State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Fuge
Deputy Cabinet Secretary

Albert Chang, Director
Mining and Minerals Division

March 25, 2024

Richard Kern
Bonaventure Nevada Inc.
5560 Rue St. Tropez
Reno, NV 89511

RE: Agency Comments and Request for Additional Information, Sugarloaf Minimal Impact Exploration Project, Permit No. GR092EM – Grant County, New Mexico

Mr. Kern:

The New Mexico Mining and Minerals Division (MMD) has reviewed an application for a minimal impact exploration permit titled *Sugarloaf* (Application), originally submitted by Bonaventure Nevada Inc. (Bonaventure) on August 7, 2023, under Subpart 3 of the New Mexico Mining Act Rules (Rules). After a site inspection on September 28, 2023, MMD asked that Bonaventure submit an amended application with additional details regarding access roads. MMD received a revised application from Bonaventure on January 17, 2024.

Pursuant to §19.10.3.302(G) NMAC, MMD sent request for comment letters to relevant state and federal agencies on September 18, 2023. Enclosed with this letter are the reviewing agency comment letters submitted by the following state agencies: the New Mexico Environment Department (NMED), the New Mexico Office of the State Engineer (NMOSE), the New Mexico Department of Game and Fish (NMDG&F), New Mexico State Forestry Division (NMSF), and the New Mexico Department of Cultural Affairs - Historic Preservation Division (NMDCA).

MMD has reviewed the Application and deemed it administratively complete, pursuant to §19.10.3.302(G) NMAC. However, MMD has reviewed the Application and has found it to be *technically incomplete* pending receipt of acceptable supplemental information identified in this letter. **Please respond no later than 30 days of receipt of this letter, to the information requested below.**

MMD Comments:

1. During the site inspection on February 13, 2024, MMD raised safety concerns over access to proposed Drill Site 11 due to the access road being directly adjacent to the top of a historic pit highwall. MMD is requesting that this hole be moved to avoid driving along the top of the high wall. Alternatively, please provide a schematic and description of how Drill Site 11 would

be accessed safely as it is currently proposed, including any added anticipated surface disturbance. See also NMDG&F's comment letter.

2. During the site visit on February 13, 2024, Bonaventure expressed interest in using air rotary drilling for this operation as opposed to creating mud pits. MMD encourages air rotary drilling for this operation to reduce surface disturbance. Please clarify which drilling method you will be using for this project. See also NMDG&F's comment letter.

3. On Page 16 of the Application, Bonaventure indicates that Attachment A includes forms WR-07 and WR-08, but no application forms are attached. Also on Pages 16 and 17 of the Application, Bonaventure checks using option 1 for both wet holes and dry holes. NMOSE anticipates that drilling for this exploration project will encounter groundwater. Bonaventure should plan on using neat cement slurry (option 1) for abandonment of all boreholes and must obtain all necessary exploratory permits from NMOSE. See attached NMOSE comment letter.

   As a requirement of Section §19.10.3.302(L) NMAC for a minimal impact exploration project: *each drill hole shall be plugged from total depth to within 2 feet of the original ground surface or the collar of the hole, whichever is lower, with a column of cement, high-density bentonite clay or other materials specified in the permit. If the approved plugging material is not cement, then the top ten feet of the column must be a cement plug. The hole shall be backfilled with topdressing or topsoil from above the cement plug to the original ground surface. The hole shall be plugged as soon as practicable and satisfy the requirements of the State Engineer and the New Mexico Environment Department for proper plugging of such holes.*

4. MMD was unable to access Drill Site 13 as it was located in a narrow, densely vegetated ephemeral stream. On site, Bonaventure agreed to remove Drill Site 13 from the drilling program. Please submit an updated map and drill site coordinates to account for any changes in drill site locations and road layout as a result of this comment letter.

5. During the site inspection, Drill Site 12 was found to be located within an ephemeral stream. MMD recommends moving Drill Site 12 at least 50 feet away from the drainage. See also NMDG&F's comment letter.

6. The road access to Drill Site 8 travels uphill along an ephemeral stream that is well vegetated. Please provide a description of how this access road will be constructed to minimize as much surface disturbance as possible. Additionally, MMD will require (as a permit condition) that the reclamation of this access road include installation of armored erosion controls after project completion. See also NMDG&F's comment letter.

7. To minimize the likelihood of adverse impacts to migratory birds, MMD will require (as a permit condition) that Bonaventure either drill outside of the migratory bird breeding season (March 1 – September 1) or perform surveys for active nests prior to initiating disturbance activities within the breeding season. See NMDG&F comment letter for more details.

8. Please revise Section 7 – *Reclamation & Operation Plan* of the Application to reflect all recalculated disturbance anticipated as a result of the MMD comments above. §19.10.3.302(D) and §19.10.3.302(K) NMAC states that the minimal impact exploration project will be reclaimed to meet the requirements of reclamation, as defined in §19.10.1.7 and

   Topsoil or topdressing material removal and stockpiling shall precede any excavation within the drill site area… Where vegetation has been removed or destroyed within the permit area, vegetative cover shall be reestablished by seeding, planting, transplanting, or other adequate methods.

   Please provide a detailed plan on how the operation will stockpile and save topsoil or topdressing prior to drilling, how best management practices ("BMP"s) will be implemented during and after drilling, how surface topography will be reestablished. MMD, in coordination with the US Forest Service, will provide a reclamation seed mix to be incorporated into the permit.

9. Once MMD has reviewed Bonaventure's response to this comment letter and has a final proposed surface disturbance acreage, MMD will provide a cost estimate based on the following established guidance criteria for minimal impact exploration projects (www.emnrd.nm.gov/mmd/wp-content/uploads/sites/5/MMD_Part3FAGuidelines_Sept2013.pdf):
   $8,900 for the first acre of disturbance
   $4,900 for each additional acre
   $14/linear foot for drilling costs

Should you have any questions, comments, or require additional information concerning this letter or any enclosures, please contact DJ Ennis at (505) 372-8634 or david.ennis@emnrd.nm.gov.

Sincerely,

Carmen Rose, Permit Lead
Mining Act Reclamation Program (MARP)/MMD

Enclosures: September 27, 2023 Letter to MMD from NMDCA
January 26, 2024 Letter to MMD from NMSF
February 14, 2024 Letter to MMD from NMOSE
February 16, 2024 Letter to MMD from NMDGF
March 6, 2024 Letter to MMD from NMED

Cc: DJ Ennis, Program Manager, MARP/MMD
Elizabeth Toney, Gila NF District Ranger, US Forest Service
Jenna Padilla, Regional Geologist, US Forest Service
Mine File (GR092EM)

Michelle Lujan
Grisham
Governor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320

September 13, 2023
Carmen Rose
Reclamation Specialist Supervisor
Mining and Minerals Division
carmen.rose@emnrd.nm.gov

Re: HPD Log#120641-Sugarloaf Exploration Project, Permit No. GR092EM

Dear Ms. Rose

I am writing in response to your request for comment on the above referenced permit application, of which was received by this office on September 19, 2023.

Pursuant to 19.10.4.03 NMAC, Minimal Impact Exploration Operations, the Director shall determine whether a permit would have an adverse impact on cultural resources listed on, or eligible for, either the National Register of Historic Places (NRHP) or the State Register of Cultural Properties (SRCP) or be located in a known cemetery or other burial ground.

The project area has been surveyed for cultural resources and it does not contain a cultural resource eligible for, or listed on, the NRHP or SRCP. It does not contain a known burial ground. This project will have no effect on historic properties.

The permit application indicates that the project location is situated on public land, of which the surface and mineral estate is managed by the United States Forest Service (USFS), Gila National Forest. The USFS should be contacted regarding their concurrence for this project.

Sincerely,

Richard Reycraft

Richard Reycraft
HPD Staff Archaeologist

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

Dylan Fuge
Deputy Cabinet Secretary

Laura McCarthy, State Forester
Forestry Division

January 26, 2024

Carmen Rose, Permit Lead
Mining Act Reclamation Program
Energy, Minerals and Natural Resources Department (EMNRD)
1220 S. St. Francis Drive
Santa Fe, NM 87505

RE: Request for Review and Comment of Minimal Impact Sugarloaf Exploration Project, Permit No. GR092EM.

Thank you for providing me the opportunity to comment on the above-referenced project. I do not anticipate any impacts to NM State Listed Endangered Plants or Federally Listed Endangered or Threatened plants as a result of this project, as described in the permit application.

Please let me know if I can be of further help.

Sincerely,

Erika Rowe

Endangered Plant Program Coordinator
EMNRD-Forestry Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505
erika.rowe@emnrd.nm.gov
(505)699-6371 (Phone)
http://www.emnrd.state.nm.us/SFD/

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STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
Hydrology Bureau

MMD REVIEW MEMORANDUM

DATE: February 6, 2024

TO: Katie Zemlick, Ph.D., Hydrology Bureau Chief kz

FROM: Christopher E. Angel, PG, Senior Hydrologist, Hydrology Bureau CEA

SUBJECT: Sugarloaf Exploration Project – New Minimal Impact, Sugarloaf, GR092EM, Grant County

KEYWORD: Sugarloaf, District No. III, Grants, Gila-San Francisco Underground Water Basin (GSF), Silver City, Granite, Minimal Impact

ID: MMD_2024_002_GR092EM

INTRODUCTION

The New Mexico Office of the State Engineer (OSE) Hydrology Bureau received the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD) Mining and Minerals Division's (MMD's) January 18, 2024, request for comments on the subject Sugarloaf Exploration Project - New Minimal Impact Application (Sugarloaf). The MMD permit number is GR092EM. The application materials were downloaded from https://www.emnrd.nm.gov/mmd/gr092em-sugarloaf-exploration-project/.

The Sugarloaf application is requesting a permit to drill twelve mineral exploratory boreholes. These boreholes are to be drilled in the Gila - San Francisco Underground Water Basin of Grant County, New Mexico. More specifically, the boreholes are to be located in Section 18, Township 19 South, Range 15 West. Each borehole is to be 5-inches (in) in diameter and penetrate to a depth of 300 feet below ground level (fbgl). Each borehole is to be plugged and not converted for use as water wells.

This review is to evaluate the area for possible hydrogeologic concerns and the materials used in plugging the boreholes.

COMMENTS

The NMOSE Hydrology Bureau has completed a review of the Sugarloaf - Minimal Impact Exploration Project (GR092EM) application and provides the following comments:

General Comments

Surface Water

Twelve exploratory boreholes are to be drilled between two unnamed ephemeral streams. The ephemeral stream to the south appears to have healthier and denser vegetation. This ephemeral stream is located along a fault (Trauger, 1972). This vegetation may indicate increased moisture content along the stream bed and may partly be controlled by the fault.

Siphon Spring is located approximately 1.7 miles to the northwest of the exploratory borehole locations. Another spring is located approximately 2.1 miles to the south-southwest of the boreholes.

It is unlikely that the ephemeral streams and springs will be affected by the drilling of these exploratory boreholes.

Groundwater

Well records and Trauger (1972) were used to estimate the depth to groundwater. Trauger (1972) contoured the groundwater elevations in feet above sea level (fasl). The groundwater elevations were between 6,000 and 5,900 fasl (Trauger, 1972). Well GSF-4656-POD4 is located approximately 0.6 miles to the east of the Sugarloaf exploratory boreholes. This borehole encountered groundwater at 520 fbgl. No estimate of static water can be determined as the water level at completion of drilling was not recorded.

The GSF-4296 is located approximately 1.0 mile west-northwest of the Sugarloaf exploratory boreholes. This borehole encountered groundwater at 460 fbgl. The depth to water upon completion was 193 fbgl. Therefore, the approximate water level is at 5,782 fasl. This value may be lower than the actual water level as it cannot be determined if the water level had stabilized after the drilling process.

The Sugarloaf exploratory boreholes will terminate between 5,900 and 5,700 fasl. As all the boreholes will be drilled to depths below 6,000 fasl, each borehole has the potential to encounter groundwater. It is possible that groundwater may not be observed during the drilling process. This occurs when fluids (including air) enter a fracture pushing water back into the formation. If the borehole is not plugged for a day or two after drilling is complete, then groundwater may be observed in the borehole.

It is recommended that an OSE exploratory permit be obtained as there is the potential for groundwater to be encountered. If no OSE permit is obtained prior to drilling and groundwater is encountered, drilling shall be discontinued until an OSE exploratory permit is obtained.

Borehole Abandonment

Dry Boreholes

Bentonite chips/pellets, neat cement, and topsoil are to be used in the abandonment of dry boreholes. The use of bentonite is acceptable at this location as the Precambrian granite (Trauger, 1972) and cement cap allows the bentonite to remain hydrated. Bentonite is to be placed from total depth to 12 fbgl. The bentonite chips/pellets shall be hydrated with five (5) gallons of fresh water per 50-pound (lb) sack/pail of bentonite chips/pellets (OSE, 2020). The water used must have a total hardness of less than 500 milligrams per liter (mg/L) and chlorides must be lower than 1,500 mg/L. If the manufacturer specifications are different from OSE (2020), then a written variance must be submitted to the OSE and is to include all documentation and justification for the variance. The OSE will respond in writing to all variance requests.

Each borehole is to be capped with 10 feet of neat cement. The type of cement is not documented in the application. As these boreholes are likely to be in Precambrian granite and high sulfate minerals and/or groundwater are not likely to be present, any neat cement is permitted. If high sulfate minerals or groundwater are found during the drilling process, then moderate to high sulfate resistant cement must be used. The amount of water to be used in neat cements ranges between 5.2 gallons per 94-lb sack (gal/sk) and 6.0 gal/sk (OSE, 2020). If the amount of fresh water required per manufacturer specifications is different than OSE (2020), then a written variance request including all documentation on the amount of water required must be submitted to the OSE for approval. The OSE will respond to the variance request in writing.

Wet Boreholes

Boreholes that encounter groundwater are to be plugged with neat cement and topsoil. The neat cement is to be tremied from the base of the borehole to two fbgl. Topsoil is to be placed from two fbgl to ground surface. The type of cement is not documented in the application. As these boreholes are likely to be in Precambrian granite and high sulfate minerals and/or groundwater are not likely to be present, any neat cement is permitted. If high sulfate minerals or groundwater are found during the drilling process, then moderate to high sulfate resistant cement must be used. The amount of water to be used in neat cements ranges between 5.2 gallons per 94-lb sack (gal/sk) and 6.0 gal/sk (OSE, 2020). If the amount of fresh water required per manufacturer specifications is different than OSE (2020), then a written variance request including all documentation on the amount of water required must be submitted to the OSE for approval. The OSE will respond to the variance request in writing.

Miscellaneous Comments

The Sugarloaf minimal impact exploration application indicates the water to be used for this application is to be from the Town of Tyrone. The Town of Tyrone appears to obtain municipal water from Silver City (McMillan and Vega, 2024). It is recommended that the District III Office of the State Engineer be contacted to determine if the specific source of water to be used in the drilling of the Sugarloaf exploratory boreholes is appropriately permitted.

REFERENCES

Martin McMillian and Jake Vega. Preliminary Questions on Town of Tyrone Commercial Use Water, January 31, 2024.

OSE. Guidelines. “Office of the State Engineer Sealant Guidelines for Well Construction and Plugging (for Use in Non-Contaminated Conditions).” Guidelines, June 9, 2020.

Trauger, Frederick D. “Water Resources and General Geology of Grant County, New Mexico.” New Mexico Bureau of Geology and Mineral Resources, 1972. https://doi.org/10.58799/HR-2.

APPENDICES

Appendix A

GENERAL CONCERNS RELATED TO NMOSE REGULATION OF EXPLORATORY BOREHOLE DRILLING

Encountering Groundwater and Associated Plugging of Those Borings

Well drilling activities (including mineral exploration borehole drilling ("mine drill holes") that penetrate a water-bearing stratum) and well plugging, are regulated in part under 19.27.4 NMAC. Most recently promulgated in 6/30/2017, these regulations require any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the NMOSE (New Mexico Office of the State Engineer). Therefore, a New Mexico licensed Well Driller shall perform the drilling and plugging of exploratory boreholes that encounter groundwater.

Exploration drilling where any form of groundwater is encountered will be subject to pertinent sections of 19.27.4 NMAC, including but not limited to Sections 19.27.4.30.C NMAC for plugging and abandonment of non-artesian wells/borings; 19.27.4.31 NMAC for artesian wells/borings; and 19.27.4.36 NMAC for mine drill holes that encounter water. A complete version of the NMOSE 19.27.4 NMAC regulations can be found on the NMOSE website at: https://www.ose.state.nm.us/Statewide/wdRules.php.

MMD will likely place additional conditions on the drilling and plugging of all mineral exploration borings via the MMD project permit.

All onsite drilling and plugging activities where groundwater is encountered shall be conducted under the supervision of the New Mexico licensed Well Driller or a NMOSE-registered Drill Rig Supervisor under the direction of the licensed Well Driller.

Additional NMOSE filings will be required where it is requested that an exploratory borehole be converted to a water well. The well design and construction shall be subject to the provisions of NMOSE regulations 19.27.4 NMAC. Appropriation of water from such a conversion may require a water right. The MMD may disallow the conversions of exploratory borings to water wells if not permitted specifically in the MMD permit.

Use/Extraction of Temporary Casing

When drilling through overburden or caving, poorly consolidated, or karst geologic units, use of temporary casing may be desired. Any temporary casing should be installed with the full intention of its removal before borehole plugging, therefore temporary casing should be inserted into a borehole of sufficiently large diameter to allow easy extraction upon termination of drilling. NMAC 19.27.4 regulations dictate methodology for the installation of permanent well casing, including the installation of required annular seal, should that option be more prudent.

If temporary casing lacking a rule-compliant annular seal or casing grade becomes stuck in-place down hole, the potential for permanent commingling of aquifers or down hole surface water drainage may occur via an unsealed annulus. In these cases, staged casing cutting and extraction,

or remedial casing perforation and squeeze-cementing will be required to the satisfaction of the State Engineer as part of final well decommissioning. Steps should be taken during drilling to prevent deleterious fall-in or drainage of cuttings/sediments into the annulus outside the temporary casing to best allow for full retrieval and proper borehole plugging.

When setting of temporary casing occurs or is expected, appropriate detail of the proposed casing extraction and borehole clean-out process prior to plugging will be required in the NMOSE Well Plugging Plan of Operations form. If exploratory drilling through stratified or artesian aquifer systems, filing a NMOSE Artesian Well Plan of Operations may be required to preemptively assess and address NMOSE concerns regarding best borehole decommissioning practices.

Exploratory Borehole Plugging

Terms of borehole plugging will be established jointly by the evaluation of the NMOSE Well Plugging Plan of Operations and the review of the relevant MMD application for water-bearing boreholes. Approved high-solids bentonite abandonment-grade sealants and/or approved cement slurries will be required for plugging as deemed hydrogeologically appropriate by the agencies. NMOSE-authorized cement slurries will be required for the decommissioning of flowing artesian boreholes. If the exploratory borings do not encounter groundwater, MMD plugging regulations (19.10.3 NMAC) prevail over those of 19.27.4 NMAC.

NMOSE well plugging regulations require tremie placement of the column of well sealant, which shall extend from the bottom of the borehole to ground surface. By regulation, pumping decommissioning sealants into the top of the borehole is not allowed. The NMOSE defers to the discretion of the MMD for the choice of sealant versus natural fill in the uppermost portion of a borehole plug to facilitate site restoration.

Required plugging of water-bearing exploratory borings shall occur within the timeframe specified by either the NMOSE or MMD to minimize cave-in and the potential for incomplete plugging due to blockages in the borehole.

Drill Rig Fuels, Oils and Fluids

Drill rigs contain and consume fuels, oil, and hydraulic fluids, and are subject to leaks. Drill rigs often remain in-place longer than other pieces of exploration equipment onsite, are frequently running, and are positioned immediately above and adjacent to the open borehole. As a standard practice to prevent contamination and reduce site cleanup activities, it may be beneficial to use bermed, impermeable ground sheeting under the drill rig. Consideration of bermed containment volume sufficient to accommodate a high-intensity precipitation event is also a good practice.

GOVERNOR
Michelle Lujan Grisham

DIRECTOR AND SECRETARY
TO THE COMMISSION
Michael B. Sloane

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507

Tel: (505) 476-8000 | Fax: (505) 476-8180

For information call: (888) 248-6866

www.wildlife.state.nm.us

16 February 2024

Carmen Rose, Permit Lead
Mining Act Reclamation Program
Mining and Minerals Division (MMD)
1220 South St. Francis Drive
Santa Fe, NM 87505

RE: New Minimal Impact Exploration Permit Application, Sugarloaf Exploration Project, Grant County, New Mexico. Permit No. GR092EM; NMDGF Project No. NMERT-2891.

Dear Ms. Rose,

The New Mexico Department of Game and Fish (Department) has reviewed the above referenced exploration project submitted by Bonaventure Nevada, Inc. (Bonaventure). Bonaventure is proposing to drill 12 exploratory holes at 12 drill pad sites. Hole depths will be approximately 300 feet. The exploration project will be located in Sections 18 and 19 in Township 19S, Range 15W. The total area that will be disturbed by proposed activities is approximately 4.3 acres. Staff from the Department, MMD, New Mexico Environment Department, and Bonaventure conducted a site inspection on 13 February 2024.

The Department recommends that, to the maximum extent feasible, large mature trees are left undisturbed during road and drill pad construction. Tree species that should be left undisturbed include alligator juniper (*Juniperus deppeana*), piñon pine (*Pinus* spp.), and all species of oak (*Quercus* spp.).

In the permit application, it states that Bonaventure will use air drilling techniques for the bore holes. However, during the site inspection, when Department staff asked for more details about the drilling system, the Operator described a system that would utilize mud pits. The Department requests that Bonaventure clarify if they will be using air, mud/fluid, or a closed loop drilling system. The Department strongly recommends the use of a closed loop drilling system. Closed loop systems eliminate the need to build fences or install netting to exclude wildlife from mud pits, reduce the amount of surface disturbance associated with the drill pad site, and consume significantly less water. If Bonaventure ultimately uses mud pits, the Department recommends netting or covering fenced mud pits to exclude birds and bats. If netting is used, the Department recommends extruded plastic, knit, or woven netting with a mesh size of three eighths of an inch to exclude smaller animals. The Department does not support the use of monofilament netting due to its tendency to ensnare wildlife, usually resulting in injury or death. Netting material must be held taught over a rigid and adequately supportive frame to prevent sagging into the mud pits.

It is important to prevent wildlife from entering and becoming trapped in stockpiled pipes used in the drilling process. The Department recommends capping drill pipes as the most effective way to prevent wildlife entry. At a minimum, each section of pipe should be visually inspected prior to use to verify that no wildlife, including small mammals or reptiles, are inside.

To minimize the likelihood of adverse impacts to migratory bird nests, eggs, or nestlings during road and drill pad construction activities, the Department recommends that ground disturbance and vegetation removal activities be conducted outside of the primary breeding season. This breeding is 1 March – 1 September for migratory songbirds and most raptors; for golden eagle (*Aquila chrysaetos*) and great horned owl (*Bubo virginianus*) it is 1 January – 15 July. If ground disturbing and clearing activities must be conducted during the breeding season, the area should be surveyed for active nest sites (with birds or eggs present in the nesting territory) and avoid disturbing active nests until young have fledged. For active nests, establish adequate buffer zones to minimize disturbance to nesting birds. Buffer distances should be a minimum of 100 feet from songbird and raven nests; 0.25 miles from most raptor nests; and 0.5 miles for American goshawk (*Accipiter atricapillus*), golden eagle, peregrine falcon (*Falco peregrinus*), and prairie falcon (*Falco mexicanus*) nests. Active nest sites in trees or shrubs that must be removed should be mitigated by qualified biologists or wildlife rehabilitators. Department biologists are available to consult on nest site mitigation and can facilitate contact with qualified personnel.

Drill site #8 will require road development up a steep ravine and associated installation of adequate erosion control features. Access to drill site #11 will require substantial earthwork directly above an extremely steep highwall that was created by historic mining activity. The Department recommends that site #11 be moved to a safer location that avoids crossing above the highwall. Drill site #12 is located at the bottom of a drainage and should be moved to be at least 75 feet outside of the drainage area.

For site reclamation, Bonaventure proposes to use a specified U.S. Forest Service seed mix. The Department recommends that only native plant species are used and that the reclamation seed mix is designed to enhance local pollinator habitat. The Department also recommends that only certified weed-free seed be used to avoid inadvertently introducing non-native species to the reclamation site. Any alternate plant species, used to substitute for primary plant species that are unavailable at the time of reclamation, should also be native. When possible, the Department recommends using seeds that are sourced from the same region and habitat type as the reclamation site and suggests including seeds from a region that represents potential future climatic conditions at the site.

Thank you for the opportunity to review and comment on the proposed exploration project. If you have any questions, please contact Ron Kellermueller, Mining and Energy Habitat Specialist, at (505) 270-6612 or ronald.kellermueller@dgf.nm.gov.

Sincerely,

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division
cc: USFWS NMES Field Office

Electronic Transmission

MEMORANDUM

Date: March 6, 2024

To: Anne Maurer, Mining Act Team Leader, Mining Environmental Compliance Section (MECS)

From: Davena Crosley, Surface Water Quality Bureau (SWQB)
Sufi Mustafa, Air Quality Bureau (AQB)
Sean Madden, MECS

Subject: New Mexico Environment Department (NMED) Comments, Sugarloaf Exploration Project, New Minimal Impact Exploration Permit Application, Bonaventure Nevada Inc., Grant County, New Mexico, Mining Act Permit No. GR092EM

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on January 22, 2024, requesting that NMED review and provide comments on the above-referenced MMD permitting action. Pursuant to the Mining Act, the Sugarloaf Exploration Project is a new minimal impact exploration permit. MMD requested comments on the application within 20 days of receipt of the request for comments, but an extension was granted until March 6, 2024.

Background

Bonaventure Nevada Inc. (applicant) proposes to disturb up to 4.37764 acres of U.S. Forest Service (USFS) land. The applicant proposes to drill up to 12 boreholes on 12 drill pads, all approximately 300 feet below ground surface (bgs). This site is located approximately 20 miles southeast of Silver City, NM.

Air Quality Bureau

The AQB has no comments.

Surface Water Quality Bureau

The SWQB comments are attached.

Mining Environmental Compliance Section

The MECS has the following comments:

1. The depth to groundwater listed in the application is 300 feet bgs. The applicant does not anticipate encountering groundwater, but stated during a field inspection held on February 13, 2024, that they will backfill the boreholes as appropriate per the New Mexico Office of the State Engineer (OSE) regulations. Since OSE forms WR-07 and WD-08 were not provided in the application, the applicant needs to comply with all OSE requirements for permitting, plugging and abandoning monitoring wells/boreholes.

2. Regulations associated with minimal impact exploration operations are found at 19.10.3.302 NMAC. Required information associated with application for a minimal impact exploration operation regarding groundwater are found at 19.10.3.302.D(5) NMAC and state, "an estimate of depth to groundwater and total dissolved solids concentration". The applicant lists a Total Dissolved Solids concentration of less than 10 mg/L, but no reference is cited. The applicant should sample groundwater from at least one of the borings that encounters groundwater and provide sample results as part of project.

NMED Summary Comment

NMED has determined that the activities proposed in the application will be protective of the environment.

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

cc: Joseph Fox, Program Manager, NMED-MECS
Shelly Lemon, Bureau Chief, NMED-SWQB
Elizabeth Bisbey-Kuehn, Bureau Chief, NMED-AQB
Carmen Rose, EMNRD-MARP

MEMORANDUM

DATE: February 23, 2024

TO: Anne Maurer, Mining Environmental Compliance Section, Groundwater Quality Bureau

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

SUBJECT: **Request for Review and Comment, Sugarloaf Exploration Project, New Minimal Impact Exploration Permit Application, Bonaventure Nevada, Inc., Grant County, New Mexico Mining Act Permit No. GR092EM**

The New Mexico Environment Department (NMED)-Surface Water Quality Bureau (SWQB) received the subject request for comments on January 18, 2024 regarding a minimal impact exploration project submitted by Bonaventure Nevada Inc. (Applicant). The project is located in Grant County, approximately 12 miles southwest of Silver City, New Mexico within the Gila National Forest. The project proposes to bore twelve, 5-inch diameter holes to a maximum depth of 300 feet from twelve 100'x50' drill pads to explore for copper. A combination of existing and new roads will be utilized to access drill locations and total disturbance is estimated at 4.38 acres. No drilling is proposed within 100 feet of any perennial, intermittent, or ephemeral stream. SWQB is providing the following comments pursuant to 19.10.4 New Mexico Administrative Code (NMAC):

This project will disturb one or more acres and storm water discharges may be covered under both/either the U.S. Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) or under the Multi-Sector General Permit (MSGP) under Sector G Metal Mining. The Applicant must contact the EPA to determine whether this project is subject to NPDES permitting. For the MSGP, contact Nasim Jahan (jahan.nasim@epa.gov), (214) 665-7522. For the CGP, contact Suzanna Perea (perea.suzanna@epa.gov), (214) 665-7217. Additional information about the NPDES program for EPA Region 6 is available online: https://www.epa.gov/npdes-permits/npdes-stormwater-program-region-6.

This project is located within close proximity to Whitewater Canyon. Whitewater Canyon and its tributaries are subject to New Mexico surface water quality standards at 20.6.4.13 NMAC and 20.6.4.98 NMAC and have designated uses for livestock watering, wildlife habitat, marginal warmwater aquatic life, and primary contact. Surface waters of the state shall be free of any water contaminant in such quantity and of such duration as may with reasonable probability injure human health, animal or plant life or property, or unreasonably interfere with the public welfare or the use of property (20.6.4.13 NMAC). Mine exploration activities that have the potential to contribute pollutants to waters of the state must be implemented with appropriate and reasonable Best Management Practices (BMPs) in order to prevent impacts to water quality. Any discharge of a water contaminant, in such quantity as may with reasonable probability injure or be detrimental to human health, animal or plant life, or property, or unreasonably interfere with the public welfare or the use of property, must be reported to the Environment Department within twenty-four hours (20.6.2.1203 NMAC).

Appropriate and reasonable BMPs include, but are not limited to, the following:

- Spill clean-up materials such as absorbent pads must be available on-site at all times during road construction, site preparations, and drilling activities to address potential spills.

- Fuel, oil, hydraulic fluid, lubricants, and other petrochemicals must have a secondary containment system to prevent spills. Store these materials outside of the flood-prone zone.

- Process water must be contained within a closed-loop system or lined pits. A discharge of process water may require a discharge permit from NMED or the U.S. Environmental Protection Agency.

- Drilling cores and drilling mud must be collected and disposed of properly.

- Pressure wash and/or steam clean all mobile equipment used in the project area before the start of the project and inspect daily for leaks. A written log of inspections and maintenance should be completed.

- The use of overland travel and site selection, design, and construction of drill pads, reserve pits, and roads should comply with the guidelines described in the Bureau of Land Management "Gold Book" [1]. Suspend construction, maintenance activities, or off-road travel during periods when the soil is too wet to adequately support heavy equipment without causing surface disturbance. The operator should commit to repair any surface disturbance they caused.

- Structures and culverts at stream crossings must allow for the passage of sediment, bedload, woody debris, aquatic life, and prevent erosion problems such as headcuts, incision, bank erosion, and the diversion of the stream from its natural channel during flood events.

- Implement Best Management Practices to prevent direct impacts to watercourses, including springs, wetlands, and arroyos. For temporary surface disturbances during exploration and reclamation activities, the operator should implement erosion control measures that are designed, constructed and maintained using professionally recognized standards (e.g., Natural Resource Conservation Service standards, the Bureau of Land Management "Gold Book", or the National Best Management Practices for Water Quality on National Forest System Lands).

- The applicant should ensure that stormwater entering the project area ("run-on") is diverted from soil storage piles and should place piles uphill of excavations when possible.

- Roads, pads, and other facility structures should be set back a minimum of 100 feet from any watercourses, including springs, wetlands, and arroyos.

[1] https://www.blm.gov/programs/energy-and-minerals/oil-and-gas/operations-and-production/the-gold-book