 2024 report), Aquatic Native Species Conservation Waters, raptors and migratory birds, Burrowing Owls, wildlife fencing, noxious weeds and native re-seeding, and lighting. Please commit to all of CPW's recommendations and update the mining and reclamation plans and maps as needed to incorporate their recommendations into the permit. For example, based on both ERO's and CPW's recommended bald eagle nest buffers, modifications to the mining plan are needed since these buffers overlap the proposed mining areas.

101. If any of the recommended wildlife surveys or consultation with other agencies require modifications to the operation, such as buffers or other mining limitations, please commit to submitting the appropriate revision to revise the permit accordingly.

102. On June 23, 2025, the applicant submitted a Burrowing Owl Survey Report prepared by ERO on May 12, 2025, which provides the results of a presence/absence burrowing owl survey that ERO conducted in Spring of 2025 in the project area. According to the report, ERO did not observe any burrowing owls in the project area during any of the three 2025 surveys conducted at the site. Therefore, it is determined that project activities are unlikely to impact burrowing owls in the project area. Because it could be several months to years from when this survey was conducted to when the applicant has obtained all necessary permits, licenses, and approvals to begin operations at the site, please commit to conducting an additional burrowing owl survey prior to the commencement of operations at the site.

Rule 6.4.10 Exhibit J – Vegetation Information

103. While vegetation types have been identified in this exhibit, quantitative estimates for cover and height must be included as well in accordance with Rule 6.4.10(1)(a). Please provide these estimates.

Rule 6.4.11 Exhibit K – Climate

104. Please provide average wind speed data for the site.

Rule 6.4.12 Exhibit L – Reclamation Costs

105. Please ensure this estimate addresses the maximum disturbance proposed.

106. Please provide a breakdown of the reclamation bond tasks by proposed pit area, including the estimated haul/push distances, acreages, volumes, etc. that are specific to that area.

107. Please provide a reclamation bond task for each reclamation item proposed for each pit (e.g., slope grading, liner installation, importation of backfill material, slope or pit backfill, retopsoiling, revegetation, structure demolition and/or removal).

108. What type of equipment (e.g., dozer, grader, loader) will be used for each reclamation task? Please specify the anticipated model for each type of equipment (e.g., D8 dozer).

109. The applicant is assuming that some of the required backfill material will be imported to the site from the applicant's nearby permit. The Division could not find a bond task for importing backfill material. Please add this item to the bond estimate. Note the Division must assume that any backfill material that must be imported to the site for reclamation would need to be purchased at average market rates, in the event the State had to take over reclamation of the site. Therefore, please factor this into the cost provided for importing the required backfill material.

110. Please be sure to update this estimate as necessary to reflect any changes made to the mining and reclamation plans, such as the post-mining land use for P-125_S1, if it changes the reclamation plan proposed for that area.

Rule 6.4.13 Exhibit M – Other Permits and Licenses

111. Please include the well permit and Substitute Water Supply Plan that are required for the operation by the Division of Water Resources.

112. Please include any permits, licenses, or approvals required for the operation by the Mine Safety and Health Administration.

113. Please include the Jurisdictional Determination that is required by the U.S. Army Corps of Engineers for the wetlands identified at the site, and any other permits or approvals required from their office for the proposed operation.

114. Were any permits, licenses, or approvals required for the operation by the local municipality? If so, please add them to this list.

Rule 6.4.19 Exhibit S – Permanent Man-made Structures

115. Please provide a list in this exhibit of all permanent, man-made structures (e.g., buildings, fences, lots, above or below ground utilities, ditches, roads, cattle guards, conveyors, wells, ponds, reservoirs, discharge and conveyance structures) located inside the proposed permit

area and also within 200 feet of the proposed permit boundary. This list should include the owner(s) of each structure, including any structures owned by the applicant. Please ensure the structures in this list correlate with the structures shown on the Exhibit C-1 map.

116. Please provide copies of any executed structure agreements that have been obtained thus far. Please note, the agreement form must be fully filled out and properly executed by both the applicant and the structure owner.

117. For any structures that agreements have not yet been obtained, please provide demonstration that the applicant has attempted to obtain an agreement with the owner(s) of each structure. This demonstration must include copies of the structure agreement forms (see enclosed form) that were filled out and executed by the applicant and sent to the structure owner, along with return receipts of Certified Mailing or proof of personal service showing the form was delivered.

118. In the exhibit text, under Section 3, the applicant lists what the Division believes to be the owners of structures located on or within 200 feet of the proposed permit area which the applicant considers to be utilities per Rule 6.4.19(c). There appear to be some oil and gas companies and a ditch company included in this list. Please be advised, oil and gas companies and ditch companies are not generally considered utilities. Utilities generally include essential distribution services for electricity, natural gas, water, waste management, etc. which are often subject to government regulation. The requirement under Rule 6.4.19(c) would not be applicable unless the structure is considered a utility.

119. The applicant has indicated that several structures may be removed or relocated either by the structure owner or by the mining operation. Some examples of existing structures the applicant appears to be proposing to move or relocate include oil and gas structures in the northwest of the proposed permit area and the monitoring wells. For any structures to be removed or relocated by the owner, the applicant must still provide a structure agreement for these structures until they have been removed or relocated by the owner. For any structures not owned by the applicant that are planned to be moved or relocated by the operation, a notarized agreement with the owner must be provided, acknowledging these proposed impacts to their structure(s). This acknowledgement can be part of the notarized structure agreement obtained by the structure owner, rather than a separate letter.

120. Per Rule 6.4.19(b), where a structure agreement cannot be reached, the applicant shall provide an appropriate engineering evaluation that demonstrates that such structure shall not be damaged by activities occurring at the mining operation. Please note, this engineering evaluation must address all potential mining and reclamation activities that might impact any structure located in or within 200 feet of the proposed permit area, which are not owned by the applicant, and for which, an agreement has not been reached. This means the evaluation should call out each of these structures and demonstrate how the proposed activities near each of these structures shall not cause damage to the structure.

Rule 6.5 Geotechnical Stability Exhibit

121. Please see the enclosed Technical Review letter from Ben Hammar, DRMS regarding the Slope Stability Analysis provided, and address the items detailed in that letter.

Additional Items:

122. The Division received agency comment letters on the application from the Colorado Division of Water Resources and Colorado Parks and Wildlife. Copies of these comment letters were emailed to the applicant as they were received by the Division and are also enclosed. Please respond to any concerns or issues identified in these letters, commit to any recommendations, and revise the permit application as needed.

123. The Division also received timely objections to the application from the Last Change Ditch Company and Acord St. Vrain Valley Ranch, LLC. Please respond to any jurisdictional concerns (e.g., groundwater, surface water, wildlife, impacts to structures, offsite damage) identified in these letters and revise the permit application as needed.

124. Please review and respond to the adequacy items provided by Patrick Lennberg, DRMS (see enclosed letter).

125. Please review and respond to the adequacy review items provided by Ben Hammar, DRMS (see enclosed letter).

126. Pursuant to Rule 1.6.2(e), please submit proof of the notice sent to all owners of record of the 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 lands (including all easement owners located on the affected land and within 200 feet of the boundary of the affected lands). Proof of notice may be by submitting return receipts of a Certified Mailing or by proof of personal service.

127. Pursuant to Rule 1.6.2(1)(c) and (2), any changes or additions to the application on file in our office must also be reflected in the public review copy which was placed with the local County Clerk and Recorder. Pursuant to Rule 6.4.18, you must provide our office with an affidavit or receipt indicating the date on which the revised application/adequacy response was placed with the local County Clerk and Recorder.

This concludes the Division's preliminary adequacy review of your application. The application decision date is currently set for **August 15, 2025**. If additional time is needed to respond, you must submit an extension request to our office prior to the decision date. Please note, your application may be determined as inadequate and the application denied if all adequacy items identified by the Division are not addressed to the satisfaction of the Division by the decision date.

This letter shall not be construed to mean that there are no other technical deficiencies in your application. The Division will review any additional materials submitted to determine whether the application is adequate to meet all requirements of the Act and Rules.

If you require additional information, or have questions, please feel free to contact me by phone at (720) 812-2002, or by email at joel.renfro@state.co.us.

Sincerely,

Joel Renfro
Environmental Protection Specialist

Encl: DRMS Structure Agreement Form
Comment letter from the Division of Water Resources
Comment letter from Colorado Parks and Wildlife
Objection letter from the Last Chance Ditch Company
Objection letter from Acord St. Vrain Valley Ranch, LLC
Adequacy Review Letter from Patrick Lennberg, DRMS
Adequacy Review Letter from Ben Hammar, DRMS

Cc: Quentin Borum, Raptor Materials LLC
Amy Eschberger, DRMS
Patrick Lennberg, DRMS
Ben Hammar, DRMS

COLORADO
Division of Water Resources
Department of Natural Resources

Response to Reclamation Permit Application Consideration

DATE: April 16, 2025

TO: Joel Renfro, Division of Reclamation, Mining & Safety (DRMS), joel.renfro@state.co.us

CC: Division 1 Office, District 5 Water Commissioner, shera.sumerford@state.co.us

FROM: Ioana Comaniciu, P.E., State Engineer's Office (SEO), ioana.comaniciu@state.co.us

RE: Cogburn Pit, File No. M-2025-016

Applicant: Bob Haun, Raptor Materials, LLC
8120 Gage Street, Frederick, CO 80516
(303) 666-6657

Contact: Quentin Borum, Raptor Materials, LLC
8120 Gage Street, Frederick, CO 80516
(303) 666-6657

Location: The E ½ of the SE 1/4, the NW ¼ of the SE ¼, the SW ¼ of the NE ¼, and the SE ¼ of the NW ¼ of Sec. 29, Twp. 3 North, Rng. 67 West, 6th P.M., Weld County

CONDITIONS FOR APPROVAL

The proposed operation will consume groundwater by: ☒ evaporation, ☒ dust control, ☒ dewatering, ☒ water removed in the mined product, ☒ washing, ☐ concrete production and ☒ reclamation.

☒ Prior to initiation of these uses of groundwater, the Applicant will need to obtain either a gravel pit or other type of well permit, as applicable.

☒ Prior to obtaining a well permit, an approved substitute water supply plan or decreed plan for augmentation is required.

☒ Prior to approving a well permit, the Applicant must conduct a field inspection of the site and document the locations of all wells within 600 feet of the permit area. The Applicant must then obtain a waiver of objection from all well owners with wells within 600 feet of the permit area or request a hearing before the State Engineer.

COMMENTS: The subject application is for a surface mining and processing operation on approximately 196.4 acres, generally located in Sec. 29, Twp. 3 North, Rng. 67 West, 6th P.M., Weld County.

The mining operation consists of mining and processing sand and gravel to produce construction materials. The area will be revegetated and reclaimed as lined groundwater storage reservoirs (approximately 22.1 acres identified as P125A and 28.2 acres identified as P125B) and a portion of the exposed area (approximately 10.4 acres identified P125_S1) will be backfilled with overburden from the adjacent sites Kurtz Pit (M1999-006) and Bearson Pit (M2015-003). The mining plan is estimated for 8 to 9 years following an additional five years to complete reclamation. The primary materials to be mined at the site are sand and gravel. Mining will occur in the alluvium of the St. Vrain River. Estimated depth to groundwater is 14 to 16 feet in the norther corner of P125A and between 7 to 9 feet in the eastern boundary of P125B. Groundwater will be consumed by evaporation, dust control, dewatering, water removed in the mined product, washing, and reclamation.

Prior to the use or exposure of any groundwater, the Applicant must first obtain a well permit and a substitute water supply plan ("SWSP") or decreed plan for augmentation to replace depletions caused by groundwater consumption. The site must continue to be operated under a SWSP or plan for augmentation until such time as the proposed reservoirs are lined (lining approved by this office, backfilling is completed, and replacement of lagged depletions shall continue until there is no longer an effect on stream). The application

indicates that the Applicant will apply for a gravel pit well permit, subject to the 600-foot spacing requirement, and an SWSP to augment river depletions.
Additionally, according to our records, there are several wells located on the subject property. Such wells must be operated in accordance with their permitted conditions and applicable statutes. Such wells cannot be used for the mining operation unless they are permitted for such use. If any wells will be plugged and abandoned, they must be plugged and abandoned in accordance with the Well Construction Rules 2 CCR 402-2 and a Well Abandonment Report must be filed with this office.

Additionally, in certain areas of the South Platte River Basin, SEO staff have observed groundwater problems that appear to be related to the lining of gravel pits located near streams, and in particular, these problems occur when multiple liners are located adjacent to each other. DRMS should consider the siting and design of lined gravel pits to ensure that they will not individually or cumulatively result in impacts to the timing and quantity of groundwater flow from upgradient locations back to the stream system. In addition to impacts to property, such as flooding upgradient and reduced water levels downgradient of the liner, there are decrees of the court that specify the timing, quantity, and amount of water depleted from the streams by wells and accreted to the stream through recharge operations. The installation of a gravel pit liner should not result in changes to the timing, location, and amount of such groundwater flows. In anticipation of this concern, the application indicates that mitigation measures such as dewatering wells or a perimeter drain will mitigate any mounding.

Any stormwater runoff intercepted by this operation that is not diverted or captured in priority must infiltrate into the ground or be released to the stream system within 72 hours. Otherwise, the operator will be required to make replacements for evaporation.

The Applicant may contact the State Engineer’s Office at (303) 866-3581 with any questions.

COLORADO
Parks and Wildlife
Department of Natural Resources
Area 2/ Lon Hagler SWA
4207 W CR 16E
Loveland, CO 80537
P 970.472.4460

April 17, 2025

Joel Renfro
Environmental Protection Specialist
Colorado Division of Reclamation, Mining & Safety
1313 Sherman Street, Room 215
Denver, CO 80203
Joel.Renfro@state.co.us

RE: CPW's Comments on the Cogburn Sand, Gravel, and Reservoir Project, File No. M-2025-016

Dear Mr. Renfro,

Thank you for the opportunity for Colorado Parks and Wildlife (CPW) to comment on the proposed Cogburn Sand, Gravel, and Reservoir Project. It is our understanding that this proposed project consists of mining 196.4 acres for sand and gravel located in the NE corner of section 29 of township/range 3N 67W. This will be completed by surface extraction and transport offsite for processing and will take between 6-10 years to complete.

The mission of CPW is to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. CPW has a statutory responsibility to manage all wildlife species in Colorado, and to promote a variety of recreational opportunities throughout Colorado. One way we achieve this goal is by responding to referral comment requests, as is the case for this project.

After review of this project, location and application material, CPW recognizes that most of CPW's concerns were addressed in Exhibit H of the application materials by ERO's wildlife assessment. CPW appreciates ERO's review of the impacts that this project could have on wildlife and their recommendations. CPW would like to expand on the recommendations below:

RECOMMENDATIONS:

The Importance Of High Priority Habitats

Developers and permitting agencies can help avoid, minimize, and mitigate impacts to wildlife from their projects by working with CPW. High priority habitats (HPH) are defined as sensitive habitats where CPW has recent maps regarding sensitive wildlife use, plus scientifically-backed best management practice (BMP) recommendations. HPHs are a subset of CPW's species activity maps that we collect and update for a variety of species and their particular habitats; we provide these maps to the public and regulatory agencies for the environmental assessment and land use commenting of proposed development on a given parcel, and general scientific research.

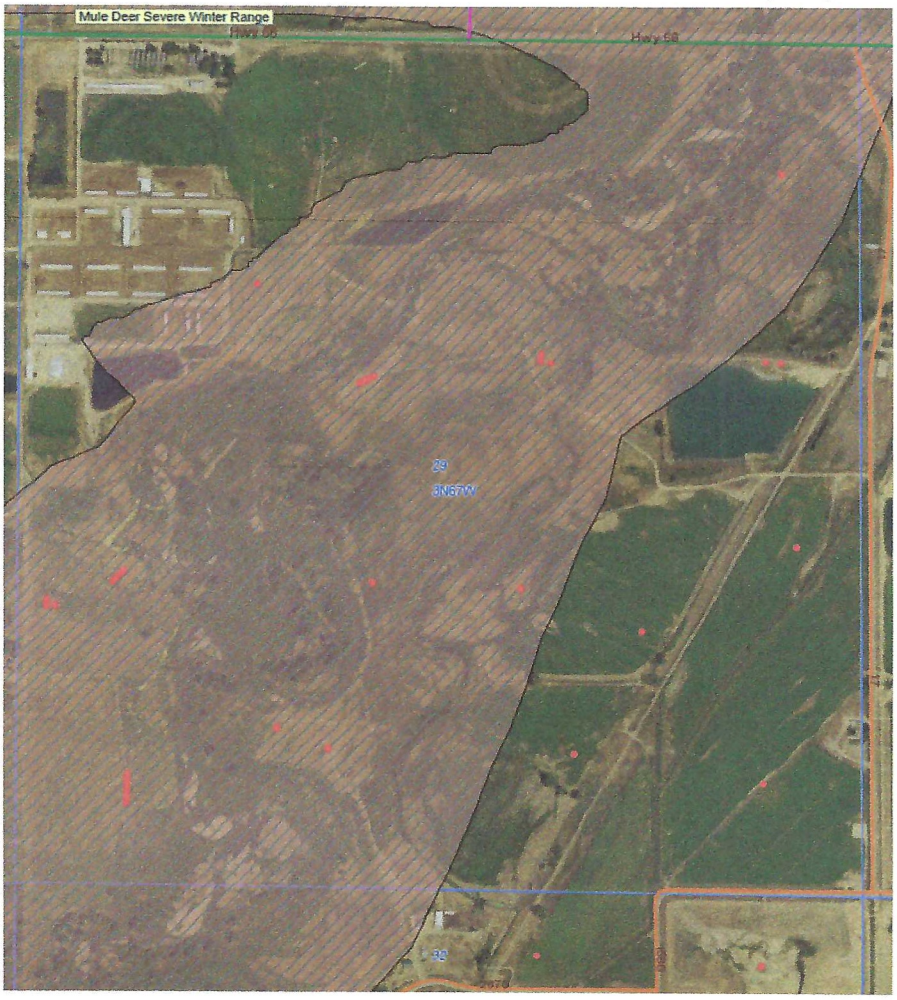
Mule Deer Severe Winter Range High Priority Habitat

Mule Deer Severe Winter Ranges are defined as that part of the overall winter range where 90% of the individuals are located when the annual snowpack is at its maximum and/or temperatures are at a minimum in the two worst winters out of ten. These areas provide crucial wintering habitat during both severe and mild winters by providing ideal forage, vegetation, and topographic features for deer. Regardless of weather patterns, winter is the most stressful period for ungulates due to the challenges winter poses for forage availability.

CPW agrees with ERO's recommendation to not construct during the winter season (December 1 to April 30), if this is not feasible, CPW recommends that the applicant start construction outside of this window.

In particular, Mule Deer Severe Winter range areas occur along the St.Vrain River Corridor on the western side of the project, as shown in Exhibit A.

Exhibit A- Mule Deer Severe Winter Range indicated in striped pink.

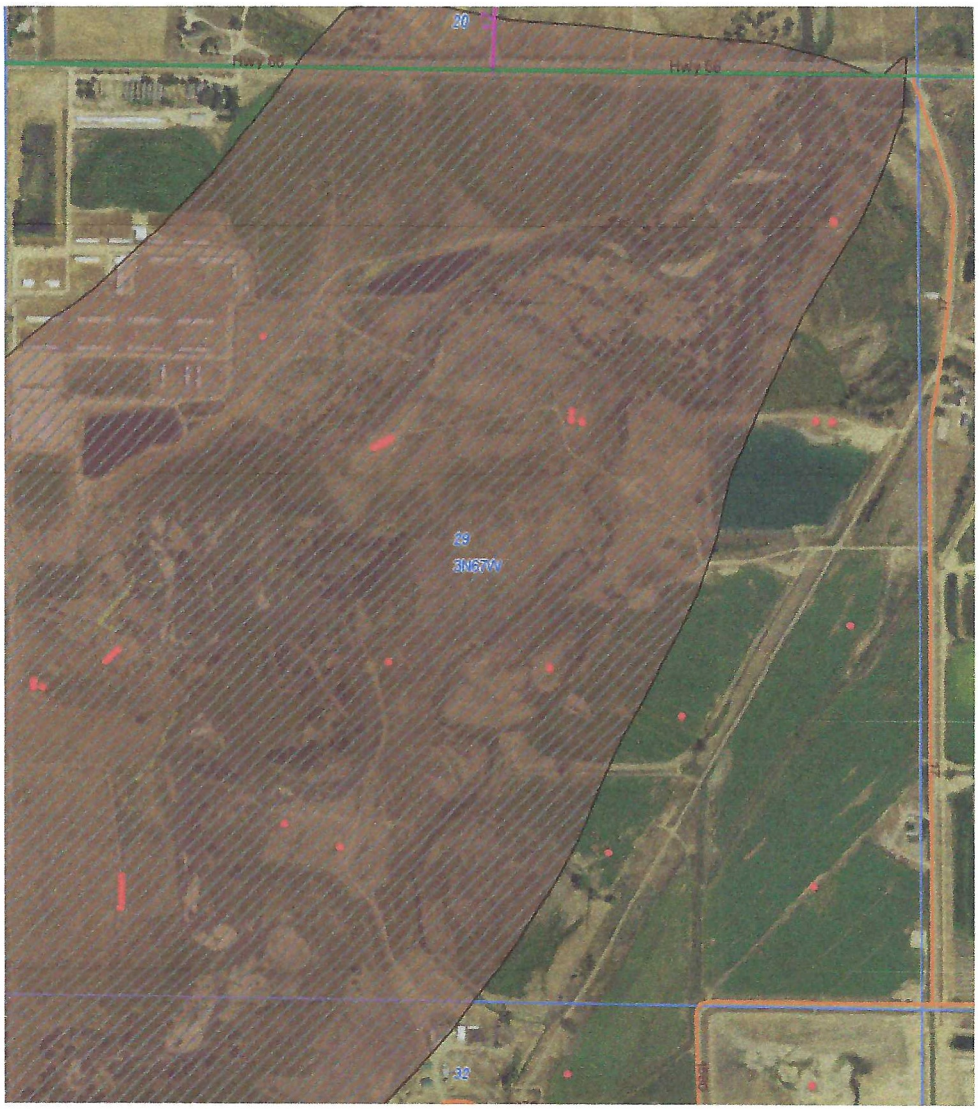


Mule Deer Migration Corridor HPH

Mule Deer Migration Corridors are a specific mappable site through which large numbers of animals migrate and the loss of which would change migration routes.

CPW recommends avoiding the riparian corridor to the maximum extent possible to keep the migration corridor along the river as open as possible. CPW agrees with ERO's recommendation that states *"The creek drainage will be undisturbed and remain open to maintain suitable habitat year-round, including severe winter weather, and provide movement corridors to the northwest of the mine area"*. In particular, a Mule Deer Migration Corridor occurs along the St. Vrain Creek Corridor on the western side of the project, as shown in Exhibit B.

Exhibit B- Mule Deer Migration Corridor indicated in striped red wine.



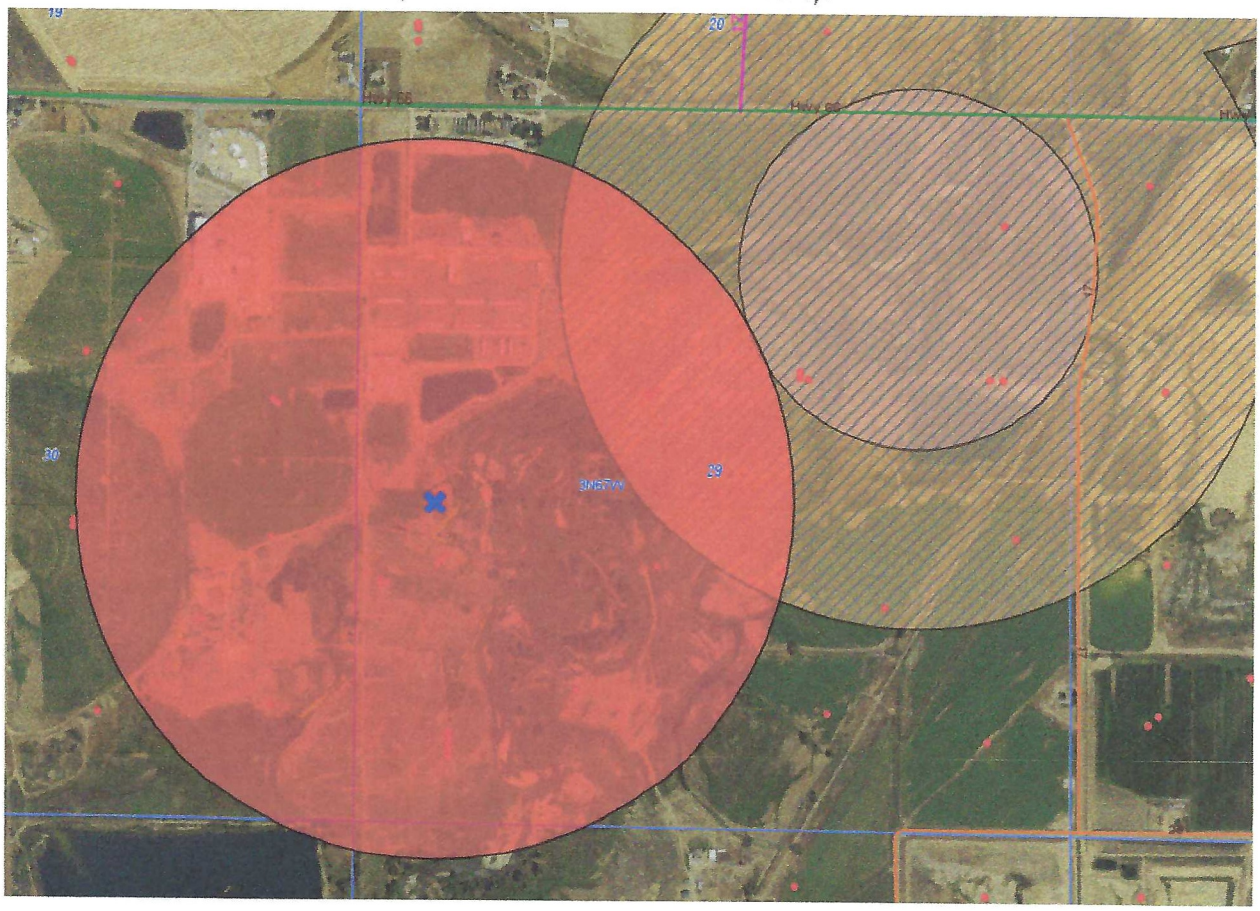
Bald Eagle Active Nest Site

An active bald eagle nest site is a specific location in which a pair of bald eagles has at least attempted to nest within the last five years. Any nest location that can be directly tied to courtship, breeding, or brooding behavior is considered active. A buffer zone extends 0.5 miles around a known active nest. CPW has two recommendations to protect these sites: of a) No surface occupancy (NSO) within 0.25 miles of any active bald eagle nest site year-round, and b) no human encroachment or permitted/authorized human activities within 0.5 mile of any active bald eagle nest site from December 1 to July 31 of each year.

Two active Bald eagle nests have been identified around where the project will occur. For regulatory purposes, CPW recommends consulting with the U.S. Fish and Wildlife Service.

In particular, there are bald eagle active nest sites around the project site as shown in Exhibit C. There is a new nest mapped as of March 1st, 2025, the ½ mile buffer is shown in red below. CPW recommends avoiding these areas when expanding the project footprint.

Exhibit C- Bald Eagle Active Nest Site indicated in striped peach (½ mile buffer), striped pink (¼ mile buffer) and solid red (½ mile buffer around new nest).



Aquatic Species

CPW has identified Aquatic Native Species Conservation Waters within the State of Colorado's 2015 State Wildlife Action Plan. These streams provide critical habitat for native aquatic wildlife, such as amphibians and fish, while also providing crucial habitat for mammals, birds, and reptiles that utilize the habitat. There are sensitive aquatic native species (fish and amphibians) located within St. Vrain Creek. CPW recommends no surface occupancy and no ground disturbance (year-round) within 500 feet of the ordinary high water mark of St. Vrain Creek and to implement appropriate stormwater BMPs.

Raptors and Migratory Birds

The project area contains suitable habitat for nesting raptors and migratory birds. To ensure compliance with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, CPW recommends consultation with USFWS prior to construction of the proposed Project. All migratory birds are protected from potential take under the Migratory Bird Treaty Act, and any removal or disturbance of an active migratory bird nest requires prior consultation with CPW and USFWS. Both active and potential nest sites, as well as winter night roosts, should be considered when evaluating potential disturbance during construction.

Potential Burrowing Owl High Priority Habitat

Burrowing Owls are listed as State Threatened and are known to nest in active or inactive prairie dog (black-tailed or white-tailed) burrows or the burrows of other terrestrial wildlife. Because burrowing owls are included in the protections afforded by the Migratory Bird Treaty Act, it is important to avoid actions that could negatively impact the owls, nests, and eggs.
To best avoid or minimize impacts to Burrowing Owls within the project area, CPW recommends the following:

- If development is proposed to occur in a prairie dog colony that has been active within the past 10 years, CPW recommends adherence to CPW's Burrowing Owl Survey Protocol.
- CPW recommends that targeted surveys should be conducted for any activities resulting in ground disturbance between March 15th and October 31st.
- If nesting Burrowing Owls are present, no human encroachment or surface disturbance should occur within a 200-meter buffer of nesting burrows from March 15th to August 31st.
- If Burrowing Owls occupy the site, CPW recommends that earthmoving and other disturbance activities be delayed until late fall after they have migrated.
- If seismic work could disturb or collapse dens containing nests, that work should avoid the nesting period.

Fencing

CPW is concerned for the safety of Mule deer and White-tailed deer in the area for the proposed project expansion. CPW recommends that if fencing (project perimeter or internal) is erected, either during or after the project, it should be the type that would allow the free passage of wildlife. Fencing plans should avoid the use of woven wire-type fences that will trap or prevent the movement of wildlife. CPW recommends using three or four-strand smooth-wire fencing with a bottom strand height of 17 inches above ground level and a maximum top strand height of 42 inches above ground level, along with the installation of double stays between posts. More information can be found in CPW's publication "Fencing with Wildlife in Mind" at:

https://cpw.state.co.us/Documents/LandWater/PrivateLandPrograms/FencingWithWildlifeInMind.pdf

CPW appreciates ERO addressing fencing in the application material and providing information on the existing fencing that it is already wildlife friendly.

Noxious Weeds and Native Re-seeding

Also of importance to CPW is the revegetation of disturbed soils and the control of noxious weed species through the development of a noxious weed management plan prior to initiating construction activities. The revegetation of disturbed areas and control of invasive weed species are important components of the project and it is critically important that the site be restored back to the native plant community that currently exists on site. CPW prefers that native vegetation be retained on-site during the operational lifespan of the project, both as potential habitat for wildlife and to ensure successful reclamation of the project area, as noxious weeds could spread to adjacent habitats outside the project area. CPW recommends that the applicant consult with the Weld County and Natural Resource Conservation Service (N.R.C.S) for the best noxious weed management practices.

Lighting

Nighttime artificial lighting has been documented to affect wildlife species of all sizes, from small macroinvertebrates to large mammals. These effects are often species-specific, and in some cases may be beneficial to one species within a local ecological community, but detrimental to another species within the same ecological community. These impacts could be expected year-round and can affect both local resident species and migrating wildlife, which may lead to collisions with other animals and structures, exhaustion, increased depredation, and direct mortality. Nighttime artificial lighting may also disrupt nocturnal species that are not accustomed to a significant increase in artificial light, leading to temporary blindness and disorientation, which may also increase the likelihood of collisions with infrastructure on site. CPW recommends that all outdoor lighting be down-shielded to minimize disturbance areas and dim the lights as much as practicable.

Per the U.S. Fish and Wildlife Service recommendations[1], all outdoor lighting should be limited to warmer colors with "longer wavelengths (>560 nm) and lower correlated color temperatures (CCT<3000 Kelvin degrees)" ("Threats to Birds: Collisions - Nighttime Lighting | U.S. Fish & Wildlife Service"). Per the American Bird Conservancy, CCTs ranging from 2200 Kelvin Degrees to 2700 Kelvin Degrees is the preferred range of color. (Misguiding Light: The Role Artificial Light Plays in Bird Mortality from Collisions with Glass | Sheppard, PHD[2]) CPW

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[1] [4] "Threats to Birds: Collisions - Nighttime Lighting | U.S. Fish & Wildlife Service." *FWS.gov*, 4 May 2023, www.fws.gov/story/threats-birds-collisions-nighttime-lighting.

[2] Sheppard, PHD, Christine. *Misguiding Light: The Role Artificial Light Plays in Bird Mortality from Collisions with Glass*. American Bird Conservancy, 11 May 2022, chrome-extension://cfaidnbmnnnibpcajpcglclcfindmkaj/abcbirds.org/wp-content/uploads/2022/05/ABC-lighting-collisions-position-statement-2022.pdf.

recommends the latter range of lighting color options for implementation at the project site. CPW appreciates that there will be limited lighting onsite.

Thank you again for the opportunity to comment on this development project. If you have any questions or concerns, please contact your local District Wildlife Manager Erin Priest at 970-939-1214 or at Erin.Priest@state.co.us.

Sincerely,

Chris Mettenbrink
Area 2 Assistant Area Wildlife Manager

Cc: Mark Leslie, Jason Duetsch, Erin Priest, Lexi Hamous-Miller, and file.

LYONS GADDIS
ATTORNEYS & COUNSELORS

Scott Holwick
sholwick@lyonsgaddis.com
303-776-9900

May 16, 2025

Division of Reclamation, Mining, and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

EMAIL: nikie.gagnon@state.co.us

Re: Response to Notice of Application Filing for a Regular (112) Construction Materials Reclamation Permit – Cogburn Sand, Gravel and Reservoir Project, DRMS # M-2025-016

This firm represents the Last Chance Ditch Company ("Last Chance"). Last Chance acknowledges receipt of notice dated April 1, 2025, from Raptor Materials LLC ("Raptor"), regarding the above referenced matter. Last Chance appreciates the opportunity to provide the following information in response to Raptor's notice and to provide the Division of Reclamation, Mining, and Safety ("DRMS") context and clarification on Last Chance's interest in this matter.

Last Chance is a Colorado mutual ditch company which was formed in 1872. Last Chance's primary purpose is to deliver to its shareholders water rights decreed to the Last Chance Ditch.

While the diversion point and conveyance infrastructure for Last Chance's decreed water rights are located outside the proposed permit boundaries under DRMS # M-2025-016 as proposed in Raptor's notice, Last Chance's water rights are conveyed through the Last Chance Ditch, which diverts such water rights from St. Vrain Creek through the headgate, and then conveys them through the Last Chance Ditch (as shown on Exhibit B to Raptor's notice, just to the east of the permit area.

While Last Chance does not oppose Raptor's proposed current permit sought herein, Last Chance requests that DRMS condition any such permit amendment approval on terms and conditions to be negotiated by and between Raptor and Last Chance that would fully protect Last Chance's real property interests prior to commencement of the permitted mining operations in the area adjacent to the Ditch.

Additionally, Last Chance is aware that post-mining, Raptor intends to develop lined water storage reservoirs on one or more of the subject parcels. Again, Last Chance does not oppose such post-mining land use but requests that DRMS condition any such permit amendment approval on terms and conditions to be negotiated by and between Raptor and Last Chance that would fully protect Last Chance's real property interests from any approved post-mining operations in the area adjacent to the Ditch.

Last Chance does not submit any additional response at this time, but reserves its right to supplement its response as this application progresses through the DRMS permitting process

Please let us know if further documentation or a meeting would be beneficial to address this in greater detail.

For any additional information or clarification, please contact me a 303-588-2012 or sholwick@lyonsgaddis.com.

Sincerely,

Scott E. Holwick

SEH

cc: Garrett Varra, President, Last Chance Ditch Company, via email
Angie Swanson, Secretary, Last Chance Ditch Company, via email
Robert Haun, VP of Operations, Raptor Materials LLC, via email

Permitting Action Comment OR Objection

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

CONTACT INFORMATION

You are providing a comment or objection to the public record of a permitting action currently under review by the Division of Reclamation, Mining and Safety. This form is not intended for reporting of possible violations or illegal activity.

Please note that this form is processed through an automated workflow, and forms with incomplete or erroneous permit, permitting action, or county information may be rejected by the automated process.

Comments/objections should pertain to the Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials or Rules and Regulations of the Colorado Mined Land Reclamation Board for Hard Rock, Metal or Designated Mining Operations. Objections and Comments must pertain to issues within the Division's jurisdiction (not pertaining to dust, traffic, noise, hours of operation, affect on property values, local land use decisions, etc.).

Please refer to the Division's **Mining Activity Dashboards** to assist you in providing the information required on this form.

Date of Comment or Objection

05/16/2025

* *Indicates a Required Field*

This form is for comments or objections on permitting actions. This form is not intended for requests to investigate compliance issues with DRMS rules.

Comment or Objection *

- (•) Objection
- ( ) Support
- ( ) General Comment
- ( ) Agency Comment

Contact Type *

- ( ) Individual
- ( ) Group
- ( ) Agency
- (•) Attorney

Please select the appropriate option above to identify who you represent.

Firm Name *

Steven L. Janssen, Attorney at Law

Please specify how you would like to provide the list of names of the individuals you are representing.

I prefer *

- (•) to type in the names.
- ( ) upload a PDF of the names.

List of persons represented

Acord St. Vrain Valley Ranch, LLC

Your First Name *

Steven

Your Last Name *

Janssen

Your Address *

410 Main Street

Your Address 2

Your City *

Longmont

Your State

CO

Your Zip Code *

Maximum of 10 digits. (Example) 80202

80501

Email Address *

Enter a valid email address in this field to receive a confirmation e-mail.

stevenljanssen@cs.com

Your Phone Number * (?)

Used only to follow up.

3037177667

Extension

Alternate Phone Number (?)

Used only to follow up.

Alternate Phone Extension

Connection to Operation *

Select all that apply

- [x] Land Owner of affected land
- [ ] Mineral Owner
- [ ] Adjacent Land Owner
- [ ] Government Agency
- [ ] Structure Owner within 200' of affected land
- [ ] Nearby Resident
- [ ] Concerned Citizen
- [ ] Other

DESCRIPTION OF COMMENT OR OBJECTION

You are providing a comment or objection to the public record of a permitting action currently under review by the Division of Reclamation, Mining and Safety. This form is not intended for reporting of possible violations or illegal activity. Please be as specific as possible.

Comment/Objection Narrative *

Acord St. Vrain Valley Ranch, LLC (Acord) objects to issuance of this requested permit to Raptor Materials, LLC (Raptor) to construct a gravel mine within 200 feet of the real property owned by Acord in Sections 29, 30 & 32, Township 3 North, Range 67 West of the 6th P.M. in Weld County, Colorado for the following reasons:

1) The Public Notice provided by Raptor to Acord describes the proposed mine to be located "at or near Section 29" and the Certification provided by Raptor to Accord states that "Acord shall be compensated by Raptor for any damage from the proposed mining operation to the above listed structure(s) located on or within 200 feet of he proposed affected area described within Exhibit A, of the Reclamation Permit Application for Cogburn Sand, Gravel and Reservoir Project, File Number M-2025-016" yet the Exhibit A provided to Acord is reproduced in such a fashion that the actual location of Raptor's proposed mining operation cannot be determined, therefore Acord reserves the right to amend this Objection upon Raptor providing an exhibit to Acord from which the actual location of Raptor's proposed mining operation can be determined within a reasonable degree of accuracy;

2. Upon information and belief, Acord alleges that any berm to be constructed around the area actively being mined by Raptor will divert flood waters from the St. Vrain Creek unto Acord's property and will damage permanent structures owned by Acord, and without being able to discern the actual location of Raptor's proposed mining operation, Acord cannot provide further information to the Mined Land Reclamation Board as to what permanent structures of Acord will be damaged by any such flood waters, therefore Acord reserves the right to amend this Objection upon Raptor providing an exhibit to Acord from which the actual location of Raptor's proposed mining operation can be determined within a reasonable degree of accuracy;

3. Upon information and belief, Acord alleges that any excavation of the proposed mine will drain subsoil moisture from Acord's property which will kill Acord's trees, permanent improvements of material value, and without being able to discern the actual location of Raptor's proposed mining operation, Acord cannot provide further information to the Mined Land Reclamation Board as to what trees of Acord will be killed by such draining of subsoil moisture from Acord's property, therefore Acord reserves the right to amend this Objection upon Raptor providing an exhibit to Acord from which the actual location of Raptor's proposed mining operation can be determined within a reasonable degree of accuracy; and

4. Upon information and belief, Acord alleges that Raptor's proposed mining operation will likely cause significant damage to wildlife on Acord's property, including the permanent disruption of historical wildlife migration paths along and across St. Vrain Creek.

Permitting Action Comment/Objection is Regarding

(•) New Permit ( ) Change to Existing Permit

Permit Number * (?)

Enter a valid permit number

M2025016

County *

Colorado County where the proposed operation is located

Weld

Enter one county only

Site Name

Cogburn Sand, Gravel and Reservoir Project

Permittee/Operator Name

Raptor Materials, LLC

ADDITIONAL INFORMATION

Are there supporting photos, maps, or documents you wish to upload? *

( ) Yes (•) No

By submitting this form electronically you agree to receive any/all follow up correspondence from the Division of Reclamation, Mining, and Safety at the email address you have provided.

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

Date: May 23, 2025

To: Joel Renfro, DRMS

From: Patrick Lennberg, DRMS

RE: **Cogburn Sand, Gravel, and Reservoir Project, New Permit Application, Review Memo, File No. M2025-016**

On April 17, 2025, I was requested to review Exhibits C through G of the Cogburn Sand, Gravel and Reservoir Project new permit application, file no. M-2025-016, and below are follow-up questions that should be addressed.

Exhibit C

1. The Pre-Mining, Mining, and Reclamation Plan maps need to be updated to accurately show the monitoring well locations associated with the proposed application.

2. Please provide a Table of the locations of each monitoring well (MW-1 through MW-4) in decimal degrees along with ground surface and top of casing elevations.

Exhibit D

3. On page 6 the Applicant states that extraction will not occur in the P-125C area and portions of the P-125B area until approval of a Technical Revision. The Division will require approval of an amendment to the permit prior to mining P-125C because no mining or reclamation details are included in the application for this area. Because a more robust mining and reclamation plan is needed to address P-125B being within floodplain the Division shall be consulted prior to submission of a revision to determine the appropriate level of revision. Response required.

Exhibit E

4. The Reclamation Plan needs to be updated to be consistent with the initial area of extraction, to exclude areas that are not approved to be mined with approval of this application.

5. Reclamation Plan needs to be updated to address plugging and abandoning the monitoring wells, please note the Reclamation Cost Estimate will need to be updated accordingly.

Exhibit G

6. Please commit to providing a copy of the approved SWSP allowing for the exposure of groundwater once it is approved.

7. There is a Seep Drainage Ditch located on the east side of P-125A. Please provide additional information on this structure, where the seep is located, what the seep's source is, how does it impact the model for the site and how will it be maintained or mitigated?

8. Please provide a discussion regarding the ephemeral drainage and how Regulation 87 – Dredge and Fill Control Regulation may impact the proposed work around the drainage.

9. Please comment on item #3 of Acord's Objection (May 16, 2025) which states "Upon information and belief, Acord alleges that any excavation of the proposed mine will drain subsoil moisture from Acord' s property which will kill Acord's trees, permanent improvements of material value, and without being able to discern the actual location of Raptor's proposed mining operation, Acord cannot provide further information to the Mined Land Reclamation Board as to what trees of Acord will be killed by such draining of subsoil moisture from Acord' s property."

Groundwater Monitoring Plan Review

10. In the Introduction, Figure 1 needs to be updated to include the proposed permit boundary.

11. Section 1.2, Figure 2 needs to be updated to label the individual wells (MW-1, MW-2, etc.), including the major permit structures, e.g. clay-lined walls, and settling ponds.

12. The permit acreage needs to be updated to be consistent with the acreage on the application.

13. Section 2.1, were the monitoring wells constructed using artificial filter pack or was the surrounding formation allowed to collapse around the screen? Additionally, were the monitoring wells developed after installation?

14. Section 2.2, groundwater level measurements will be collected monthly throughout the life of mine and those results will be included as part of the quarterly report to be submitted to the Division.

15. In Section 2.2 it is stated that groundwater levels have been collected monthly since August 2024. Please provide a table with the following information for each monitoring well; top of casing elevation, ground surface elevation, depth to groundwater from top of casing, and distance from ground surface to groundwater surface.

16. Please provide a time series line graph that depicts depth to groundwater from the ground surface for all wells since August 2024.

17. Please provide quarterly potentiometric maps that show the direction of groundwater across the site.

18. The proposed groundwater monitoring plan is not consistent with the Division's Groundwater Monitoring: Sampling and Analysis Plan Guidance Construction Materials and Hard Rock Sites (July 2024). A copy has been attached for your reference. The proposed plan needs to be updated to include the analyte list found in Appendix A of the guidance document.

19. Pursuant to Rule 3.1.7(7)(b)(iv) please provide a description of the quality control and quality assurance methods (e.g. duplicate samples, rinsate samples) to be used during quarterly sampling.

20. Please commit to providing the quarterly baseline groundwater monitoring results along with the monthly level measurements by the following deadlines:

    - First quarter report due by May 1st of every year.
    - Second quarter report is due by August 1st of every year.
    - Third quarter report due by November 1st of every year.
    - Fourth quarter report is due February 1st of the following year.

    At the end of five quarters of baseline monitoring the Applicant will have to submit a Technical Revision providing a detailed description of the groundwater quantity and quality conditions at the site and formally designate a point of compliance for the permit, in accordance with Rule 3.1.7(6). The Applicant may include within that Technical Revision, or another Technical Revision, a request to reduce the analyte list and frequency of monitoring with sufficient justification.

21. Appendix B needs to be updated to include the frequency and collection of field parameters during well purging, parameter stabilization, along with the completion of field forms to document that the wells were sampled according to the approved plan. Completed field forms are to be submitted as part of the quarterly monitoring reports.

Groundwater Model Review

22. Introduction, the proposed permit boundary is missing from Figure 1, please update.

23. The permit acreage needs to be updated to be consistent with the acreage on the application.

24. The average saturated thickness of the aquifer within the mine boundary is stated to be 35 feet, but a review of the boring and well construction logs from the Groundwater Monitoring Plan indicates that the average saturated thickness at the site is 23 feet. Please clarify this discrepancy and update as needed for consistency.

25. Please provide an explanation of why the developed water resource lakes are being modelled to leak. Routinely, the Division observes the lined lakes as being modelled as no-flow boundary conditions.

26. The hydraulic conductivity of St. Vrain Creek has been assigned a hydraulic conductivity of 4 feet/day. Please provide more information on how this value was derived, it appears it may be too conservative of a value.

27. Please provide a discussion on how the ephemeral drainage is being modelled and a summary of its impact on the model.

28. The seep drainage channel does not appear to have been included in the model. Please provide an explanation for leaving it out, if it was inadvertently omitted, please include it.

29. Please submit a new groundwater study and model that demonstrates disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area will be minimized both during and after mining operations and during reclamation activities. The study needs to include proposed developed water resources and structures, approved and proposed, located immediately adjacent to the proposed permit boundary. Permits include Kurtz Resources (M1999-006), Nix Sand and Gravel (M2001-046), P122 (M2015-033), Heintzelman (M2009-018) and Firestone Gravel (M1996-052). Include in the submittal a demonstration of the effectiveness of any proposed mitigation measures.

    Please note in certain areas of the South Platte River Basin, staff of the Division of Water Resources, have observed groundwater problems that appear to be related to the lining of gravel pits located near streams, and in particular, these problems occur when multiple liners are located adjacent to each other. The Division of Water Resources requests operators consider the siting and design of lined gravel pits to ensure that they will not individually, or cumulatively, result in impacts to the timing and quantity of groundwater flow from upgradient locations back to the stream system (mounding and shadowing analysis). In addition to impacts to property, such as flooding upgradient and reduced water levels downgradient of the liner, there are decrees of the court that specify the timing, quantity and amount of water depleted from the streams by wells and accreted to the stream through recharge operations. The installation of a gravel pit liner should not result in changes to the timing, location, and amount of groundwater flow.

If you need additional information or have any questions, please let me know.

Sincerely,

Patrick Lennberg
Environmental Protection Specialist

Attachment: Groundwater Monitoring: Sampling and Analysis Plan Guidance Construction Materials and Hard Rock Sites (July 2024)

cc: Jared Ebert, DRMS

Attachments

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

Groundwater Monitoring: Sampling and Analysis Plan Guidance Construction Materials and Hard Rock Sites

July 2024

Contents

Introduction

This document is intended to provide guidance to permittees of Construction Materials or Hard Rock mines, on the typical requirement of a groundwater sampling and analysis plan, where the proposed operation has the potential to adversely impact the prevailing hydrologic balance of the affected land and of the surrounding area, with respect to the quantity and quality of water in groundwater systems. It is intended to supplement the Groundwater Monitoring and Protection Technical Bulletin of November 19, 2019, and is an attempt to provide more detailed and specific guidance to permittees in an area where the Division has found approaches to compliance have varied widely.

Sites where mining will not expose groundwater, e.g., dry sites or sites where mining will not be near the water table, are not required to submit a groundwater sampling and analysis plan.

A Sampling and Analysis Plan should be tailored to the specific site to which it applies, but this guidance document does not take site-specific factors into account.

The remaining sections of this document are organized under the same headings that the Division would expect to see in a typical groundwater sampling and analysis plan.

As described in the Technical Bulletin, the Division of Reclamation, Mining and Safety (DRMS/Division) has statutory mandates to monitor groundwater and protect the hydrologic balance during and after mining operations under the Colorado Mined Land Reclamation Act (C.R.S. Title 34, Article 32), and the Colorado Land Reclamation Act for the Extraction of Construction Materials (C.R.S. Title 34, Article 32.5). The Division is requiring groundwater monitoring throughout the life of mine to demonstrate compliance with these statutes for mines that have, or potentially will affect the hydrological balance.

Hyperlinks are included in the document text for convenience, and a full list of references is given at the end.

1 Background Information

1.1. Site Description

The Site Description should include the following:

- Name of the site or sampling area. Also include the name or abbreviation (e.g., "the Site"), if any, that will be used throughout the plan.

- A general description of the region in which the site or sampling area is located. Include the street address, city, state, and postal code, if appropriate.

- A detailed description of the physical geography of the site or sampling area. Include a description of the topography, land use/surface cover, any relevant physical features, past and present activities, existing structures. Give the area in acres.

- A description of the geology of the area, including lithology and stratigraphy. Give the composition, thickness and extent of each formation. Identify any faults or other major structural features in the area. Diagrams are often a helpful addition to a geologic description.

- A description of the hydrogeology of the area. Identify each aquifer underlying the site. Characterize each aquifer (hydraulic conductivity, isotropy, confined/unconfined, recharge zones, groundwater flow direction) and describe how the characterization was made. Identify aquitards/confining layers.

- At least two maps:
  - A vicinity map that shows the permit area within its geographic region.

  - A Monitoring Well Location map that shows the sampling sites or sampling areas within the local area. Scale criteria need not be followed for this map. The map should include a layer of projected potentiometric contour lines for each identified aquifer, or a groundwater directional flow arrow (if appropriate). All permitted wells within the map extent should be shown – this information is available from the Division of Water Resources (DWR). All sampling locations (historic, active and planned) should be shown. All springs and seeps should be shown. The outcrop of any geologic formations should be shown. Other physical features and man-made structures may be included for clarity.

  All maps should include a title, legend, North arrow, scale bar, date, and section lines/marks. All maps must be prepared and signed by a registered land surveyor, professional, engineer, or other qualified person.

1.2. Baseline Groundwater Characterization

A Sampling and Analysis Plan will be informed by a baseline characterization of groundwater at the site, but may also need to include a plan to collect the data that will allow the initial characterization to be made. Applicants are encouraged to utilize information available from the public domain literature

and private sector data in developing their baseline groundwater characterization. These data sources will not require a Notice of Intent (Rule 5) to perform exploration operations. Private sector sources will likely include environmental site assessments performed as part of land acquisition.

Baseline sampling must be sufficient to allow the Division to assess the impacts of the future mining operation on the prevailing hydrologic balance. Sampling locations shall be established upgradient and downgradient of the proposed operation, the number of sampling locations is not specified since it depends greatly on the site, (a minimum of three data points are needed to establish groundwater flow direction). Unless otherwise approved by the Division, all groundwater monitoring wells should be within the permit area. The screened intervals of groundwater monitoring wells should be sufficient to monitor each identified aquifer that maybe impacted by the mining operation. Samples should be taken with sufficient frequency to capture site-specific temporal variability. The duration of the sampling period should be sufficient to identify seasonal trends. The minimum sample location, frequency and duration requirements for baseline groundwater characterization are summarized below:

- Upgradient and downgradient sampling locations in each identified aquifer.
- Samples taken quarterly for analytical analysis.
- Water level data for all wells should be collected at least monthly.
- Five consecutive quarters of data, plus additional quarters up to two years may be required and utilized if site activity is delayed.

A table should be included with a row for each sampling location. Each point should have a unique identifier. The table should include the location (Lat/Long), land surface elevation, top of casing elevation, total depth, screened interval, and completion date. The latitude/longitude could be shown in decimal degrees showing five places to the right of decimal, e.g., 39.73934, -104.98486.

It should be noted that once site groundwater characterization commences, it will be required that groundwater monitoring will continue for the life of the mine. Any modifications to the approved water monitoring plan must be made through the technical revision process with appropriate justification provided by the operator. Analytical sampling frequency will not be reduced to less than a minimum of twice yearly (high flow and low flow data with a collection interval of 5-7 months). Analytical and water level monitoring will not be suspended due to delay in site activity, or placing the site into temporary cessation unless approved by the Division.

Upon request, the Division is available for consultation during development of a Sampling and Analysis Plan.

1.2.1. Monitoring Well Installation

All monitoring wells should be:

- Permitted with the State Engineer's Office (SEO) Division of Water Resources (DWR); and

- Constructed (and later abandoned) according to the required SEO standards (see 2 CCR 402-2 Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Monitoring and Observation Hole/Well Construction)

The well construction standards are designed to protect aquifer integrity and to ensure that constructed wells serve their purpose; in this case to provide representative, defensible data. Failure to follow the applicable permitting and well construction rules could result in unacceptable data; and failure to adequately protect groundwater resources could result in subsequent enforcement action as deemed appropriate by DRMS or the SEO.

All wells should be installed by a licensed contractor, as required by SEO. Site specific well placement and construction details should be recorded and approved by a qualified professional, before being submitted to DRMS.

The Division should be notified within 30 days if any groundwater monitoring wells are damaged or destroyed during the life of the permit. Damaged or destroyed wells should be appropriately repaired or replaced as soon as reasonably possible to preserve data comparability, and the Division notified when this is complete. The notification shall include details of any repairs or new well construction summary. If an existing monitoring well requires removal or relocation for any reason, the justification and proposed new well location should be provided to DRMS as a technical revision for approval prior to the removal of the existing well.

1.2.2. Baseline Groundwater Quantity

Baseline water level data should be recorded in a table, and a narrative description of how the data was collected should be provided. A graph of the water level against time at each monitoring point should also be included. In most cases a static water level can be measured using a depth gauge from the top of the casing, however if the aquifer is under confined conditions, and the pressure is such that the well is flowing, an alternative method will be necessary (for example: https://www.usgs.gov/media/videos/measuring-water-levels-a-flowing-well).

The potentiometric head at the well can be readily derived from the depth to water measurement and the casing elevation. Head measurements from three or more points may be interpolated to give a groundwater flow direction and an approximation of the potentiometric surface in the aquifer. In many cases it will be necessary to collect more data points to adequately characterize the pre-mining conditions.

Often a numerical model (for example: Modflow) will be an appropriate tool to characterize the hydrogeology of the site. In other cases, the Division acknowledges, routine one-dimensional groundwater equations may be appropriate to evaluate potential offsite hydrologic impacts. If a numerical model is used, it should be thoroughly documented, with all assumptions explicitly stated. The documentation should include:

- An explanation of the conceptual model, with assumptions explicitly stated
- A detailed description of the model grid, with figures

- A list of parameter values for boundary conditions and initial conditions
- Details of the model calibration

1.2.3. Baseline Groundwater Quality

A table should be provided with a complete list of water quality parameters to be measured. This will comprise both field parameters and laboratory analytes. The full parameter list should be based on Tables 1-4 from Regulation 41: The Basic Standards for Groundwater (Reg. 41). Selected parameters from these tables have been compiled in Appendix A for Construction Materials sites and Appendix B for Hard Rock sites. unless modifications are approved by the Division. It will be up to the Operator/Permittee to submit a Technical Revision with proper justification to reduce the analyte list.

The Division will entertain variances from the Reg. 41 list on a case-by-case basis, but any proposed variance must be justified.

Baseline groundwater quality data should be recorded in a table, with the sampling date. Minimum, maximum and average values for each parameter should be given and any exceedance of a standard shall be clearly identified.

2 Predicted Impacts to Hydrologic Balance

Following the characterization of baseline conditions a prediction should be made as to the possible impacts of the proposed mining operation on groundwater quantity and quality.

The prediction of likely impacts to groundwater quantity should include a prediction of the maximum spatial extent of drawdown caused by dewatering, or of mounding caused by impermeable cell liners/slurry walls, and the time-scale over which it will be observed. The extent and time to recovery to a steady-state following reclamation should also be predicted.

The prediction of impacts to groundwater quality should include a discussion of water quality parameters that may be elevated as a result of the proposed operation, and the likely spatial and temporal extent of the impact. It is noted here that HB 19-1113, which applies to Hard Rock Sites only and was signed into law on April 4, 2019, requires most reclamation plans to demonstrate, by substantial evidence, a reasonably foreseeable end date for any water quality treatment necessary to ensure compliance with applicable water quality standards.

If a numerical model is used to inform any of the hydrologic predictions the model should be thoroughly documented, as discussed in Section 1.2.2.

3 Groundwater Monitoring Plan

A monitoring plan sufficient to verify the predictions of hydrologic impacts should be proposed. The

locations of sampling points, and the frequency at which they will be sampled should be specified. A complete list of groundwater quality parameters to be sampled for should be given. A description of sampling methods should be included in sufficient detail to ensure that the procedure can be replicated throughout the life of the permit (Sampling Methods are discussed in more detail below).

A commitment should be made as to how the monitoring data will be reported to the Division. Typically monitoring data will be compiled into a report, to be submitted by a specified date, e.g. annually or quarterly.

The groundwater monitoring report will include:

- Tabulated data for all parameters
- Graphs/plots for selected parameters
- A narrative analysis of the data, with trends and anomalies identified
- A comparison of the observed data to the predictions **and** to the groundwater quality standards (see below)

The requirements of the groundwater monitoring plan may continue to apply until final bond release and termination of jurisdiction. Changes to the groundwater monitoring plan will require a Technical Revision to the permit.

3.1. Groundwater Points of Compliance

It is likely that one or more Groundwater Points of Compliance (POC) will be established, these are locations at which compliance with the applicable standard will be assessed. Detailed guidance on POCs has been given in the Groundwater Monitoring and Protection Technical Bulletin of November 19, 2019, and will not be repeated here. POCs should be identified in the groundwater monitoring plan.

3.2. Groundwater Quality Standards

As is discussed in detail in the Groundwater Monitoring and Protection Technical Bulletin of November 19, 2019, the Division does not have the authority to set groundwater quality standards, but it does have both the authority and the obligation to apply the standards set by the Water Quality Control Commission, (in practice, this often involves the determination of how the Interim Narrative Standard from Reg. 41 should be applied at a site). For the sake of clarity, the numerical values for groundwater quality parameters that represent the applicable standard should be agreed and recorded in a table at the same time the POCs are established.

4 Sampling Methods

The goal of sampling is to make accurate, repeatable field measurements and to collect representative groundwater samples for laboratory analysis. There is no single correct method to conduct groundwater

sampling, however there many incorrect methods. Follow accepted best industry practices to ensure that a representative sample is collected and analyzed. Applicable references include those from the US Environmental Protection Agency, and the US Geological Survey.

It is likely that the contracted analytical laboratory will supply detailed instructions for sample collection and handling.

Best practices for sampling:

- Details of sampling events should be recorded – documentation is critical for Quality Assurance
- All samples should be collected on the same day, if possible
- Sampling should occur in a progression from upgradient to downgradient wells
- Depth to water should be measured first
- Field instruments should be calibrated according to manufacturer's specifications prior to use
- Field parameters (temperature, pH, conductivity, dissolved oxygen) should be measured and recorded before and after each purge of the well
- A well should be purged at least three times before samples are collected for lab analysis; if field parameters vary by >10% between consecutive purges, purging should continue up to six times
- Samples should be collected in the appropriate container and handled in a manner appropriate for the analysis
- Manufacturer’s instructions for the correct use and disposal of equipment should be followed
- Ship samples well before the holding time is up; ideally, within 24 hours of sample collection
- Do not leave sampling devices in monitoring wells for reuse

References

DRMS Groundwater Monitoring and Protection Technical Bulletin: November 19, 2019
https://drive.google.com/file/d/121Uc_KmuAx7xhc8heQcROPnK_u-kcG-J/view?pli=1

Well Construction Rules
https://dwr.colorado.gov/services/well-construction-inspection

Modflow Documentation
https://www.usgs.gov/mission-areas/water-resources/science/modflow-and-related-programs

Water Quality Control Commission regulations
https://cdphe.colorado.gov/water-quality-control-commission-regulations

EPA Groundwater Sampling Methodology
https://www.epa.gov/sites/default/files/2015-06/documents/Groundwater-Sampling.pdf

USGS National Field Manual for the Collection of Water-Quality Data
https://www.usgs.gov/mission-areas/water-resources/science/national-field-manual-collection-water-quality-data-nfm#overview

HB 19-1113: Protect Water Quality Adverse Mining Impacts
https://leg.colorado.gov/bills/hb19-1113

Appendix A: Full parameter list for Construction Material Sites (with Table Value Standards) from Regulation 41, Tables 1-4

Analyte	Table Value Standard (mg/L, unless other units given)	Reg. 41 Table Reference (1-4)
pH Field (pH unit)	6.50 - 8.50	2 and 3
TDS	400 mg/L, or 1.25X background	4
Chloride - Dissolved	250	2
Fluoride - Dissolved	2	3
Nitrate (NO3)	10	1
Nitrite (NO2)	1.0	1
Nitrite + Nitrate as Nitrogen	10	1
Sulfate - Dissolved	250	2
Aluminum - Dissolved	5	3
Antimony - Dissolved	0.006	1
Arsenic - Dissolved	0.01	1
Barium - Dissolved	2	1
Beryllium - Dissolved	0.004	1
Boron - Dissolved	0.75	3
Cadmium - Dissolved	0.005	1
Chromium - Dissolved	0.1	1 and 3
Cobalt - Dissolved	0.05	3
Copper - Dissolved	0.2	3
Iron - Dissolved	0.3	2
Lead - Dissolved	0.05	1
Lithium - Dissolved	2.5	3
Manganese - Dissolved	0.05	2
Mercury - Dissolved	0.002	1
Molybdenum - Dissolved	0.21	1
Nickel - Dissolved	0.1	1
Selenium - Dissolved	0.02	3
Silver - Dissolved	0.05	1
Thallium - Dissolved	0.002	1
Uranium - Dissolved	0.0168 to 0.03	1
Vanadium - Dissolved	0.1	3
Zinc - Dissolved	2	3

These analytes, at a minimum, will be tested for during the five (5) consecutive quarters, or more, of baseline monitoring. This analyte list will also apply to the subsequent groundwater monitoring for the life of the mine. It will be up to the Operator/Permittee to submit a Technical Revision with proper justification to reduce the analyte list.

Appendix B: Full parameter list for Hard Rock Sites (with Table Value Standards) from Regulation 41, Tables 1-4

Analyte	Table Value Standard (mg/L, unless other units given)	Reg. 41 Table Reference (1-4)
pH Field (pH unit)	6.50 - 8.50	2 and 3
TDS	400 mg/L, or 1.25X background	4
Chloride - Dissolved	250	2
Fluoride - Dissolved	2	3
Nitrate (NO3)	10	1
Nitrite (NO2)	1.0	1
Nitrite + Nitrate as Nitrogen	10	1
Sulfate - Dissolved	250	2
Aluminum - Dissolved	5	3
Antimony - Dissolved	0.006	1
Arsenic - Dissolved	0.01	1
Barium - Dissolved	2	1
Beryllium - Dissolved	0.004	1
Boron - Dissolved	0.75	3
Cadmium - Dissolved	0.005	1
Chromium - Dissolved	0.1	1 and 3
Cobalt - Dissolved	0.05	3
Copper - Dissolved	0.2	3
Iron - Dissolved	0.3	2
Lead - Dissolved	0.05	1
Lithium - Dissolved	2.5	3
Manganese - Dissolved	0.05	2
Mercury - Dissolved	0.002	1
Molybdenum - Dissolved	0.21	1
Nickel - Dissolved	0.1	1
Selenium - Dissolved	0.02	3
Silver - Dissolved	0.05	1
Thallium - Dissolved	0.002	1
Uranium - Dissolved	0.0168 to 0.03	1
Vanadium - Dissolved	0.1	3
Zinc - Dissolved	2	3
Cyanide - Free	0.2	1
Beta and Photon emitters	4 mrem/yr	1
Gross Alpha	15 pCi/L	1

These analytes, at a minimum, will be tested for during the five (5) consecutive quarters, or more, of baseline monitoring. This analyte list will also apply to the subsequent groundwater monitoring for the life of the mine. It will be up to the Operator/Permittee to submit a Technical Revision with proper justification to reduce the analyte list.

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

Date: **May 30, 2025**

To: **Joel Renfro, DRMS**

CC: **Amy Eschberger, DRMS**

From: **Ben Hammar, DRMS**

RE: **Cogburn Sand and Gravel and Reservoir Project, File No. M2025016**
New 112c Application

Joel,

As requested, I have reviewed the requested sections of the Cogburn Sand and Gravel Reservoir Project application, DRMS permit No. M2025016, created by American Water Services, LLC (AWS) on behalf of Raptor Materials, LLC (Operator). The purpose of this memo is to quickly summarize AWS' report methodologies, analyses, and recommendations in relation to the Rules and requirements of the Division of Reclamation, Mining & Safety (DRMS), and to address portions of their geotechnical analysis and reclamation plan which are inadequate based on Rules 3.1.5(3) and 6.5. Questions and comments regarding the requested sections meant to ensure all Rules and requirements are satisfied will be summarized at the end of this memo.

Geotechnical Analysis Overview

As noted earlier, this memo will address the sections of the Cogburn Sand and Gravel Reservoir Project application requested by Joel Renfro, the geotechnical analysis associated with the currently proposed reclamation plan for the Cogburn Project. A summary of the reclamation plan is included to provide context for the broader discussion of the analysis.

Per information provided by Joe Renfro and the current proposed reclamation plan, the Operator intends to mine to a maximum depth of 35 feet, and following the completion of mining will adhere to a maximum slope of 1.25H:1V on slopes less than 30 feet below the ground surface, and 3H:1V below 30 feet. These slopes will then be lined with a clay liner to support the planned post-mining land use of a developed water resource. These slopes are the subject of the provided geotechnical analysis.

AWS provided a slope stability analysis on behalf of the Operator, which primarily used material property information generated by a 2023 geotechnical study performed by Engineering Analytics, Inc. AWS also stated that their unit weight for the overburden clay and bedrock material used in the analysis was taken from information generated by DRMS. As DRMS does not typically perform material property testing, more information regarding the source of these values should be requested.

AWS used four assumptions during their analysis, all of which were directly based on the planned reclamation plan. Their assumptions were as follows:

- The static depth to groundwater with no pumping influence is 6 feet below ground surface and the water table will intersect the pit bank just above the mine floor (seepage face) during steady state dewatering;
- The pit depth will vary between 23 and 50 feet below grade;
- The termination zone for the 23-foot simulation was placed 1.5 feet back from the crest of the mine wall as the model predicted sheet failure (raveling) for any termination zone beginning down the mine slope; During extraction activities the pit bank slope will vary between 1.25H:1V and 3 H:1V.

All assumptions appear to be reasonable and required to accurately depict the planned conditions.

PC-STABL, a typical geostability analysis software, was used to perform the slope stability analysis. Two cases were studied; one which represented worst-case conditions under only a 1.25H:1V slope and the other with a mix of 3H:1V and 1.25H:1V conditions. The provided cases appeared to be reasonable and representative of the site conditions, however, no cases were provided for the slopes under seismic conditions. Per Rule 6.5 and other considerations related to this to be discussed later in this report, DMRS should require additional cases showing an adequate factor of safety (FoS) under seismic conditions.

An additional point of discussion for this analysis is that of their chosen failure criteria, a FoS of 1.3. Per the requirements of the Mined Land Reclamation Board (MLRB), a FoS of 1.3 is required when a given site is located near critical structures such as utility lines, pipelines, infrastructure, etc. The FoS of 1.3 is allowable under the condition that material strength data was taken from lab testing of material obtained from the site. If assumed data was used, the required FoS is 1.5 for sites located within 200 feet of critical structure.

This creates reason to scrutinize AWS' analysis for two reasons. The first is that assumed values were used in their analysis which had a nebulous source. This could potentially be an issue, however the materials used with assumed values aren't likely to have a significant impact on the slope's stability. The overburden clay and bedrock layers are unlikely to be the locations of a significant slope failure in these cases, and so it is the opinion of the Division that a FoS of 1.3 is acceptable to use in this case.

The second issue is related to critical structures. While a FoS of 1.3 is acceptable for a site near critical structures or otherwise, is unclear if there are critical structures, primarily pipelines based on the information provided by the Operator, within 200 feet of the site. As this information has a significant effect on how conservative of a FoS must be used, it should be provided by the Operator.

Recommendations

In general, the analysis performed by AWS was performed using acceptable assumptions for the case that was studied. Some clarification should be requested to confirm their cases are adequate to meet the FoS requirements of the MLRB. As such, the following comments should be integrated into an adequacy letter:

1. Per Rule 6.5(3), please provide an additional slope stability analysis which demonstrates an adequate Factor of Safety under seismic conditions for both presented cases. Per the policies of the Mined Land Reclamation Board, a factor of safety of 1.15 under seismic conditions is the requirement for this case.
2. Per Rule 6.3.5(2)(e), please provide the location of any significant man-made structures within 200 feet of the permit boundary. This information should be used to assess if critical structures are near the permit and determine what Factor of Safety is adequate for the geotechnical analysis .

This concludes my review of the requested sections of the Cogburn Sand and Gravel Reservior Project application, created by AWS on behalf of Raptor Materials, LLC. If you have any questions, feel free to contact me at the information listed below.

Sincerely,

Ben Hammar
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