

**STATE OF NEW MEXICO  
ENERGY, MINERALS AND NATURAL RESOURCES  
MINING AND MINERALS DIVISION**

**IN THE MATTER OF REVISION 20-1 FOR THE  
LITTLE ROCK MINE, GRANT COUNTY, NEW MEXICO  
PERMIT NO. GR007RE**

**HEARING OFFICER REPORT**

**Introduction**

Applicant Freeport-McMoRan Tyrone Operations ('Applicant' or 'Tyrone') submitted to the Mining and Minerals Division (MMD) of the Energy, Minerals and Natural Resources Department (EMNRD) an application for a proposed expansion and to update the closure-closeout plan for the Little Rock Mine, an existing copper mining operation located ten miles south of Silver City near the town of Tyrone, in Grant County, New Mexico.

On June 3, 2021, the undersigned Hearing Officer accepted testimony and public comment on a virtual platform as part of continued information gathering necessary for the Director of MMD to reach a decision on the permit revision application under Section 19.10 NMAC.

The hearing was conducted pursuant to Section 19.10.9.905 NMAC, Hearing Procedures. Following introductory remarks by the Hearing Officer, all comment was taken under oath and subject to questioning by others present. Written comment and testimony was also submitted and accepted. The hearing, which was recorded and transcribed by Belen Soto, Certified Court Reporter, started at 5:05 p.m. and ended at 8:03 p.m. At least 55 participants joined the hearing by telephone or computer.

Notice of the hearing and opportunity to provide comment was sent by mail, email, and posted on the EMNRD webpage. The Hearing Officer also announced that following the hearing, written comment would be accepted by the Division through June 17, 2021.

The Director did not request a recommendation for action from the Hearing Officer under Section 19.10.9.905.A(3) NMAC. This Report includes only a review of written and oral comments submitted during and after the hearing; it does not include a review of any other part of the Department's administrative record.

#### **Hearing Testimony from the Oil Conservation Division**

**David Otori**, MMD Permit Lead for the Little Rock and Tyrone Mines, among others, testified while presenting a slide show, which is now part of the administrative record. Mr. Otori began with a description of the purpose of the public hearing and applicable Mining Act Rules, including the elements of an application for a mining permit revision. He stated that Permit GR007RE was approved in 1998, and was the subject of several revisions and modifications in subsequent years.

Revisions have included the incorporation of a Closeout Plan in 2000; Standby Status in 2004; return to Operating Status and an updated Closeout Plan in 2010; and expansion of the Permit Area and Mine Area Design Limit in 2016. Modifications since 2001 have included partial financial assurance releases for completed reclamation, clarification and minor changes to reclamation requirements, the addition of USNR test plots, and changes to financial assurance instruments.

Mr. Ohori showed photographs of the mine, looking both west from the overlook and east from the crest, and described the pending application for Revision 20-1. The application was submitted on June 11, 2020, and includes a proposed expansion and an updated Closure-Closeout Plan (CCP). A plan view drawing shows the current approved mine permit boundary (in magenta) and proposed expansion (in red). During the Division's review, Applicant has submitted additional information and responses to agency questions; these are posted on the MMD website.

As to MMD reclamation standards, Mr. Ohori noted that the CCP must specify incremental reclamation work to be done within specific time frames. The self-sustaining ecosystem standard, which is the goal of reclamation, requires that it be site-specific and life-zone appropriate. There is a twelve-year period after seeding for vegetation re-establishment. The landowner must also identify a beneficial use or multiple uses for the permit area following mining; Freeport McMoRan has selected wildlife habitat as the post-mining land use, which has been approved by MMD.

Because the application seeks a revision that would allow mining in new, previously undisturbed areas, Mr. Ohori explained that reclamation requirements are more stringent and comprehensive under the Mining Act Rules. Although the Tyrone Mine has a waiver from the requirement to achieve a self-sustaining ecosystem and post-mining land use for certain of its open pits and stockpiles draining thereto, Little Rock has not applied for such a waiver and all reclamation requirements apply to its open pit and waste units.

Mr. Ohori described some of the reclamation performed to date at Little Rock: the copper leach stockpile and former precipitation plant area, the small north and west canyon stockpiles, historic exploration drill holes, and some access roads outside the open pit area. Applicant's current proposal is to remove the vegetated cover on the reclaimed copper leach stockpile area, and excavate and haul the underlying copper-bearing materials to the Tyrone Mine for processing. The area would then be used for the proposed copper leach waste stockpile, and then reclaimed.

Mining Act Rules require financial assurance based on the cost estimate for a third-party contractor to complete the reclamation in the event of forfeiture by the mine operator. The current financial assurance for Little Rock Mine is nearly three million dollars, held jointly in the form of surety bonds by MMD and the New Mexico Environment Department (NMED). The proposed financial assurance for Revision 20-1 is nearly eight million dollars.

Mr. Ohori stated that MMD is nearing completion of its review of the permit revision application. The public hearing was requested by GRIP. MMD will review all comments submitted and may ask Applicant for a response. Applicant must also obtain an environmental determination from NMED prior to permit revision approval, and NMED is processing a groundwater discharge permit renewal for the mine as well. Applicant will propose financial assurance instruments after MMD deems the application technically approvable. Tr. pp. 9-21.

### Hearing Testimony from Permittee Freeport-McMoRan Tyrone Operations

**Tom Shelley**, reclamation manager, testified that Little Rock is an existing mine that was mined for a few years in the 1970s and then reinitiated by Tyrone in 2010. The proposed expansion is modest, facilitating the last phases of mining at Little Rock, which is critical to Tyrone's overall mine plan. The project has benefited Tyrone employees and their families, the community, the county, and the state. They are very interested in input from their community and neighbors, and Freeport is a founding member of the International Council on Mining and Minerals. They have engaged directly with their neighbors and appreciate their feedback. Tr. pp. 26-28.

**Mandy Lilla**, senior environmental engineer, showed a map of the Little Rock Mine location, and discussed the proposed expansion to complete the mining phases there prior to beginning reclamation. This includes minor changes in the configuration of the open pit, removal of the copper leach stockpile, construction of the copper leach waste stockpile within the footprint of the copper leach stockpile, a change in the location of an access haul road, and the construction of the NRW waste stockpile. Life of mine configuration is estimated at ten years out. All stockpiles contain non-discharging inert waste material that will not negatively impact the environment. Tyrone follows an approved handling plan for the stockpiles and will continue to do so. They also continuously monitor the waste material placed within the stockpiles.

In addition to the configuration change, Applicant is requesting a change to the permit boundary and design limit boundary in order to accommodate the reclaimed

footprint of the stockpiles, a 200-acre disturbance for the open pit and stockpiles, and ten acres of additional minor disturbance, to install new monitoring wells, for example.

As to financial assurance, they take a five-year mine plan and determine which year has the highest reclamation costs; then they take that mine configuration, design a reclamation plan for it, and calculate the costs. Proposed reclamation activities at the mine have been previously approved, and they use standard reclamation practices. Through their planned reclamation activities, they will create a self-sustaining ecosystem and wildlife habitat. Estimated reclamation costs are approximately eight million dollars, six million dollars more than the existing financial assurance. Once MMD and other agencies approve the cost estimate, they will propose financial assurance instruments. Tr. pp. 28-33.

**Lee Nix**, chief environmental engineer, stated that, recognizing a high potential for neighbor concerns over groundwater quality and aquifer drawdown, Tyrone engaged the neighbors early in a number of activities related to potential impacts. Activities included predictive modeling, groundwater quality monitoring, model calibration to monitoring results, and a new network of monitoring wells in 2016. A decade ago, Tyrone engaged with the Burro Mountain Homestead community. In 2011, Tyrone installed a monitoring well between the mine and the community. They had an open house, and have met with Burro Mountain Homestead community leaders periodically over the last decade. More recently, Tyrone has engaged with the Oak Grove community, 3-4 miles from the mine, as a result of their concern about the CCP update. Tr. pp. 33-36.

**John Ayarbe**, a consultant on hydrogeology and the pit lake, began by showing slides from an earlier presentation to the Oak Grove community to demonstrate that the mine is not impacting the community's wells by de-watering or drawdown. The slides depict regional groundwater levels and flow directions, and show that the mine's dewatering sump is not causing drawdown that extends beyond the area of the mine. In 2016, the mine installed a series of monitoring wells around the perimeter of the mine to monitor groundwater level and quality; that data is reported to NMED.

Mr. Ayarbe addressed closure conditions being the formation of a pit lake, and the water quality associated with that lake. Daniel B. Stephens & Associates conducted groundwater flow and geochemical modeling to predict pit lake conditions at closure. There are geologic faults and monzonite dikes in the area, which act as barriers to groundwater flow, such that groundwater tends to flow parallel to these features rather than across them. As mining advances, and these features are excavated, more groundwater from the south is expected to flow into the area. Other sources of water to the pit lake will include stormwater runoff from the area of the open pit and from California Gulch. A portion of groundwater will also flow out of the pit lake toward the east side and the Tyrone Mine. Another source of outflow from the lake will be evaporation. They predict the lake will cover roughly 40 acres when it reaches a steady-state water level elevation at 5,700 feet.

They predict the lake will meet water quality standards at closure, based on geochemical modeling and existing water quality modeling. Two constituents they are keeping an eye on are copper and selenium, as they are near standard. They have been

working with NMED to identify the applicable standard, which is the acute aquatic life criteria under 20.6.4 NMAC. Sulfate and TDS concentrations are relatively low; selenium is elevated in the operational sump. Tr. pp. 36-45.

**Mr. Shelley** added to his earlier remarks that mine operation site assessments are managed under a number of programs. The original environmental impact statement detailed all media and impacts to the environment and communities, and since that time there have been a number of updates, especially focused on water resources. Having the benefit of knowing actual groundwater inflows into the pit, which are much less than originally predicted, explains why modeled impacts to neighboring wells have been much less, and undetectable in most cases.

As to the modest expansion proposed, the pit is primarily within the area already approved for open pit mining; the expansion was proposed mainly to provide a buffer for minor pit-related activities around it. The area was thoroughly assessed for blasting, and is not changing significantly, so no update to that assessment is necessary. Any resource that is changing due to impact is being assessed right now; they have updated the wildlife and natural resource assessments. Tyrone is very proud of its award-winning reclamation, and is committed to creating a self-sustaining ecosystem when mining is complete. Tr. pp. 47-49.

Mr. Shelley, Ms. Lilla, Mr. Nix, and Mr. Ayarbe were presented as a panel for questioning along with geological consultants Mr. Morgan Warren and Mr. Tom Muezelaar.



**On questioning,** Mr. Ayarbe confirmed that the CCP and attached hydrology report addresses the mine pit at the end of the next five years, in 2024.

Mr. Shelley stated that the approved seed mix for revegetation does include native species, species that may not be native to Grant County, but are native regionally. They get input from a variety of agencies before making a final proposal. They also hire consultants with a lot of experience in mine reclamation to develop a conceptual plan and the financial assurance to support it. When mining is complete, they are required to begin reclamation within 180 days, and the final designs are completed at that time. A lot of the reclamation has been performed by the company itself; assisting contractors have included Golder Associates, Telesto, AECOM, M3 Engineering, and MWH/Stantec. Tr. pp. 51-58. [The slides shown during the Applicant's panel's testimony are part of the administrative record.]

**Testimony on Behalf of Gila Resources Information Project (GRIP)**

**Ms. Allyson Siwik,** GRIP's Executive Director, stated that GRIP was founded in 1998 with a mission to promote community health by protecting the environment and natural resources in southwestern New Mexico. Their role has been to facilitate informed public participation in natural resource use decisions that will have profound and long-lasting impacts on the region's environmental and economic health.

For more than 20 years GRIP has worked to ensure that copper mining is done responsibly in Grant County. They understand the economic importance of Freeport-McMoRan to local families and businesses, to Grant County and the state, as well as the significance of copper production to renewable energy development; however,

company profits should not come at the expense of healthy communities and environmental quality.

Last year, GRIP joined the Initiative for Responsible Mining Assurance or IRMA. IRMA's standard for responsible mining defines good practices for socially and environmentally responsible mining, and it provides a checklist of expectations that independent auditors use as the benchmark for responsible mines. Relative to other frameworks, IRMA represents the strongest set of standards for verifying socially and environmentally responsible minerals development. Anglo American and companies that purchase metals like Ford Motor Company, Daimler, BMW, and Microsoft have all joined IRMA.

GRIP offers recommendations for how the Little Rock MMD permit and reclamation plan can be improved to be consistent with IRMA's mining standards within the context of the Mining Act Rules. GRIP has been assisting local residents in the burros who have significant concerns about Applicant's expansion plans and the potential impacts of expanded operations at Little Rock and Tyrone. GRIP strongly encourages MMD to put in place permit conditions that will require a full assessment of Little Rock's impacts to surrounding community members and provide meaningful remedy of those impacts in order to protect public health, residential water supplies, and the environment. Tr. pp. 59-61.

**James Kuipers**, GRIP's technical consultant and an experienced mineral process engineer, stated that they have some concerns about the time frame for the expansion, a need for a site assessment, impacts to groundwater and community perception, and

other impacts such as noise and blasting, lights and visual impacts, dust mitigation and monitoring. Several of these matters are not fully addressed in NMED's permitting process; they believe it is necessary to address them under the Mining Act.

Tyrone may consider its proposed expansion to be modest, but to the public it's a fairly significant expansion, and they have concerns about an increase in the impacts they have already experienced. The mine revision application is part of a ten-year plan, with two phases of mining, Little Rock 6 and Little Rock 9, occurring between 2020-2024 and 2025-2029, respectively. The 2020 CCP only addresses years 1 through 5, or 2020-2024, not the whole ten-year plan. One of GRIP's primary recommendations is to fix this; typically, any revision that expands surface disturbance by more than 10% is considered to be a significant or major expansion. Under BLM and Forest Service guidance, a 10% expansion would require additional analysis or site assessment. In the years after 2024, the open pit will increase in depth by 450 feet as a result of additional mining, which is fairly significant. The CCP should provide information for the ten-year mine plan, not just five years, based on the provisions in the New Mexico Mining Act.

It has been nearly 25 years since the environmental impact statement was prepared, and an analysis of the mining operations impact on local communities should be reviewed. A comparative analysis of what was predicted in 1997 versus what has happened since then could be used to calibrate a new site assessment going forward. GRIP would also like to see a review of the description of wildlife and wildlife habitat, and the mine's impacts; if wildlife will occupy the site for long periods of time, a chronic water quality standard would be more appropriate than an acute standard.

GRIP recommends a site assessment for the entire ten-year application; alternatively, the Applicant could limit the revision application to be the same as the five-year CCP they provide.

He does not disagree with the groundwater information presented by Tyrone, but it is based on modeling, with a certain number of assumptions, and it's important to assure the public that the models and assumptions are correct. GRIP suggests a 2-mile perimeter of predicted area of influence; he believes Tyrone has largely done that. But the modeling work should be based on the end-of-mine-life scenario, not mine conditions after five years. They would like to see more cross-sections for better public understanding of well levels, faults, and groundwater flow. As to equilibrium, we need to go beyond 100 years to see more constituents exceeding standards as a result of evapoconcentration. Mr. Kuipers also recommends a voluntary well monitoring and mitigation program that community members and private landowners can sign up for such that the company would volunteer to address impacts if they were to occur.

Mining Act rules require that the most appropriate technology and best management practices be used for mining operations and the reclamation plan. Good examples of best management practices include the International Council on Mining and Minerals (ICMM) mentioned by Mr. Shelley and IRMA, mentioned by Ms. Siwik. The goal with all approaches is to take a holistic view, recognizing that mining needs to exist with all other needs in the surrounding communities. The community needs to know more about the company's water rights, and the larger picture for water stewardship. IRMA standards provide for an independent audit of water users, other stakeholders,

and water rights. We all need to work together in a collaborative way to address challenges.

Best management practices and IRMA standards exist to address noise and vibration from the mine. They suggest a blasting analysis be done to establish a baseline and a plan; providing a consistent time of day for blasting can also address a lot of community concerns. There are a variety of ways to mitigate visual impacts, such as sculpting and blending; he would start with an analysis and the development of a mitigation plan. Dust mitigation is a significant issue to the community; he believes it would be key to have a way for community members to contact the company for a quick response.

As to the reclamation cost estimates, Mr. Kuipers agrees that the estimation methodology used meets the accepted standard of practice for financial assurance calculations. At some point MMD should go back to review its guidance on indirect costs. Their greatest concerns relate to post-reclamation; it appears that the company only monitors and maintains vegetation for 12 years, and water quality for 15-30 years. The pit lake will not reach water level and geochemical equilibrium for 70-100 years, and he believes groundwater or surface water will still require monitoring. He considers the cost estimate to be preliminary until the CCP and groundwater discharge permit are finalized. Tr. pp. 62-83. [Mr. Kuiper's slides are part of the administrative record.]

### Other Public Comment

**Wendy Shawl** stated that she still has some concerns about the water table as a nearby resident, and she agrees with Mr. Kuipers' suggestion that further site assessment be done. Tr. p. 90.

**Ron Parry** is a resident of the Oak Grove community close to the proposed mine expansion. He supports all of the statements about the concerns outlined by GRIP and Mr. Kuipers. Some of his neighbors have been quite disturbed by the lights from the mine, and the mine has assured them something will be done. They live in a very dark area and he is also concerned about the mine lights interfering with the ecosystem, including bird and insect navigation. The mine needs to make a real effort to shade or minimize the lights there. Tr. pp. 93-94.

### Written Public Comments

The Hearing Officer read written comment submitted by two state representatives into the transcript as requested. **Representatives Rebecca Dow and Luis Terrazas** noted that while the Little Rock Mine is a small part of the Tyrone Mine, it is very important for Tyrone's continued successful mining operation for the long term. They understand that the Little Rock Mine has been operating since 2010, and the expanded mining operations will be very similar to what the local community has been accustomed to for many years. Continued copper mining in New Mexico is important to help meet our renewable energy goals. Given Tyrone's efforts to preserve mining jobs, protect health and safety in surrounding communities, and their excellent environmental stewardship, they request the revision application be approved quickly

so that the families and community that rely on the copper industry continue to prosper in Gant County. Tr. pp. 94-96.

Additional written public comment received timely during the comment period that ended two weeks after the hearing included a **petition signed by 19 persons**, submitted by GRIP, urging MMD to ensure socially and environmentally responsible mining at the Little Rock Mine. Specifically, the signers would like to see the following requirements in the Mining Act permit:

- full assessment of the environmental impacts of the mine expansion on local communities, wildlife and wildlife habitat and a mitigation plan to address the impacts;

- evaluation of the impacts to local residents' groundwater supplies from pit dewatering and a plan for mitigating those impacts; and

- implementation of Best Management Practices for water stewardship, noise and vibration, lighting and visual impacts, and dust mitigation and monitoring.

Finally, **GRIP and Mr. Kuipers** submitted extensive follow-up comments and documentation based upon the information presented by Tyrone at the public hearing. While GRIP appreciated the information provided in response to their February 18, 2021 comments to MMD, the information did not alter their recommendations related to the mine expansion proposal and CCP:

- MMD should include permit conditions that will require a full assessment of the mine's impacts to surrounding community members and provide meaningful remedy of those impacts in order to protect public health, residential water supplies, the environment and wildlife.

-- They remain concerned that community impacts resulting from mine operations for the Little Rock 6 five-year expansion plan have not been analyzed in the current CCP even though Tyrone is requesting a permit boundary and design limit that would cover the Little Rock 9 ten-year expansion plan. This inconsistency between the application and CCP should not be acceptable.

--Although Mr. Shelley suggested that the federal NEPA processes performed for the mine had already analyzed the impacts of their proposed expansion plans, Figure 3 from the 2015 Environmental Assessment shows that the open pit configuration, waste rock piles, and proposed limit of disturbance expanding the open pit are inconsistent with those submitted to MMD in the current proposed revision. They would anticipate that BLM and the U.S. Forest Service will require an additional environmental assessment for the permit revisions associated with the proposed expansion.

--The financial assurance estimate provided by Tyrone prior to the hearing should be considered preliminary as it is not based on a final and approved CCP from MMD and NMED, and/or any conditions the agencies might yet impose. Given that it will take approximately 100 years for the pit water to reach chemical equilibrium, and there is a significant risk of water quality exceedances for copper and selenium, they would anticipate NMED to require pit lake monitoring until the pit lake achieves equilibrium and actual water quality can be determined to be acceptable, or alternatively require abatement to meet applicable standards. They recommend that sufficient financial assurance be required to cover future water quality monitoring and abatement that may be required 100 years post-closure.



-- Because some of the land involved with the mine expansion is in federal ownership, federal agency concurrence on the CCP and financial assurance cost estimate and instruments will be necessary. Neither federal agency accepts third-party guarantees as legitimate financial assurance. New Mexico should be aware that when Nevada regulators proposed to BLM that the State of Nevada would allow up to 75% corporate guarantees, BLM informed Nevada that if a company went bankrupt and Nevada was holding a corporate guarantee, BLM would hold the state liable for the gap in the available financial assurance. BLM formally adopted a policy in 2005 that "... the BLM in Nevada no longer accepts new corporate guarantees that have been approved by the State of Nevada. The corporate guarantees that were in effect on January 20, 2001, will remain in effect, however they cannot be increased. Also, the existing approved corporate guarantees cannot be transferred to another operator or operation." In order to protect the taxpayers and front-line communities that will bear the adverse impacts from mine expansion, GRIP strongly recommends that the state of New Mexico not accept a third-party guarantee as an instrument for financial assurance.

The transcript, slide presentations, and written public comment submitted during and after the hearing have already been delivered to the Division.

Respectfully submitted,

-original signed by-  
Felicia L. Orth, Hearing Officer