

State of New Mexico  
Energy, Minerals and Natural Resources Department

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Cabinet Secretary

**Todd E. Leahy, JD, PhD**  
Deputy Secretary

**Jerry Schoeppner**, Director  
Mining and Minerals Division



**Via ELECTRONIC MAIL**

March 17, 2021

Mr. Bruce Norquist, Facilities Manager  
Mount Taylor Mine  
Rio Grande Resources Corporation  
P.O. Box 1150  
Grants, NM 87020

**RE: Additional Comments on the Application for Modification 20-1 to Mt. Taylor Mine, Permit No. CI002RE, Rio Grande Resources Corporation**

Dear Mr. Norquist:

On May 15, 2020, the New Mexico Mining and Minerals Division (“MMD”) received an application (“Application”) from Rio Grande Resources Corporation (“RGR”) requesting a modification to Permit No. CI002RE. The modification application (assigned by MMD as Modification 20-1) for the Mt. Taylor Mine permit proposes to:

- A. Update the Reclamation Schedule found in Section 9.S of Revision 13-2.
- B. Expand the South Waste Rock Pile and Disposal Cell.
- C. Modify the Post-Mining Land Use of some of the structures located within the mine permit area.

MMD provided RGR with comments on the Application including comments from other state agencies in a letter dated October 8, 2020. MMD received a response letter from RGR, an updated closeout plan cost estimate (“cost estimate”), a proposed alternate shaft closure design, and a revised list of mine facilities to be demolished in submittals dated December 7, December 29, and December 30, 2020, and February 22, 2021, respectively. MMD has reviewed the RGR’s responses, cost estimate, proposed alternate shaft closure design, revised list of facilities to be demolished, and provides the following comments. Additional comments on the supplements to the application from the New Mexico Environment Department (“NMED”) and the New Mexico Office of the State Engineer (“NMOSE”) are attached. Please review and provide a response to all comments within 30-days of receipt of this letter.

The following comments are based on RGR’s Response to MMD Comments Letter, dated December 7, 2020:

1. MMD accepts the RGR responses and notes that the requirements for South Waste Rock Pile test plots studies of Condition 9.M.3 of Revision 13-2 are being addressed in separate submittals by RGR and that the test plot requirement may be changed as part of Modification 20-1.
2. MMD accepts RGR’s response.

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3. MMD accepts RGR's response.
4. MMD accepts RGR's response.
5. MMD accepts RGR's response.
6. MMD accepts RGR's response.
7. MMD accepts RGR's response and notes that additional information on the estimated volume of contaminated material from the Ore Pad and Ore Pad Runoff Retention Pond to be submitted by RGR may result in changes to the closeout plan that can be addressed in the updated closeout plan in 2022.
8. MMD accepts RGR's response and notes that additional information on the estimated volume of contaminated material from the general mine site to be submitted by RGR may result in changes to the closeout plan that can be addressed in the updated closeout plan due in 2022.
9. MMD accepts RGR's response.
10. MMD accepts RGR's response.
11. MMD accepts RGR's response.
12. MMD accepts RGR's response.
13. MMD accepts RGR's response.
14. MMD accepts RGR's response.
15. MMD accepts RGR's response and notes that the information requested by MMD on the annual short-term and long-term water usage at the mine after closeout may be provided by RGR as part of the information to be submitted by RGR on the proposed water supply post-mining land-use ("PMLU"), if RGR wishes to pursue this PMLU.
16. RGR's submittal to MMD dated February 22, 2021 adequately addresses MMD's comments.
17. MMD accepts RGR's response.
18. MMD accepts RGR's response.
19. Please provide an updated Facility Disposition Plan drawing DWG No. GS20-CL104-00, Sheet No. CL-04 showing the current proposed disposition of the buildings and facilities at the mine.
20. MMD accepts RGR's response.
21. MMD accepts RGR's response.

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22. MMD accepts RGR's response.
23. MMD accepts RGR's response.
24. MMD accepts RGR's response.
25. MMD accepts RGR's response.

The following comments are based on RGR's Submittal of an Updated Closeout Plan Cost Estimate, dated December 29, 2020:

1. Please use MMD's *Guidance for Calculating Capital Indirect Costs for Mine Reclamation and Closure Cost Estimates* to determine the indirect reclamation costs. The guidance includes Indirect Costs for contract management, performance & payment bonds, and liability insurance. Please include these Indirect Costs into the cost estimate. The guidance may be accessed at:  
  
<http://www.emnrd.state.nm.us/mmd/MARP/MARPGuidanceGuidelines.html>
2. In the cost estimate under Surface Facilities Demolition there is a task 1.3.24, called *non-contaminated debris hauling and dumping/ stacking for salvage or disposal in pond basins*. It is unclear if salvage value is assumed for any of the demolished material. Please add disposal costs for demolished material if salvage value was assumed.
3. Some cost and quantity references cite links as a source. Please provide a copy or screenshot of the information since these links lead to error messages and not the required information.
4. Please explain the significant decrease in the \$/SF for the task *concrete slab, removed* under section 1.3, Surface Facilities Demolition. The decrease is from \$4.89/SF to \$0.81/SF.
5. It appears there is a typo in line 114 column O. The cost reference should be RSM 02 41 16.13 0500, 5000 not RSM 02 41 16.13 0500, 5001.
6. There is no change in costs for section 1.3.23, *manholes and culverts*. Please clarify if the costs for this item are in fact the same as they were in 2013.
7. Please update the 2013 costs for the 14 ft. and 24 ft. shaft closures.
8. It appears that the value or cost reference is wrong for section 1.1.3, *24 ft shaft and vent closure* (line 22). The value provided was \$1,245/day which is from RSM 01 54 19.50 0100 not RSM 01 54 19.50 0200. The value for RSM 01 54 19.50 0200 is \$1,370/day. Please clarify if the RSM reference is RSM 01 54 19.50 0100 or RSM 01 54 19.50 0200 and correct the value in the cost estimate.

The following comments are based on RGR's Submittal of a Shaft Cap System Concept as an Alternative to the Approved Shaft Plug Concept, dated December 30, 2020:

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MMD has reviewed the proposed Shaft Cap System Concept and consulted with NMED (see NMED comments, dated March 12, 2021, attached) and believes that the Approved Shaft Plug Concept approved by MMD under Revision 13-2 is likely more permanent and may be more protective of the environment. MMD appreciates RGR's concern for worker safety during the shaft closure and plugging operations, however, a shaft plug of similar design and scale to the design approved for the Mt. Taylor Mine by MMD under Revision 13-2 was recently successfully constructed at the CMI Questa Mine in Questa, New Mexico. Therefore, at this time, MMD will not approve the proposed Shaft Cap System Concept. Please update the closeout plan cost estimate for the current costs to plug the 14-foot and 24-foot diameter shafts under the MMD approved design.

Additional Agency Comments

MMD received comments from the NMOSE and NMED in memoranda dated March 11, 2021 and March 12, 2021, respectively. Copies of these comments are attached.

If you have any questions, please contact me at (505) 216-8945 or at David.Ohori@state.nm.us.

Sincerely,

*David Ohori*

David Ohori, Permit Lead  
Mining Act Reclamation Program ("MARP")  
Mining and Minerals Division

Enclosures

cc: Ashlynn Winton, NMED Ground Water Quality Bureau (GWQB)  
Holland Shepherd, MARP Program Manager  
Anne Maurer, Mining Act Team Leader, NMED GWQB



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**James C. Kenney**  
Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

**MEMORANDUM**

Date: March 12, 2021

To: Holland Shepherd, Program Manager, Mining Act Reclamation Program

Through: Anne Maurer, Team Leader, Mining Environmental Compliance Section

From: Ashlyne Winton, Mining Environmental Compliance Section  
Alan Klatt, Surface Water Quality Bureau  
Sufi Mustafa, Air Quality Bureau

Subject: **NMED Comments, Response to Comments, Updated Cost Estimate and Alternate Mine Cap System, Modification 20-1, Mt. Taylor Mine and Mill, Rio Grande Resources Corporation, Cibola County, New Mexico Mining Act Permit No. CI002RE**

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The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on January 27, 2021 requesting NMED review and provide comments on the above-referenced MMD permitting action. Pursuant to the Mining Act, this is a regular existing mine with Mining Act Permit No. CI002RE. MMD requested comments on the Modification 20-1 application no later than March 15, 2021. NMED has the following comments.

**Background**

Rio Grande Resources Corporation (RGR) submitted the Modification 20-1 application in May of 2020 to MMD. MMD requested comments from NMED on this application on June 26, 2020. NMED sent comments on the application to MMD on July 27, 2020. RGR submitted a response to comments (RTC) in a letter dated December 20, 2020. In addition, RGR submitted an Updated Closure/Closeout (CCP) Cost Estimate (Cost Estimate) and the Alternate Mine Cap System (Mine Cap) design with the December 2020 RTC.

**Air Quality Bureau**

The Air Quality Bureau comments are attached.

## **Surface Water Quality Bureau**

The Surface Water Quality Bureau comments are attached.

## **Mining Environmental Compliance Section (MECS)**

In general, RGR responded adequately to the MECS comments in the RTC except for the following comment:

### **RTC**

1. NMED Specific Comment #2 – RGR states that “once remediated, the formerly diesel-contaminated material may be found suitable for use as clean backfill elsewhere on the site.” Once this material is placed in the disposal cell, this material can no longer be considered “clean backfill.” NMED will not allow this material to be used as clean backfill if it has been placed in the disposal cell.

### **Cost Estimate**

1. Many of the unit costs appear to have stayed the same since 2013. In the cover letter, RGR states that the “pricing was adjusted in the updated cost estimate from the 2013 values.” Please explain why certain unit costs were not adjusted for inflation.
2. The Cost Estimate does not include a basis for any of the unit costs. Please provide the basis for each unit cost (i.e., RSMMeans, direct quotes, cost centers, etc.).
3. The cover letter states that the “currently projected material volumes were used in the updated cost estimate.” Please describe how the projected material volumes were calculated and if they are based on the Closeout Plan design drawings.
4. In Section 1.1.7 of the Cost Estimate, the costs for the Access/Utility Tunnels Backfill were retained. NMED understands that the PMLU change is not part of this modification. Therefore, these costs need to be included in the Cost Estimate.
5. In numerous sections of the Cost Estimate (i.e., Sections 1.3.1, 1.3.2, 1.3.3, etc.) the cost associated with the concrete slab removal changed from \$4.89/ft<sup>2</sup> in 2013 to \$0.81/ft<sup>2</sup> in 2020. Please discuss why the costs significantly decreased.
6. In Section 1.3.5, 1.3.6, and 1.3.7, the costs for the Hoist House demolition need to be added back in because the PLMU is not changing in this modification.
7. In Sections 1.3.8, 1.3.9, 1.3.10, and 1.3.11 (steel frame), the costs are removed. Financial assurance associated with demolition projects has not been released. The costs need to be added back in until RGR formally requests and receives approval for financial assurance release of these items.
8. In Section 1.3.17, the total linear feet of steel rail removal decreased from 8,787 ft in 2013 to 7,487 ft in 2020, which results in a significant decrease in cost associated with

removal. Please explain why there was a decrease in the total linear feet of steel rail removal.

9. In Section 1.3.20, the linear footage of 12 in., Schedule 40 steel decreased from 3,000 ft in 2013 to 1,000 ft in 2020. Please explain this decrease.
10. In Section 1.3.23, the costs for removal of the manholes and culverts need to be added back in because the PMLU change is not part of this modification.
11. In Section 1.3.24, the cubic yards of uncontaminated debris to be hauled/dumped decreased from 3,897 cubic yards in 2013 to 1,584 cubic yards in 2020. Please explain this decrease in volume.
12. In Section 1.4.2, Borrow Soil Area, the costs for reclamation of this area was removed in 2020. Financial assurance associated with reclamation of the borrow soil area has not been released. This cost needs to be added back in
13. In Section 1.4.2, 24-ft Shaft Area and South Storm Water Pond, the cubic yards of contaminated soil to be removed significantly decreased from 2013 to 2020. Please explain this decrease in volume of contaminated soil to be removed.
14. In Section 1.4.3 Pond Backfill by Pond Berm Excavation and Placement as Backfill, the volume of large-scale earthwork decreased from 170,060 cubic yards in 2013 to 130,000 cubic yards in 2020. In addition, the costs for the "total pond area less the pond basins" are indicated to be included in the costs for large-scale earthwork. Please explain the decrease in volumes and provide a discussion of how the costs for the "total pond area less the pond basins" are included in the large-scale earthwork costs.
15. Section 1.4.4 states the costs for "contaminated soil" disposal were \$25,404 in 2013, but RGR indicates that this was "previously constructed" in the 2020 costs. The change in costs between 2013 to 2020 appears to be \$11,374, but this does not make sense because the 2020 Cost Estimate does not include the cost for this activity. Please explain this discrepancy in cost.
16. In Section 1.4.5, the costs for disposal of broken concrete, rock, concrete/rock, and concrete, rock mulch are significantly less in 2020 compared to 2013 costs. Please discuss the decrease in volumes and associated costs.
17. In Section 1.5.1, the costs for seed and drilling in 2020 are \$56.03/acre compared to \$871.20/acre in 2013. Please explain the basis for the \$56.03/acre cost. If the cost is based on a quote, please provide the quote.

## Mine Cap

1. The approved 2013 CCP included a far more robust shaft closure system than what is proposed in the Mine Cap proposal. The 2013 CCP proposed a 62-ft long concrete plug in the 24-ft shaft and a 40-ft long concrete plug in the 14-ft shaft. In addition, Section 4.1 in the 2013 CCP states that *"the remainder of the shaft, as well as connecting tunnels and raises, will be backfilled with cementitious slurry of soil, Portland cement, fly ash, and water."* The Mine Cap proposal does not include a concrete plug, but rather a 2-foot

Holland Shepherd, Program Manager

March 12, 2021

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concrete cap on the ground surface. This shaft closure proposal is not considered permanent and may not be environmentally protective. The currently approved shaft closure system and cost estimate needs to be carried forward in this updated CCP.

**NMED Summary Comment**

RGR needs to provide a response to the comments herein in order for NMED to evaluate the protectiveness of the CCP, Cost Estimate and Mine Cap proposals.

If you have any questions, please contact Anne Maurer at (505) 660-8878.

cc: David Ohori, Lead Staff, EMNRD-MMD  
Kurt Vollbrecht, Program Manager, MECS  
Shelly Lemon, Bureau Chief, NMED-SWQB  
Elizabeth Bisbey-Kuehn, Bureau Chief, NMED-AQB





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Lt. Governor

**Jennifer J. Pruett**  
Deputy Secretary

**MEMORANDUM**

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DATE: March 10, 2021

TO: Kurt Vollbrecht, Program Manager, Mining Environmental Compliance Section

FROM: Sufi Mustafa, Staff Manager, Air Dispersion Modeling and Emission Inventory Section, Air Quality Bureau

RE: Request for Review and Comment, Mt. Taylor Mine and Mill, Modification 20-1, Cibola County, New Mexico Mining Act Permit No. CI002RE

The New Mexico Air Quality Bureau (AQB) has completed its review of the above-mentioned mining project. Pursuant to the New Mexico Mining Act Rules, the AQB provides the following comments.

**Air Quality Permitting History**

The AQB has no previous record of this operation.

**Details**

This is a change in mine close out/closure plan schedule.

**Air Quality Requirements**

The New Mexico Mining Act of 1993 states that "Nothing in the New Mexico Mining Act shall supersede current or future requirements and standards of any other applicable federal or state law." Thus, the applicant is expected to comply with all requirements of federal and state laws pertaining to air quality.

20.2.15 NMAC, *Pumice, Mica and Perlite Processing*. Including 20.2.15.110 NMAC, *Other Particulate Control*: "The owner or operator of pumice, mica or perlite process equipment shall not permit, cause, suffer or allow any material to be handled, transported, stored or disposed of or a building or road to be used, constructed, altered or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne."

Paragraph (1) of Subsection A of 20.2.72.200 NMAC, *Application for Construction, Modification, NSPS, and NESHAP - Permits and Revisions*, states that air quality permits must be obtained by:

“Any person constructing a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard. If the specified threshold in this subsection is exceeded for any one regulated air contaminant, all regulated air contaminants with National or New Mexico Ambient Air Quality Standards emitted are subject to permit review.”

Further, Paragraph (3) of this subsection states that air quality permits must be obtained by:

“Any person constructing or modifying any source or installing any equipment which is subject to 20.2.77 NMAC, *New Source Performance Standards*, 20.2.78 NMAC, *Emission Standards for Hazardous Air Pollutants*, or any other New Mexico Air Quality Control Regulation which contains emission limitations for any regulated air contaminant.”

Also, Paragraph (1) of Subsection A of 20.2.73.200 NMAC, *Notice of Intent*, states that:

“Any owner or operator intending to construct a new stationary source which has a potential emission rate greater than 10 tons per year of any regulated air contaminant or 1 ton per year of lead shall file a notice of intent with the department.”

The above is not intended to be an exhaustive list of all requirements that could apply. The applicant should be aware that this evaluation does not supersede the requirements of any current federal or state air quality requirement.

### **Fugitive Dust**

Air emissions from this project should be evaluated to determine if an air quality permit is required pursuant to 20.2.72.200.A NMAC (e.g. 10 lb/hour or 25 TPY). Fugitive dust is a common problem at mining sites and this project will temporarily impact air quality as a result of these emissions. However, with the appropriate dust control measures in place, the increased levels should be minimal. Disturbed surface areas, within and adjacent to the project area, should be reclaimed to avoid long-term problems with erosion and fugitive dust. EPA’s *Compilation of Air Pollutant Emission Factors, AP-42, “Miscellaneous Sources”* lists a variety of control strategies that can be included in a comprehensive facility dust control plan. A few possible control strategies are listed below:

Paved roads: covering of loads in trucks to eliminate truck spillage, paving of access areas to sites, vacuum sweeping, water flushing, and broom sweeping and flushing.

Material handling: wind speed reduction and wet suppression, including watering and application of surfactants (wet suppression should not confound track out problems).

Bulldozing: wet suppression of materials to “optimum moisture” for compaction.

Scraping: wet suppression of scraper travel routes.

Storage piles: enclosure or covering of piles, application of surfactants.

Miscellaneous fugitive dust sources: watering, application of surfactants or reduction of surface wind speed with windbreaks or source enclosures.

**Recommendation**

The AQB has no objection to revision of the mine close out/closure plan.

This written evaluation does not supersede the applicability of any forthcoming state or federal regulations.

If you have any questions, please contact me at 505.476.4318.



**Michelle Lujan Grisham**  
Governor

**Howie C. Morales**  
Lt. Governor

## NEW MEXICO ENVIRONMENT DEPARTMENT

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**James C. Kenney**  
Cabinet Secretary

**Jennifer J. Pruett**  
Deputy Secretary

### MEMORANDUM

DATE: March 9, 2021

TO: Anne Maurer, Mining Environmental Compliance Section, Ground Water Quality Bureau

FROM: Alan Klatt, Watershed Protection Section, Surface Water Quality Bureau

SUBJECT: **Request for Review and Comment, Mt Taylor Mine and Mill, Modification 20-1, Cibola County, New Mexico Mining Act Permit No. CI002RE**

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The Surface Water Quality Bureau (SWQB) of the New Mexico Environment Department (NMED) has reviewed the Subject Request for Comments on the permit modification to the Mt. Taylor Mine and Mill. The New Mexico Mining and Minerals Division (MMD) is requesting agency comments on the following Rio Grande Resources Corporation (RGR) submittals:

- RGR response to comments dated December 7, 2020
- Updated cost estimate
- Alternative shaft cap system

SWQB does not have any new comments on the above submittals and defers to the Director of Mining and Minerals Division regarding the adequacy of cost estimates pursuant to §19.10.5.506 New Mexico Administrative Code (NMAC).

For questions related to these comments, please contact Alan Klatt, SWQB, at 505-819-9623.

**MEMORANDUM**  
**OFFICE OF THE STATE ENGINEER**  
*Hydrology Bureau*

DATE: March 11, 2021

TO: David Otori, Permit Lead, Mining Act Reclamation Program (MARF)/MMD  
Holland Shepherd, MARF Program Manager

THROUGH: Ghassan Musharrafieh, Ph.D., P.E., Hydrology Bureau Chief *JRM*

FROM: Kamran H. Syed, Ph.D., P.E., Water Resources Engr., Hydrology Bureau *KHS*

SUBJECT: Comments on Rio Grande Resources Corporation's Response to Hydrology  
Review of Modification 20-1 to Mt. Taylor Mine Permit No. CI002RE, –  
Closeout/Closure Plan

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On June 26, 2020, the Hydrology Bureau of the New Mexico Office of the State Engineer (NMOSE) received a request for comments by the Mining and Minerals Division (MMD) of the Energy, Minerals and Natural Resources Department (EMNRD) for the Rio Grande Resources Corporation's (RGR) proposed modification 20-1 of MMD Mt. Taylor mine permit No. CI002RE (Permit). The application is for the modification of the Closeout/Closure Plan. The project is located approximately 1/2-mile northeast of the Village of San Mateo, New Mexico in portions of Sections 24, Township 13N, Range 8W in Cibola County.

In response to that request, the NMOSE Hydrology Bureau provided several comments and recommendations in a memorandum to MMD dated July 24, 2020 (Syed, 2020). The Rio Grande Resources Corporation (RGR) responded to those comments/recommendations in a letter (dated December 7, 2020) by Bruce Norquist (Facilities Manager, RGR) to the MMD. Most of the RGR's responses adequately address our comments. However, one of the RGR's responses (in reply to our comment/recommendation #1) falls short of fully addressing our request. It is reproduced below with additional comments:

**Comments/Recommendations**

- 1. The shaft and conduit workings have penetrated unsaturated geologic units, as well as saturated units and confining units to terminal depth. Previous CCP plans indicate that*

*these shafts and conduits were cased and grouted to prevent water intrusion. We would be interested in the original design and construction details of these shafts. The update request also indicates a possibility of simply capping the shafts (without plugging). We would like to know which regulatory agency offers approval that simply capping a shaft might offer perpetual segregation of aquifers.*

RGR's response simply states that capping or plugging is widely used in mine shaft closure in New Mexico. **We like to reiterate that design and construction details of the shafts would help us more fully assess the adequacy of the proposed shaft closure procedures in minimizing intermingling of, and communication between, penetrated aquifers.**

## **REFERENCE**

Syed K. H., (2020). Comments on Modification 20-1 to Mt. Taylor Mine Permit No. CI002RE, Rio Grande Resources Corporation – Closeout/Closure Plan. NMOSE Hydrology Bureau Memorandum to MMD, dated July 24, 2020.