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RESPEC

September 8, 2025

Joel Renfro
Environmental Protection Specialist
Colorado Division of Reclamation Mining
and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

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

Dear Joel:

The original 112c permit application for the Cogburn Sand, Gravel and Reservoir Project, (Cogburn), File No. M-2025-016 was submitted to the Division of Mining, Reclamation, and Safety (Division) on March 13, 2025; the application was called complete on March 28, 2025. The Division subsequently issued a letter on July 2, 2025, containing 127 adequacy items, as well as two technical memos addressing groundwater and geotechnical considerations.

The enclosed submittal, which addresses all items from the preliminary adequacy letter and two technical memos, constitutes a complete permit application, including all required narrative and map exhibits per Rule 6.4, 6.5, and 1.6.3(1)(b), as well as all pertinent addenda. A complete list of exhibits and addenda is presented in Table 1 below.

Table 1. Complete List of Addenda for M-2025-016 Permit Application – Preliminary Adequacy Response

Exhibit/Letter	Addendum/Enclosure	Status from March 2025 Application
Exhibit A	N/A	Updated
Exhibit B	N/A	Updated
Exhibit C	N/A	New
Exhibit C	Adjoining Parcels List	Removed
Map Exhibit C-0	N/A	New
Map Exhibit C-1	N/A	Updated
Map Exhibit C-2	N/A	Updated
Exhibit D	N/A	Updated
Exhibit D	Raptor Products List	Unchanged
Exhibit E	N/A	Updated
Exhibit E	Table E-1: Mining-Regrading Schedule	Updated
Exhibit E	Exhibit E2 - Backfill Notice	Updated
Map Exhibit F	N/A	Updated
Exhibit G	N/A	Updated
Map Exhibit G	N/A	Updated

Exhibit G	CDPS General Permit CPG500000	Unchanged
Exhibit G	List of Groundwater Wells	Unchanged
Exhibit G	Piezometer Measurements	Updated
Exhibit G / Preliminary Adequacy Comments Response	Groundwater Monitoring Plan (AWES, September 2025)	Updated
Exhibit G / Preliminary Adequacy Comments Response	Mining and Water Storage Analysis (AWES, August 2025)	Updated
Exhibit H	Natural Resources Assessment (ERO, September 2024)	Unchanged
Exhibit H	Cultural Resources File and Literature Review (EOR, September 2024)	Unchanged
Exhibit H	US Fish and Wildlife Service Concurrence regarding Threatened and Endangered Species (August 2025)	New
Exhibit I	N/A	Unchanged
Exhibit I	NRCS Soils Report	Unchanged
Map Exhibit I/J	N/A	Updated
Exhibit J	N/A	Updated
Exhibit K	N/A	Updated
Exhibit L	N/A	Updated
Map Exhibit L	N/A	Updated
Exhibit L	Table L: Seed Mix Calculator	Updated
Exhibit M	N/A	Updated
Exhibit M	USACE Approved Jurisdictional Determination	Unchanged
Exhibit N	N/A	Unchanged
Exhibit O	N/A	Unchanged
Exhibit P	N/A	Unchanged
Exhibit Q/Q2	N/A	Unchanged
Exhibit R	N/A	Unchanged
Exhibit S	N/A	Updated
Exhibit S	Parcel Owner List	Updated
Exhibit S / Rule 1.6.2(e)	Structure Notifications / Notice to Owners of Record	New
Geotechnical Stability Exhibit	Slope Stability Analysis	Unchanged
Geotechnical Stability Exhibit	Slope Stability Supplement (AWES, July 1, 2025)	New
Preliminary Adequacy Comments Response	Groundwater Technical Memo (Patrick Lennberg, DRMS, May 23, 2025)	New
Preliminary Adequacy Comments Response	Geotechnical Technical Memo (Ben Hammer, DRMS, May 30, 2025)	New
Preliminary Adequacy Comments Response	Colorado Parks and Wildlife Comments (April 17, 2025)	New

Preliminary Adequacy Comments Response	State Engineer's Office Comments (April 16, 2025)	New
Preliminary Adequacy Comments Response	Objections: Last Chance Ditch (May 16, 2025) and Acord St Vrain (May 16, 2025)	New
Preliminary Adequacy Comments Response – GW Memo	Groundwater sampling field form	New
Preliminary Adequacy Comments Response – GW Memo	Monthly groundwater levels	New
Preliminary Adequacy Comments Response – GW Memo	Quarterly groundwater monitoring results	New
Preliminary Adequacy Comments Response – GW Memo	Quarterly potentiometric maps	New

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

Dear Joel:

The Division of Reclamation, Mining and Safety (Division/DRMS), Office of Mined Land Reclamation (OMLR); reviewed the contents of the Original 112c permit application for the Cogburn Sand, Gravel and Reservoir Project, (Cogburn), File No. M-2025-016 and submitted comments. The Division was required to issue an approval or denial decision no later than June 26, 2025. An initial extension was requested and granted to August 15, 2025 to allow the DRMS to complete the initial adequacy review. Various technical reviews and initial adequacy from different specialists were all received from the DRMS by August 2, 2025. The extensive comments required an additional extension to the decision date to compile a thorough and complete response which was requested and granted to September 24, 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 identified the following adequacy items in the application requesting clarification or additional information, incorporating reference to Technical Review Memoranda from other DRMS staff (Patrick Lennberg and Ben Hammar), and comments received from other state agencies (Colorado Division of Water Resources (DWR), and Colorado Parks and Wildlife (CPW). These additional items have also been addressed in this response.

We have reviewed the Division's comments and trust the following reply will serve to fully address them. For greater continuity and ease of reference, we have iterated the comments from the DRMS Adequacy Review (Review) of July 2,2025 and incorporated technical memoranda and agency comments, necessitating a reply according to its respective item numbers from the Review, iterated in a graphical box, with our comments in blue following.

July 2, 2025 Adequacy Items

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.

   Application form amended.

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.

   Affidavit attached to this response.

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.

   Affidavit attached to this response.

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.

   The northeast access point has been designated as the primary access and labeled on the Exhibit A/B Index Map. The access point formerly at the southeast corner of the site has been moved to southwest corner along WCR 28 to avoid traffic around the existing oil and gas facility. A third access point has been added at the location of the conveyor crossing of WCR17, adjacent north of the Collins property.

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).

Raptor advises this addendum has been removed from this submittal as all owners within the affected land and within 200 feet of the affected land have been identified in Map Exhibit C-1. Addresses have been reviewed and confirmed to be mailing addresses.

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.

Wells greater than 200 feet from the site have been removed from the map and the map scale has been increased so that site features are more legible. Many extraneous basemap items not required to be included on an Existing Conditions Map have also been removed and the presentation of many items on the map has been simplified using a key and a reference table to reduce clutter and make the map more legible.

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.

The proposed permit boundary is equal to affected land boundary. The map exhibits have been updated to reflect this.

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.

The yellow line type has been updated to a dashed goldenrod and the background aerial removed to make linework more legible.

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.

A complete list is included in the Exhibit S addendum. Additionally, the complete easement and right-of-way owner table has been added to map Exhibit C-1.

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.

A table of man-made structures grouped by owner has been added to map Exhibit C-1.

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".

The tributary is referred to as the "Unnamed Tributary to St. Vrain Creek" and has been labeled as such on the map exhibit.

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.

A header has been added to the parcels and owners table on map Exhibit C-1. The Selected Parcels Report was auto generated from Weld County Assessor GIS and included extraneous information to that requested by DRMS; it has been removed as an addendum to this adequacy submittal. All parcel owners of record within the proposed permit boundary and within 200 feet are included on the table on map Exhibit C-1.

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

> Existing uses of the land are agriculture, which is shown on Exhibit C-1 as alfalfa fields, and oil and gas production with various existing oil and gas well, pipelines, production equipment, and access roads also shown on Exhibit C-1.

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).

> The types of present vegetation covering the affected lands have been added to map Exhibit C-1 and also map Exhibit C-0, Aerial Image and Vegetation Map to provide an overlay against what may be observed from the imagery. An associated description of the vegetation has been added to the narrative Exhibit C, Section E, which has been added as part of this adequacy.

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.

> The affected lands are the same as the proposed permit boundary. Map Exhibit C-2 has been updated to reflect this.

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".

> The tributary is referred to as the "Unnamed Tributary to St. Vrain Creek" and has been labeled as such on the map exhibit.

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.

> The exhibits have been revised with a noticeable change in not using the orthophoto on all exhibits. The variable background coloring makes ensuring all linework stands out sharply and distinctly a challenge. A new Exhibit C-0 has been added to the application showing minimal mapping detail but providing the orthophoto and this is considered valuable in understanding various aspects of the area including the existing conditions, current infrastructure on site, and vegetation.

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

> The three proposed entrances have been marked with brighter icons and labeled with callouts.

The northeast entrance has been labeled as the primary entrance.

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

All proposed setbacks from property boundaries, easements and rights-of way, oil and gas wells and facilities, rivers, and ditches are shown on map Exhibit C-2.

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.

Four locations have been identified in map Exhibit C-2 for topsoil and overburden stockpiling: the northeast corner of P125B, the northeast and southeast corners of P125A, and the western edge of P125_S1. The primary location in use will vary over the life of the mine according to phase of extraction and other potentially limiting factors, such as wildlife buffer restrictions.

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.

All proposed conveyors; parking, equipment and materials storage areas; internal pit crossings for vehicles; topsoil and overburden stockpile locations; dewatering pipes and settling basins; and discharge locations are indicated on map Exhibit C-2. No offices or scales will be present on site. Loaders and dozers will be stored in the pit excavations overnight when in use. Inactive equipment will be stored in the designated employee parking areas.

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.

Proposed pit acreages are shown on map Exhibit C-2.

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).

Map Exhibit F has been amended to reflect that only the area permitted for extraction under this permit application, as delineated in map Exhibit C-2, is reclaimed. If the mineral reserve area is mined at a future date, the area will be added through an appropriate revision.

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.

No areas designated as "Mineral Reserve Areas" will be disturbed under the current permit application area. Disturbance of Mineral Reserve Areas will occur only after submittal and approval of an appropriate revision.

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).

This has been removed from the application.

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.

Conveyor extensions added to show options for material transport by conveyor from P125_S1 and P125B offsite. The use of trucks to haul material to the transfer conveyor is not precluded as discussed in Exhibit D, Mining Plan.

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.

Raptor believes changes on either exhibit maps or in exhibit narratives are aligned.

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.

The statement in Exhibit D is modified to be consistent with the labeling in Exhibit L that stockpiled soils "will be seeded with the mixture specified under Exhibit L - Table L: Primary/Preferred Seed Mixture". As the primary/preferred seed mixture is native vegetation, an "Optional" mixture is also specified to be used as a backup if the native seed mixture fails to ensure stabilization of the soil piles. The Optional mixture in Exhibit L has been updated to reflect changes in recommendations by Weld County.

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.

Exhibit C-2, Site Plan Map, and Exhibit D have been modified to show several stockpile locations where topsoil or overburden may be stored. Raptor proposes that designated stockpile locations may store either topsoil or overburden subject to operational requirements but commits that topsoil and overburden will not be mixed in a single stockpile. Stockpiles will be clearly signed to identify whether the stored material is topsoil or overburden.

Any significant changes to stockpile locations or creation of new stockpile locations will be reflected in an appropriate permit revision with DRMS. Language in Exhibit D has been modified to reflect this and that as stated by DRMS in Adequacy Item 36, locations may not be directly representative.

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.

Raptor affirms a volume of topsoil no less than 1.3 times the amount required for reclamation of disturbed areas that will have topsoil replaced will be maintained on site. Modified language in Exhibit D reflects this. There will be a deficit of overburden required for reclamation regrading activities. Overburden recovered on site will be stockpiled for use in 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.

Raptor confirms all proposed and existing portions of the conveyors that may be used by this operation are covered by the affected lands proposed in this application (M-2025-016) 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.

Access to P125_S1 will be via an access point at the southwest corner of the southern permit boundary. This is a change from the original application where the access point was shown at the southeast corner and the change has been reflected in Exhibit C-2, Site Plan Map, and other map exhibits including the location of access points.

No rights-of-way or easements need to be crossed to access the P125_S1 area, however access to other areas from P125_S1 will involve crossing various rights-of- way and easements granted to other parties including two pipeline rights-of-way granted to Kerr McGee crossing the permit area in a generally east-west direction which form the northern boundary of the P125_S1 area, and the Last Chance Ditch crossing the permit area in a generally southwest-northeast direction and separating the P125A and P125B areas, both shown on Exhibit C-1, Existing Conditions Map. Access from the northeast entrance (Primary entrance) will cross the Thornton waterline easement. The conveyor transporting material to or from the adjacent Kurtz (M-1999-006) permit will cross both the Thorton waterline easement and Weld County Road 17 right-of-way. An additional right-of-way easement for a ditch crosses the P125_S1 and P125A areas in a generally southwest-northeast direction. This ditch in this right-of-way is owned by Raptor and will be removed as part of the mining activity.

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

The topsoil for reclamation of P125_S1 will be stored in a stockpile located in the southeastern corner of P125A. Overburden stockpiled on the west side of P125_S1 will be used as backfill once extraction has created sufficient space.

The estimated volume of overburden material from all three mining areas is inadequate to reclaim P125_S1. Additional backfill will either be excavated as borrow material from the bottom of Pits P125A and P125B, or from available backfill material on the M-1999-006, Kurtz Resource Recovery & Land Development Project permit owned by Raptor and adjacent to this

permit.

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.

Material extracted from P125_S1 will be transported to stockpiles or to the conveyor for transportation to the processing plant on the Kurtz operation (DRMS permit M-1999-006) by conveyor or truck within the P125 permit area, and via conveyor transporting offsite to the adjacent Kurtz processing plant. The existing description in the application has been expanded to make more intended transportation clearer.

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.

Dewatering in P125_S1 has been updated to reflect changes to State discharge permit. Discharge will occur near the northeast corner of P125_S1 and southeast corner of P125A to an existing ditch on west side of WCR17. Additionally, discharge from the P125B area will occur near the southwest corner of P125B to the unnamed tributary to St. Vrain Creek.

Exhibit C-2: Site Plan Map and any other exhibits showing discharge points have been updated to reflect these changes.

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.

Raptor acknowledges any significant change in stockpile location (resulting in a more than minor effect on the financial warranty calculation) will be addressed in an appropriate revision. Language in Exhibit D has been modified to reflect this and that as stated by DRMS above, locations may not be directly representative.

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.

The current plan will be to transfer backfill if and when necessary via the conveyor from the

Kurtz P115 (M1999-006) permit area immediately to the east of the proposed permit. The approximate volume will depend on available material from overburden stripping and available from the floors of the extracted areas in Pits P125A and P125B, but is anticipated to be in the range of 0 to 500,000 CY. In the case that import is required, the material will be clean and inert. The approximate dates for the transfer of backfill will be in years two through final year of the operation. The backfill may be used for backfilling the P125_S1 area or for slope regrading in P125A and P125B and is similar material to that removed during excavation.

A revised backfill notice addressing the requirements of Rule 3.1.5(9) is attached as an addendum to Exhibit E in the adequacy response.

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

The excavated volume of P125_S1 is approximately 550,000 cubic yards. This is the volume that would be required to fill to approximate original surface. A lesser volume would be required to fill to where groundwater is no longer exposed. Raptor currently proposes to fill to approximate original surface.

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.

Estimated volumes of material needed to backfill pit slopes are approximately 206,000 cubic yards for P125A, and 151,000 cubic yards for P125B.

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.

The 2,000 feet referenced appears to come from Exhibit D, p2, 5th paragraph. This dimension stated is not a maximum length of ungraded/unbackfilled highwall but is the extraction front. Based on a likely mining and reclamation schedule, the maximum length of ungraded/unbackfilled highwall is projected to be approximately 5,000 feet in year 4. If the maximum length needs to increase beyond this amount, an appropriate revision will be submitted to ensure the financial warranty is appropriate.

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.

There are three conveyors shown on Exhibit C-2, Extraction Plan Map.

The Transfer Conveyor is expected to be approximately 150 LF with two larger footings and two regular footings.

Conveyor Segment 2 is proposed to be installed initially and is expected to be approximately 1,280 LF with footings at 40-feet spacing. This will result in approximately 31 regular footings and two larger footings at the ends of the conveyor.

Conveyor Segment 2 is proposed to be relocated to the alignment shown for Conveyor Segment 1 after extraction has been completed in P125_S1 and sufficient extraction to allow installation across the pit floor in P125A. The length of Segment 1 when installed is expected to be approximately 870 LF with footings at 40-feet spacing. The footings will be relocated also with approximately 21 regular footings and two larger footings at the ends of the conveyor. A slightly larger span may be required to bridge the Last Chance Ditch and will be engineered accordingly.

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.

All portions of the proposed conveyors will be within affected lands of either the proposed P125 Cogburn permit, or for the short run beyond the permit boundary to the existing conveyor, it will be on the Raptor P115 Kurtz (M1999-006) permit which shares a boundary with the proposed 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.

Designs for the proposed crossings over the Last Chance Ditch and County Road 17 are being finalized and will be reviewed and approved by the respective stakeholders. Engineering of the conveyor will be assessed by Weld County engineering and public works departments. A Technical Revision will be submitted to provide detail of the as-built conveyor.

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.

This paragraph has been removed.

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.

Any changes to conveyor locations resulting in more than minor effects to the financial warranty calculation will be reflected in an appropriate permit revision with DRMS. The language in this paragraph of Exhibit D has been modified to reflect this.

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.

Raptor acknowledges this item and commits to obtaining the required well permit and Substitute Water Supply Plan and providing copies of initial approvals and any subsequent updates to the DRMS.

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.

Dewatering in P125_S1 has been updated to reflect changes to State discharge permit. Discharge will occur from northeast corner of P125_S1 and southeast corner of P125A to a ditch on west side of WCR17. Additionally, discharge from the P125B area will occur near the southwest corner of P125B to the unnamed tributary to St. Vrain Creek. Exhibit C-2: Site Plan Map and any other exhibits showing discharge points have been updated to reflect these changes.

Any changes to discharge points would require approval from CDPHE and be reflected in an appropriate permit revision with DRMS.

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.

For the initial extraction included in the permit application, revised temporary piles (shown on Exhibit C-2, Extraction Plan Map) are not located in floodplain. Raptor considers this a non-issue until an appropriate revision is submitted and approved to extract mineral reserve area designated as P125C. As this condition is not expected for the current mining and reclamation

plan, this paragraph is removed.

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.

For any changes to the mining or reclamation plan that have more than a minor effect on the financial warranty calculation, Raptor will submit an appropriate revision. The language in this paragraph has been modified 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.

Exhibit C-2, Extraction Plan Map has been enhanced to show where additional areas will be used ancillary to the extraction operations. These areas are described in the updated Exhibit D, and included on a table in Exhibit C-2 Any disturbance beyond what is described and shown in Exhibit C-2 that has more than a minor effect on the financial warranty calculation will be addressed in an appropriate revision.

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.

All proposed setbacks are shown on Exhibit C-2. While the initial and updated geotechnical analysis shows a 10-foot setback to be adequate, Raptor has adopted a revised minimum 20-foot setback from property lines; easements and rights-of-way; underground gas lines or other underground facilities, irrigation ditches and seep ditches, wells and other structures. This provides some added conservatism and allows more flexible access around the perimeter of the extraction areas. The updated geotechnical analysis is attached as a supplement to the slope stability analysis.

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.

No extraction is currently proposed within 400 feet of a river or perennial stream as stated in the application. Raptor is uncertain what statements may result in a lack of clarity but will amend as necessary to ensure there is no potential misunderstanding.

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.

Raptor will not undertake extraction in the currently designated Mineral Reserve Areas without approval of an appropriate revision. Raptor believes that as the Mineral Reserve Areas are within the Affected Area the determination of what an appropriate revision will be will depend on whether the change in the permit has a significant effect upon the approved or proposed Mining Plan or Reclamation Plan. The nature of any proposed change will need to be considered on the merits to determine if it has a significant effect. Exhibit D has been modified to reflect this commitment.

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.

Exhibit D has been updated and aligned with the response to Item 48. Raptor will submit an appropriate revision if any of the structures or uses of the affected lands are expected to change and the change has more than a minor effect on the financial warranty calculation 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.

As discussed in the response to Item #40 above, based on a likely mining and reclamation schedule, the maximum length of ungraded/unbackfilled highwall is projected to be

approximately 5,000 feet in year 4. Table E-1 in Exhibit E has been modified to provide more detailed forecast of a preferred mining and regrading sequence and provides the basis for this estimate. If operational demands result in the maximum length and associated disturbed acreage needing to increase beyond this amount, an appropriate revision will be submitted to ensure the financial warranty is adequate. The financial warranty will also include initially estimation for the complete backfilling, topsoiling and revegetation of P125_S1, which if advanced or completed would be also factored into any subsequent revision of financial warranty. The estimation of maximum disturbance is established in Table E-1 of o Exhibit E and outlined in Exhibit L.

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.

The statement concerning the information in an Annual Report has been removed. Exhibit D throughout now is consistent that changes of substance (having more than a minor effect to the financial warranty calculation) to the mining and reclamation plan from what is proposed in the application will be addressed through an appropriate revision. Impacts to financial warranty notwithstanding, no mining will take place in the Mineral Reserve Areas or otherwise outside the proposed extraction limits without approval of an appropriate revision.

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.

Similar to Items 53 and 54, language regarding addressing more than minor changes in the mining and reclamation plan in Annual Reports has been removed. And explanation of how Raptor will update the Financial Warranty if needed has been restated.

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.

Modified in Exhibit to reflect that generally the upper unit of zero to six feet is soil (including all soil horizons) and overburden.

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.

Although three access points were shown on the initial Exhibit C-2, Site Plan Map, one of these was internal to the property and has been removed. The northeast access point has been designated as the primary access and labeled on the Exhibit A/B Index Map. The access point formerly at the southeast corner of the site has been moved to southwest corner along WCR 28 to avoid traffic around the existing oil and gas facility. An additional access point has been located adjacent to the transfer conveyor accessing the property from County Road 17.

Any changes to access points will be addressed in an appropriate revision.

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.

The language in this paragraph has been amended to use the wording "appropriate revision" and also add the commitment required if more than a minor change (having more than a minor effect to the financial warranty calculation) is made to mining areas proposed and reaffirming that no mining will take place in the Mineral Reserve Areas or otherwise outside the proposed extraction limits without approval of an appropriate revision.

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.

While this approach has been favored by state agencies in the past to provide a more natural look and feel, and wildlife habitat, Raptor will no longer follow this practice, and the language has been removed from Exhibit D.

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?

Exhibit C-2, Site Plan Map, and Exhibit D have been modified to show several stockpile locations where topsoil or overburden may be stored. Raptor proposes that designated stockpile locations may store either topsoil or overburden subject to operational requirements but commits that topsoil and overburden will not be mixed in a single stockpile. Stockpiles will be

clearly signed to identify whether the stored material is topsoil or overburden.

Any significant changes to stockpile locations or creation of new stockpile locations will be reflected in an appropriate permit revision with DRMS. Language in Exhibit D has been modified to reflect this and that as stated by DRMS in Adequacy Item 36, locations may not be directly representative.

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

This is described in Exhibit D, Section A (p1, para 2) and also addressed in Item 28. *"Until re-soiling activity occurs, where harvested soils have been stockpiled and remain undisturbed for reclamation or sale, they will be seeded with the mixture specified under Exhibit L - Table L: Primary/Preferred Seed Mixture."*. The Primary/Preferred seed mixture is described in Exhibit L – Table L.

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).

The narrative in Sections (g) and (h) of the application has been amended to confirm the primary commodities are sand and gravel. The use remains as stated. Possible incidental products are also described.

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

See response to Item 62 and amendments to Exhibit D Sections (g) and (h).

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.

Existing roads are generally 8-12 feet wide, with localized exceptions in some cases up to 15 feet. Improvements to existing roads are not anticipated, however if necessary for safer operation, width may be increased up to approximately 15 feet and additional gravel applied to improve the running surface. Such improvements will be retained according to the desires of the landowner. Generally existing roads outside the extraction areas will be used by light vehicles as they are currently by agricultural or oil and gas activity. Additional roads may be developed around the perimeter of the extraction areas primarily for light vehicle access. The location of these roads has been added to Exhibit C-2. These roads will be lightly graveled as necessary and up to 20 feet wide including safety berm where necessary. As with any existing roads, used in their existing state or improved, the perimeter roads will be retained according to the desires of the landowner.

Otherwise as described in the permit application roads for mining operations and larger mining

equipment will be within the extraction areas which are covered by final reclamation either by backfill or conversion to lined water storage.

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

As described in the permit application, operations are largely confined to extraction areas where cut slopes will direct precipitation to drain internally. Water collected in pit is discharged to the settling basins shown from where it is discharged back to the environment via the existing ditch on the west side of Weld County Road 17 or to the unnamed tributary to St. Vrain Creek. The area of the settlement basins, and location of discharge lines is described in the updated Exhibit D, and on Exhibit C-2, Extraction Plan Map.

In pit drainage structures (keyways) as described in the permit application will be adjacent to the base of the cut slopes with dimensions as stated in the permit application from 4± to 8± feet in depth and 4± to 16± feet in width. These structures will convey water to a settling basin in base of the pit for pumping to the surface settling basin and subsequent discharge.

The surface settling basin dimensions will be field fit according to actual features at the location but are anticipated to cover approximately 0.3 acres with a depth of approximately 8 to 10 feet, capable of holding approximately 1.5 acre-feet (approximately 500,000 gallons) of water.

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.

The current plan will be to transfer backfill via the conveyor from the Kurtz P115 (M1999-006) permit area immediately to the east of the proposed permit. The approximate volume will depend on available material from overburden stripping and available from the floor of the extracted area, but is anticipated to be in the range 200,000 to 500,000 CY. The material will be clean and inert per the attached signed affidavit. The approximate dates for the transfer of backfill will be in years two through final year of the operation. The backfill may be used for backfilling the P125_S1 area or for slope regrading in P125A and P125B and is similar material to that removed during excavation.

A revised backfill notice addressing the requirements of Rule 3.1.5(9) is attached as an addendum to Exhibit E in the adequacy response.

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).

The primary post-mining land use as stated in the application will be developed water resources Consistent with current Weld County property zoning of Agricultural, land not converted to developed water resources will be reclaimed to rangeland. Exhibit E has been updated to reflect this and the more general discussion concerning what the landowner may choose to do once reclamation has been completed has been removed from the application.

Any change to the approved post-mining land uses will be addressed in an appropriate revision.

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.

Raptor estimates a total volume of overburden from the extraction on site of approximately 426,000 cubic yards. Additional material deemed unsuitable for saleable sand and gravel but suitable for fill may exist within the sand and gravel bed but estimating this volume is not possible. Additional fill may be "borrowed" from the floor of the extraction areas.

As discussed in the response to Item 66, Raptor anticipates a reasonable range of additional fill to complete the reclamation plan outlined will be in the range 200,000 to 500,000 cubic yards.

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).

The additional land use of rangeland as discussed in Item #67 has been addressed in revisions to Exhibit E.

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.

The Section 2.B response in Exhibit E has been modified to simplify and make clear that the proposed post-mining land uses of developed water resources and rangeland are consistent with land use in the vicinity.

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.

Consistent with edits and responses in Items 67, 69, and 70, it is now clearly stated in Exhibit E that P125_S1 will be reclaimed as rangeland.

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.

The proposed two-step process was intended to maximize resource recovery. Raptor no longer proposes this approach and a simpler process more familiar to the DRMS has been described in Exhibit E.

b. Is this liner installation method approved by DWR?

The DWR does not provide approved means and methods. The approval is performance based and the liner either satisfies the "leak test" or it does not. Raptor and predecessors have significant experience constructing lined water storage in this geology and with the materials readily available and have confidence they can construct lined water storage that will satisfy the 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?

This is now not applicable as Raptor no longer proposes the two-step lining and backfilling method.

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?

Successful lining or barrier/slurry wall outcomes have been achieved by Raptor and others where the liner or barrier is constructed from as little as 2-feet above the groundwater level although more commonly in the three to five-feet range, To alleviate the DRMS concern, Raptor will modify the design to line to at least the base of the topsoil at approximate original ground surface.

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?

The liner is at least 4-feet thick and compacted in relatively thin lifts during construction. Fill placed above the liner to regrade to the final slope configuration will not be compacted. This material may be dumped by truck and worked with a tracked dozer, or in some cases can be successfully pushed up by tracked dozer from the bedrock. Raptor's experience is this does not compromise the compacted 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.

As stated in the permit application, the static water levels in the pits are expected to equalize over time with the surrounding groundwater and vary across the property. Average static water levels for the proposed lined reservoirs are stated in Exhibits D and L, and shown on Exhibit G, Water Information Map.

As described in the response to Item 72, Raptor will install the pit liners from the keyway in the extraction floor to at least the base of topsoil at approximate original ground surface. Figure 2 (now Figure 1) has been amended to reflect this change.

The pit depths and keyway dimensions are described in the permit application in Exhibit D. As stated in the response to Item 72 and in Exhibit E, the material placed above the liner to establish regrade slopes will be placed in lifts but will not be compacted.

The purpose of Figure 2 (now Figure 1) is a schematic representation of typical liner and backfill geometry in the lined reservoir. It is not a design or construction drawing and as such, adding excessive detail including water levels or pit depths which vary widely, or keyway dimensions is inappropriate and would clutter and detract from the information intended to be conveyed in the figure. These details along with the intended construction methods are all discussed, often in multiple locations within the permit application.

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.

As described in the permit application in Exhibit E, the liner material will generally be sourced from the adjacent excavation floor shale (or claystone). When clays are encountered either as overburden or lenses in the sand and gravel, they will be stockpiled either in a designated location on surface or more commonly in the pit for use in liner construction.

The estimated volume of liner material previously provided in Exhibit L is now expanded on in Exhibit E with a breakdown by 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.

As described in Exhibit E, the backfill lined slopes can consist of pit run, overburden, shale or a mixture of these materials. As the overburden stripped above the sand and gravel provides the primary source of backfill, a table summarizing the estimated volumes of overburden and backfill by pit has been added to Exhibit E.

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.

This commitment was made in Exhibit E of the initial permit application package.

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.

Consistent with the response to Item 67, 69 and 71, Exhibit E and any other references to post mining land use have been modified to developed water resources and rangeland.

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.

Any significant changes to stockpile locations or creation of new stockpile locations will be reflected in an appropriate permit revision with DRMS. Language in Exhibit D has been modified to reflect this and that as stated by DRMS in Adequacy Item 36, locations may not be directly representative.

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.

The areas above the static water level for each reservoir are:

P125A = 5.7 acres

P125B = 6.9 acres

Raptor's experience in the field from completing numerous successful reclamations of other properties, including use of techniques such as drill seeding, is that not all areas will be compacted and require ripping for successful vegetation. Raptor commits to ripping as part of final topsoil placement and revegetation only where conditions require but acknowledges the possibility it could be required over all areas and will accommodate this in the reclamation cost estimate.

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.

This statement has been removed to maintain consistency with other statements on post mining land use.

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.

The statement in Exhibit E is modified to be consistent with the labeling in Exhibit L that for seeding, "The balance of unoccupied affected lands above the anticipated static water level will be stabilized where necessary utilizing the seed mixture as shown as an addendum to Exhibit L – Reclamation Costs: Table L – Preferred/Primary Revegetation Seed Mixture.". Beyond the general description of the type of seed mix to be used in Exhibit E, Table L of Exhibit L includes detailed information addressing the types, mixtures, and quantities (including PLS/acre). The expected times of seeding are also discussed generally in Exhibit E and additional detail provided in Table L of Exhibit L.

Raptor maintains that presenting the benefit of redundancy in providing the same somewhat complex table of information in multiple locations within the application is outweighed by the potential for the information to diverge leading to potentially conflicting interpretations of the permit commitments. Raptor considers it appropriate to maintain this approach acceptable in numerous past permits and included elsewhere in this permit application without comment.

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.

Raptors described approach is consistent with advice published by numerous reputable sources including CSU, Weld County, USDA and local soil conservation districts in regard conducting soil tests, which generally include recommendations of testing soil conditions close to the time of planting. Furthermore, what fertilizer should be applied and at what rate also depends on the season (warmer vs. cooler) and other climatic factors, for example it is widely recognized that fertilization with nitrogen prior to seeding native warm season grasses may be detrimental since it increases the competitive growth of weeds while having little benefit to native grass seedlings. Raptor cannot commit therefore to a specific approach as it is inappropriate and irresponsible to do so. Raptor in its successful approach to reclamation on many properties has and will follow the approach outlined fertilizing to suit the soil conditions, season, and other environmental factors at the time to ensure the best outcome. It is not in Raptor's interest to not do this for the best outcome. Nonetheless, acknowledging the need for a basis to establish the financial warranty calculation for reclamation by others, Raptor has included some generic information in Exhibit E as a guide to support an estimation of cost.

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.

The Regreen TM WheatXWheatgrass included in Exhibit L, Table L is the sterile hybrid live cover crop to be used in lieu of mulch.

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.

Table 1 added to Exhibit E includes this additional information.

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.

Backfill material placed over liners to regrade the lined reservoirs to 3:1 will be placed in relatively shallow lifts typically 5 to 6-feet high as the liner is built up. No specific compaction is proposed or has been found necessary in previous construction as with the relatively shallow lifts, adequate compaction is achieved through the repeated traversing over the material by haul trucks and dozers.

Backfill in P125_S1 is proposed to be end dumped at surface level extending fill faces from the edges of the pit. Some initial settling would be expected and if more than modest swales or other features generally acceptable and desirable on range land, additional fill would be placed to establish a more level surface prior to final grading, placement of topsoil and revegetation.

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.

A groundwater monitoring plan has been submitted with the permit application. Raptor is developing a drainage plan for the site as part of the development review response to Weld County. We will submit the plan to the DRMS as soon as it is complete.

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.

Consistent with current Weld County property zoning as Agricultural land, land not converted to lined water storage will be reclaimed to rangeland with native grasses and forbs as described in the application and detailed in Exhibit L – Table L: Primary/Preferred Revegetation Seed Mixture. The more general discussion referring to the "discretion of the landowner" has been removed from the application.

Any change to the approved preferred or optional seed mixtures or vegetation will be addressed in an appropriate revision.

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.

Following the required post-reclamation monitoring period, monitoring wells will be abandoned in accordance with DWR's BOE Construction Rule 16.4.1.

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.

Raptor believes Exhibit C-2, Extraction Plan Map and Exhibit F, Reclamation Plan Map are now aligned.

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

The approximate acreages have been added to Exhibit F, Reclamation Plan Map.

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

Raptor believes the map shows proposed topography of the area with contour lines of sufficient detail to portray the direction and rate of slope of all reclaimed lands as required by the regulations, however, has added additional notes to Exhibit F, Reclamation Plan Map.

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

The areas that will be revegetated are summarized on a table Exhibit F, Reclamation Plan Map.

93. Please label the proposed clay liners.

As the plan view obscures the location of the liners, a general label has been added to indicate which areas of the permit have had liners installed.

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

The backfilled pit P125_S1 is hatched with the legend indicating this is backfilled rangeland.

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.

Exhibit F, Reclamation Plan Map has been modified to only show features proposed to remain following reclamation.

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

Raptor believes the Reclamation Plan including changes resulting from this adequacy letter in Exhibit E is consistent with Exhibit F, Reclamation Plan 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.

See attached response from AWES.

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?

A USACE permit will not be required for the proposed operation at this stage. An Approved Jurisdictional Determination for the 27 agricultural ditches within the proposed operation, submitted with the original 112c permit application, was received from USACE on December 17, 2024.

    b. Has the applicant provided a copy of this report to the State Historic Preservation Office?

A copy of the Technical Memorandum File and Literature Review (ERO, 2024) will be provided to the State Historic Preservation Office if and when it is determined that a USACE permit is required for the proposed operation.

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.

At this time, a jurisdictional determination request has not been requested from the USACE for the wetlands identified in the affected lands.

A USACE permit application will be prepared and will include impacts to wetlands identified in the proposed affected land prior to disturbance of identified wetlands, and if required, will include appropriate mitigation.

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).

ERO prepared and submitted a habitat assessment letter to the U.S. Fish and Wildlife Service requesting concurrence that the proposed project will not have an effect on the eastern black rail due to the lack of breeding habitat in the proposed affected lands. U.S. Fish and Wildlife concurrence was received via electronic correspondence on August 1, 2025, and is included as an attachment to this adequacy response.

ERO has also conducted Bald Eagle Nest Monitoring during the 2025 breeding season and did not observe any active bald eagle nests at the previously identified nest or the recently identified nest. ERO is preparing an Eagle Protection Plan and at the suggestion of the U.S. Fish and Wildlife Service is reviewing the Eagle Permitting website to determine a permit is needed.

ERO also conducted a burrowing owl survey during the 2025 breeding season and did not observe any burrowing owls at the property.

To protect Aquatic Native Conservation Waters, ERO recommends use of Best Management Practices to discourage construction runoff, including sediment, from entering the St. Vrain. A Section 404 permit will be applied for to comply with any permanent wetland impacts required for project development.

To protect Mule Deer, Raptor Materials is committing to CPW's recommendation to begin any construction within the Mule Deer Severe Winter Range and the Mule Deer Migration Corridor High Priority Habitat outside of the December 1 to April 30 season in order to minimize disturbance during the severe winter range season.

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.

The Mule Deer Severe Winter Range and Mule Deer Migration Corridor High Priority Habitats that overlap the proposed mining areas have already been heavily modified due to human activities including regular and consistent agricultural activities. To protect Mule Deer, Raptor Materials is committing to CPW's recommendation to begin construction within the Mule Deer Severe Winter Range and the Mule Deer Migration Corridor High Priority Habitat outside of the December 1 to April 30 season in order to minimize disturbance during the severe winter range season. Additionally, Raptor Materials will have vehicle entrance and exit ramps into the excavation areas so that should a mule deer enter the excavation area, the slope will allow for their egress.

As indicated above, ERO conducted Bald Eagle nest monitoring during the 2025 breeding season and no bald eagle nesting or other activity was observed at the nest identified in the 2024 ERO Report or observed at the recently identified nest. As stated above, ERO received the recommendation from the U.S. Fish and Wildlife Service to prepare an Eagle Protection Plan as recommended and review the Eagle Permitting website to determine if a permit is needed for the project. The Eagle Protection Plan, as recommended by the U.S. Fish and Wildlife Service, will include, at a minimum, identification of foraging resources, a description of existing disturbance within 0.25 mile and 0.5 mile of the nest, protection proposed within the 0.125-mile federal nest buffer, avoidance, where practicable, of all wetlands and riparian vegetation within the 0.125-mile to 0.25-mile buffer of the nest, and restriction of activity from December 1 to July 31 within the 0.25-mile buffer with no restriction proposed outside of the 0.25-mile buffer due to existing tolerance related to nearby gravel mine operations and busy roads.

If the Eagle Protection Plan and review of the Eagle Permitting website determine that unavoidable disturbance will occur as a result of the project, Raptor Materials will apply for the appropriate Eagle Nest Disturbance permit. If an Eagle Nest Disturbance permit is issued by U.S. Fish and Wildlife Service, no modification will be made to the mining plan as the project

would be in compliance with U.S. Fish and Wildlife Service rules and regulations regarding disturbance to eagle nests.

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.

Should additional wildlife survey determine modifications are required to mining operational practice resulting in more than a minor effect on the financial warranty calculation, an appropriate revision will be submitted to address the changes.

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.

ERO has advised that the burrowing owl survey conducted on May 12, 2025, is valid until the start of the next nesting season, beginning March 15, 2026. If project activities begin on March 15, 2026, or later, an additional burrowing owl survey will be conducted prior to ground disturbance.

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.

Quantitative estimates for cover and height have been added as Table 1 in narrative Exhibit J.

Rule 6.4.11 Exhibit K – Climate

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

Average wind speed has been added to the Exhibit K narrative.

Rule 6.4.12 Exhibit L – Reclamation Costs

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

The reclamation cost estimate has been revised to reflect reasonably expected maximum disturbance during the initial extraction of the property in the areas described in Exhibits D and E. Major cost items will be the backfilling of P125_S1, and the backfilling/regrading and lining

of highwalls in P125A and P125B. Maximum disturbance in P125_S1 is expected in year 2 of operation when that area is fully extracted. While some backfill may have been completed when extraction is complete, the initial financial warranty will assume the full backfill volume is necessary. Maximum disturbance in the extraction areas to be reclaimed to developed water resources is expected in year 4 with a forecast of 5,000 feet of wall open and pending backfilling/regrading and lining. As noted in the response to Item #40, if changes in planning or operational requirements require this length to be exceeded, an appropriate revision would be submitted to ensure the financial warranty is adequate. Exhibit L has been modified to reflect this approach.

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.

The reclamation bond estimate has been calculated based on the determined worst-case scenario at year 4, which represents an estimated 5,000 feet of unlined wall and a fully excavated Pit P125_S1. While the submitted Mining and Regrading Schedule (Table E-1 in Exhibit E) estimates there will be approximately 2,200 feet of unlined wall in Pit P125A and 2,800 feet of unlined wall in Pit P125B at year 4, mining operations will be subject to operational restrictions, including but not limited to extent of sand and gravel deposits and wildlife considerations, as well as market conditions, which may result in a different distribution of unlined wall between the two pits. As such, reclamation tasks related to pit lining and backfill are generally presented as one line item per task.

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).

See above response to Adequacy Response comment 106.

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).

Anticipated equipment type has been specified in Exhibit L for each reclamation task.

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.

A task for importing backfill material has been added to the financial warranty estimate and described in the updated Exhibit L.

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.

All changes to the mining and reclamation plans, and underpinning assumptions as outlined in this adequacy response concerning maximum disturbance are addressed in the updated Exhibit L.

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.

The well permit was included in Exhibit M as Pending and the Substitute Water Supply Plan has been added to Exhibit M.

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

The approvals required for the operation by the Mine Safety and Health Administration have been added to Exhibit M.

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.

The extraction areas in current application before the DRMS do not include wetlands. The original application includes as an addendum to Exhibit M the USACE letter dated December 17, 2024 providing a Jurisdictional Determination over the proposed extraction area. Raptor may seek to add to the extraction area through appropriate revisions submitted to the DRMS and will include Jurisdictional Determination on any areas of wetland identified that are included in the extraction area or proposed areas of other disturbance.

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

No known additional permits, licenses, or approvals are required by the local municipality beyond those listed in Exhibit M.

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.

Exhibit C-1, Existing Conditions Map has been modified to identify by owner all known permanent, man-made structures noting the type of structure. The locations of the structures are marked on the map and keyed to table on the map. That table has also been added to Exhibit S.

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.

No structure agreements have been signed by the owners listed in Table S-1. If any agreements are received in the future, they will be provided to the DRMS.

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.

An addendum to Exhibit S has been added providing copies of the structure agreement forms and proof of mailing.

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.

The list has been amended to only include utilities.

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.

Raptor is not proposing to remove structures owned by other parties and does not believe the permit application indicates an intent to do so. The owners of some structures that would pose an obstacle to the proposed mine plan have indicated they will be removed likely in a timeframe amenable to Raptor's anticipated extraction plans. Examples of these do include oil and gas structures in the northwest of the proposed permit areas, amongst others. Structure agreements have been provided to the owners listed in Table S-1. No structure agreements have been signed by the owners listed in Table S-1. If any agreements are received in the future, they will be provided to the DRMS.

120. Raptor is not proposing to remove structures owned by other parties and does not believe the permit application indicates an intent to do so. The owners of some structures that would pose an obstacle to the proposed mine plan have indicated they will be removed likely in a timeframe amenable to Raptor's anticipated extraction plans. Examples of these do include oil and gas structures in the northwest of the proposed permit areas, amongst others. Structure agreements have been provided to the owners listed in Table S-1. No structure agreements have been signed by the owners listed in Table S-1. If any agreements are received in the future, they will be provided to the Division. 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.

The Geotechnical Stability Exhibit submitted with the original application included a Slope Stability Analyses completed by American Water Engineering Services, LLC. A supplement to this Exhibit is being submitted with this adequacy response. The findings are discussed in an amended Exhibit S.

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.

Please see letter dated July 01, 2025 from American Water Engineering Services, LLC attached as addendum P125_Ex_S_A1_Slope Stability Letter Response 20250701. Responses to the two items in the Technical Review letter from Ben Hammar are summarized in response to Item 125 below.

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.

The CPW and DWR comment letters are included as attachments to Exhibits H and G, respectively. The CPW comments are addressed in Exhibit H. The DWR conditions for approval are acknowledged and enumerated here:

a) Groundwater use will be limited to evaporation, dust control, dewatering, and water removed in mined product;
b) The above uses, along with replacement sources, will be detailed as an amendment to the existing Varra Combined Substitute Water Supply Plan (SWSP) (WDID 0302535);
c) Raptor Materials will conduct a survey of all wells within 600 feet of the permit area and will obtain waivers of objection from all well owners. If objection waivers cannot be obtained, Raptor Materials will request a hearing before the State Engineer;
d) Following approval of the amended SWSP and obtention of well owner objection waivers, and prior to groundwater exposure, a well permit will be obtained from the DWR;
e) All existing wells within the permit boundary will be operated in accordance with their permitted conditions and Raptor monitoring wells will be plugged and abandoned upon withdrawal of the DRMS permit per Well Construction Rule 2 CCR 402-2. A well abandonment report will be filed with the DWR;
f) The Mining and Water Storage Analysis report (AWES, August 2025) attached to this adequacy response concludes that the shadowing and-mounding effects of lining the mined out pits will not adversely affect the regional groundwater hydrology.
g) All stormwater that enters the pits during operation will be discharged as part of ongoing dewatering operations. Therefore, operational replacements for groundwater evaporation will not be required.

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.

Raptor are still considering the objections and will file separately a response to this item.

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

Responses to the May 23, 2025 Technical Memo provided by Patrick Lennberg that comments on Exhibits C, D, E, and G, as well as the AWES Groundwater Monitoring Plan and Groundwater Model, are included as an attachment to this adequacy response.

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

AWES Note (from July 1, 2025, letter): The 25-foot simulation was run with a seismic acceleration factor of 0.075, which is the value the Universal Building Code has specified for the Front Range area. The predicted factor of safety for fifty-foot simulation was 1.11. The slope was modified by increasing the horizontal distance of the 3:1 slope by 22 feet. Plate A [in the AWES July 1, 2025 letter] depicts the model generated failure analysis with seismic.

Raptor has modified the Mining plan to reflect a design change decreasing the maximum depth of excavation at 1.25H:1V from 30 to 23 feet, the remainder of the slope below 23 feet remaining at 3H:1V.

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

AWES Note (from July 1, 2025, letter): Critical structures are located within the permit boundary and consist of oil and gas pipelines and irrigation ditches. Residential structures are located to the east of Pit 125A, however, will not be located within 200 feet of any excavation. The location of residential structures is depicted on Figure 2 [of the AWES July 1, 2025 letter].

Significant man-made structures are shown on Exhibit C-1, Existing Conditions Map. Both the previous analysis and updated analysis including seismic conditions show that a setback of 10 feet which had been the minimum used was sufficient to protect from slope instability. Taking a more conservative approach, Raptor as discussed in Exhibit D, Mining Plan, have adopted a minimum setback of 20 feet with greater setbacks.

Raptor notes that in addition to the residential structure mentioned by located to the east of Pit P125A, there are oil and gas facilities, utility owned power line infrastructure and a conveyor line (owned by Raptor). These structures are within 200 feet of the proposed excavation. The residential structures, the oil and gas facilities, and the power line are approximately 125 feet, 105 feet, and 160 feet respectively from the proposed excavation, well beyond the 20 feet setback conservatively determined to be adequate to protect structures. is also located to the east of Pit P125A at a distance of approximately 105 feet from the proposed excavation.

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.

Raptor submitted proof of publication via email from G. Varra to Joel Renfro on May 1, 2025. Raptor recognizes that in follow up correspondence, an oversight was made and the

subsequently requested proofs of notice were not transmitted. They are attached to this adequacy response.

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.

Raptor acknowledges and will comply with this requirement.

Encl:

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: Amy Eschberger, DRMS
Patrick Lennberg, DRMS
Ben Hammar, DRMS
Jenna Lohmann, RESPEC

September 5, 2025

Patrick Lennberg
Environmental Protection Specialist
Colorado Division of Reclamation Mining and Safety
1313 Sherman Street, Room 215
Denver, CO 80203

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

Dear Patrick:

The Division of Reclamation, Mining and Safety (Division/DRMS), Office of Mined Land Reclamation (OMLR); reviewed the contents of the Original 112c permit application for the Cogburn Sand, Gravel and Reservoir Project, (Cogburn), File No. M-2025-016 and submitted comments. Adequacy comment number 124 requests a response to the Technical Memo submitted on May 23, 2025 to the DRMS that addresses groundwater concerns, including contents of the submitted Groundwater Monitoring Plan and Mining and Water Storage Analysis.

The original comments from the May 23, 2025 letter are replicated below, with our responses outlined in blue text.

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.

Monitoring well locations have been added to the pre-mining, mining, and reclamation plan maps (Map Exhibits C-1, C-2, and F).

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.

The requested information has been added to the Water Well Details table on Map Exhibit C-1: Existing Conditions for the six monitoring wells on site (MW-1 through MW-6).

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.

No areas designated as “Mineral Reserve Areas” will be disturbed under the current permit

application area. Disturbance of Mineral Reserve Areas will occur only after submittal and approval of an appropriate revision.

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.

Map Exhibit F: Reclamation Plan has been updated to reflect that only the areas of proposed initial extraction will be reclaimed.

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.

The cost to plug and abandon the monitoring wells has been added to the cost estimate and is detailed in Exhibit L.

Exhibit G

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

Raptor will provide a copy of the Varra Combined SWSP once the incorporation of the P125 Cogburn site has been approved by the DWR.

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?

The unlined, earthen seep ditch was originally constructed to convey excess irrigation water from parcels located approximately 1.5 miles southwest of the project site. Irrigation at these parcels has since ceased. The only current sources of water to the seep ditch are dewatering discharges from the southeast adjacent Heintzelman property (M2009-018) and surface runoff from precipitation.

The seep is modeled as a river boundary condition that, once set up, can be deactivated without removing the boundary. With the presence of significant groundwater sinks (mine dewatering) and sources ephemeral drainages generally have insignificant impacts. The seep ditch adheres to the minimum 20-foot setback from excavated areas (with an actual setback of at least 70 feet along the length of the ditch). This setback is considered sufficient such that project activities will not impact the seep ditch.

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.

The proposed Initial Extraction Area and adjacent disturbed areas, including access roads, staging areas, and settling ponds, are all located greater than 300 feet from the Unnamed Tributary to Saint Vrain Creek; therefore, no impacts to the Tributary from the proposed operations are expected. Additionally, no work is proposed within 100 feet of the wetlands identified on map Exhibit C-2. No dredged or fill material will be discharged to the Unnamed Tributary to Saint Vrain Creek or to the wetlands. Therefore Regulation 87 does not apply to the proposed work.

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."

Raptor are still considering the objections and will file separately a response to this item.

Groundwater Monitoring Plan Review

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

Figure 1 has been 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.

Figure 2 of the Groundwater Monitoring Plan has been updated by AWES and is submitted as an attachment to this adequacy response.

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

The permit acreage has been updated to match the 196.4 acres listed in the permit 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?

The monitoring wells were constructed using filter pack and were developed following 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.

The submitted Groundwater Monitoring Plan states that Raptor will collect groundwater levels monthly during dewatering. Following reclamation, groundwater levels will be collected quarterly until the permit has been withdrawn. This measurement schedule is identical to that in the recently approved P124 Two Rivers Permit (M2022-013) and does not appear to conflict with monitoring requirements in the Groundwater Monitoring: Sampling and Analysis Plan Guidance, Construction

Materials and Hard Rock Sites (DRMS, July 2024). Raptor proposes to maintain the groundwater level measurement schedule as proposed in the reviewed Groundwater Monitoring Plan for the P125 Cogburn site.

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.

A table with the requested monitoring well data has been attached to this adequacy response.

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

A time series lines graph with depths to groundwater has been attached to this adequacy response.

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

Quarterly potentiometric maps based on averaged monthly groundwater elevations have been attached to this adequacy response.

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.

The analyte list has been updated to match that 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.

A QA/QC Plan and Checklist has been added to Appendix B of the Groundwater Monitoring Plan.

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.

The quarterly groundwater quality baseline monitoring results from 2024 Q4 and 2025 Q1 and Q2 are included as an attachment to this adequacy response. Subsequent quarterly monitoring results will be provided by the dates listed above. Following baseline monitoring completion, a Technical Revision will be submitted to establish a designated point of compliance.

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.

Appendix B has been updated to specify field parameter measurement and stabilization during well purging and lists a groundwater sampling field form as an attachment. A sample field form has been attached to this adequacy response; completed forms will be submitted with quarterly monitoring reports.

Groundwater Model Review

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

The proposed permit boundary has been added to Figure 1.

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

The permit acreage has been updated to match the 196.4 acres listed in the permit 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.

The well construction logs in the Groundwater Monitoring Plan reflect groundwater levels immediately following well installation, prior to equilibration. The average saturated thickness has been updated to 29 feet based on reported depths to groundwater from monthly monitoring since well development.

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.

Shale will be scraped by bulldozers from the mine bottom up the side walls of the mined out pit and then compacted. A 0.03 feet per day leakage rate is a reasonable estimate for hydraulic conductivity of compacted shale, as consistent with the State Engineer's Gravel Pit Lining Criteria. The pit bottom, consisting of undisturbed shale, was assigned a lower but still non-zero value, assuming small amounts of fracturing in the pit bottom shale.

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.

Konikow & Bredehoeft, 1978 report riverbed conductivities to vary between 0.028 and 2.8 feet per day. Lapa-Lilly, 2009 reports stream bed hydraulic conductivities to vary between 4 and 159 feet per day with an average K values of 39 feet per day. Published values for sand and sandy gravels very between 2.8 and 28 feet per day. Using a value of four feet per day is considered a reasonable value.

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

Ephemeral drainages are modeled like streams or rivers and once that boundary condition is set up it can be deactivated without removing the boundary. With the presence of significant groundwater sinks (mine dewatering) and sources ephemeral drainages generally have insignificant impacts.

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.

For the reason described above the seepage ditch was not considered an important water feature as it does not flow year round, and will have minimal surface water- groundwater contributions. However, a new model run was performed adding the seepage ditch. This run is documented in the attached updated Mining and Water Storage Analysis report.

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.

The groundwater model did include adjacent mine dewatering and proposed water storage for the Raptor mine. Raptor will employ mitigation measures for adjacent well owners that may include one or more of the following: well deepening, alternative water supply, compensation plans, and/or temporary pumping assistance for affected private wells

Updated versions of the previously submitted Groundwater Monitoring Plan and Mining and Water Storage Analysis that incorporate responses to all comments in this technical memo are attached to this adequacy submittal.