

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

**IN THE MATTER OF REVISION 21-1 FOR THE
TYRONE MINE EMMA EXPANSION PROJECT,
GRANT COUNTY, NEW MEXICO
PERMIT NO. GR010RE**

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 ('the Emma Project') and a related closure/closeout plan (CCP) at the Tyrone Mine, an existing copper mining operation located ten miles south of Silver City near the town of Tyrone, in Grant County, New Mexico.

The new pit would encompass approximately 130 acres on private property south of the Tyrone/Thompson Road. Emma is expected to be in operation for three to five years. The operations will run 24-7, with mine vehicle equipment hauling rock from Emma back to existing operations.

On August 16, 2022, the undersigned Hearing Officer accepted testimony and public comment during a hybrid event in person at the Conference Center in Silver City and 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 Peggy Jo Gonzales of Bean & Associates, Certified Court Reporter, started at 5:00 p.m. and continued for approximately 4 and one-quarter hours. Approximately 75 people, including Applicant's representatives, EMNRD staff, and representatives of the Gila Resources Information Project (GRIP), participated in person in Silver City, and approximately 34 people joined the hearing by telephone or computer on the Webex platform. Gabriel Wade appeared on behalf of MMD as General Counsel; Dalva Moellenberg of Gallagher & Kennedy appeared on behalf of Tyrone.

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 September 15, 2021, extended from the original deadline of August 31, 2022.

The Director did not request a recommendation for action from the Hearing Officer under Section 19.10.9.905.A(3) NMAC. This Report would include more detail, with transcript citations for each person providing testimony, but the transcript has not yet been prepared, and the Hearing Officer is unavailable between September 21 and October 17, 2022. In the event the transcript is received by October 17, and the Division desires a supplement to this Report, the Hearing Officer can prepare one between October 18-20.

Hearing Testimony from the Oil Conservation Division

David Ohori, MMD Permit Lead for the Emma Project and Tyrone Mine, among others, testified while presenting a slide show, which is now part of the administrative record. Mr. Ohori described the purposes of the public hearing; the process by which a permit revision application is handled under the Mining Act rules; the Tyrone Mine permitting history, and the nature of the requested permit revision; the Mine's CCP and the Division's reclamation standards with the Mine's related cost proposal; other governmental approvals necessary for the Emma Project to move forward; the location of documents in the administrative record; and the information needed to submit comment on the proposed permit revision.

Mr. Ohori noted the Tyrone Mine was approved in 1996 and revised on April 12, 2004 to include close out plans. The mine expanded in 2005 and again in 2012. Permit modifications have included minor changes, covering operations and financial assurance.

The standard for closure is to attain a self-sustaining ecosystem meeting MMD standards, and to be beneficial for post-mining land uses. Water treatment and wildlife protection must be part of the plan. The Mining Rules require new units to follow higher standards for reclamation. The current cost estimate for financial assurance includes more than \$5 million for earthworks and water treatment, and almost \$7 million for maintenance; the total estimate is \$12.3 million, which might change upon review.

Hearing Testimony from Permittee Freeport-McMoRan Tyrone Operations

Tom Shelley, Tyrone Environmental Manager, testified while presenting a slide show, which is now part of the administrative record. Mr. Shelley stated that the Emma

Project is key to Tyrone Mine's 10-year plan, meets international best practices and all environmental standards, including the New Mexico Mining Act, the New Mexico Water Quality Act, and the Clean Air Act. He offered an overview of the project with maps, outlined the Project's operations plan, and described the current Mine's development sequence. Tyrone has held community meetings and incorporated the community's concerns as appropriate. The Tyrone Mine is about 5,000 acres, and the Emma expansion is about 400 acres. The closest neighbor is the Apache Mound subdivision, with the closest resident from the edge of the pit to the property line at .6 of a mile. All mine activities are on private and mineral estate lands. During the development of the open pit, they will transfer the ore to Tyrone, where it will be processed. The material removed will be segregated so the clean rock and dirt will be stockpiled for reclamation, with one pile next to Emma and piles north of the Tyrone mine. The topsoil will be saved. The Tyrone Mine permit allows 11,000 acres. Tyrone is proposing to expand 336 acres to accommodate mining activities.

The open pit will be about 550 feet deep. The water table is shown by the monitoring wells on site. Year 1 of the project will be building the haul road and salvaging the soil. During Year 5 the water level will be 200 feet below the water table. Tyrone is required to protect groundwater. The air quality permit was reissued last year; the Emma Mine does not exceed air quality standards. Neighbors are concerned that it will affect their water supplies. They have a water rights application in at the Office of the State Engineer which does not require an alternate point of diversion. New Mexico water law protects water supply. The OSE determines the availability of water

and the impairment of rights. If the OSE determines that Tyrone's application will impact the neighbors' water supply, it will not issue the permit. Hydrogeologists evaluating the water supply have determined that there could be a drawdown on the nearest well of a potential 2-to-7 feet. Usually, they are conservative and will overestimate the impact. The OSE will also evaluate and make a determination.

Lee Nix, chief environmental engineer, and **John Ayarbe**, a senior hydrogeologist, testified about groundwater characterization at the site, including the hydrologic cycle, regional topography, groundwater levels and flow direction, groundwater quality, proposed new well locations, and the simulated groundwater capture zone.

Mr. Nix stated that the highlands are the recharge areas, specifically the Burro Mountains, 2,000 feet higher than the Emma Mine. The Burros receive more rainfall because they are more forested. A historic document, 'Water Resources of Grant County,' published in 1972, characterized the local hydrogeology, and it hasn't changed much. The flow patterns deliver water to the Emma through Apache Mound and Loma Blanca. The aquifer doesn't intercept significantly. They will have wells to monitor the groundwater.

Mr. Ayarbe said the preliminary work for the mine includes installation of wells to determine the flow direction and the water quality. At Emma, the flow is to the northeast and the water meets standards. To the south and southeast of Emma, water quality exceeds standards due to the natural flow from Emma to the northeast. A network of wells will be installed to meet the Mining Act Rules, some of which will be downstream of the stockpiles. They want to monitor the water between the Emma

Mine and Apache Mound to observe any changes. Dewatering will prevent ground water contamination.

Mr. Shelley added to his earlier remarks some observations about other community concerns, including noise, light, traffic, and viewshed, stating that the impacts were within typically acceptable levels. Mr. Shelley also testified regarding the reclamation plan and \$12 million-dollar financial assurance for the Project; wildlife habitat and water management; their award-winning reclamation earlier at Tyrone; grievance management, whereby the community can register complaints about mine operations; the voluntary studies the Mine had undertaken concerning the viewshed, noise, and lights; the blasting plan, and the Tyrone reclamation seed mix.

The Tyrone Mine has an active program to hear from neighbors. Some of the proposed changes to reduce lighting and noise were the result of neighbor feedback. He is confident they will not be a nuisance to neighbors. They will be making some traffic changes, to move the road leading to the Burro Mountain Homestead to the south.

On the closure and closeout plan, after mining they are required to re-establish the self-sustaining ecosystem for wildlife and water treatment. The areas of the pit will be filled with clean rock and soil covered with topsoil and revegetated with local plants. They expect the quality at the end of mining to be good, and to treat water after mining at the treatment plant in Tyrone. They are not proposing to have the pit 'leak,' and will prevent wildlife contact with the water. For reclamation, they will regrade it to a 3:1 slope with topsoil and vegetation, along with the haul road. The closeout includes a 100-year threshold priced at \$12 million. Tyrone is known for award-winning reclamation.

Mr. Shelley, Mr. Nix, and Mr. Ayarbe were presented as a panel for questioning along with Ms. Mandy Lilla, Mr. Todd Stein, and Mr. Adam Offutt. The panel's statements on questioning included these: there will be no tailings, or the residual of crushed rock, as part of the Emma Mine. Tyrone does not process ore that way, so there are no tailings. Nor will there be lined overburden stockpiles. There is no need with non-discharging units and the stockpiles will be segregated. There will be no acid procedures, and if there is anything acid generating, they have existing permitted stockpiles. There is no way that the mine would reverse the flow at Cherry Creek. If the mining affected the water, Freeport would usually implement mitigation. The wells at Emma Mine are not expected to impact the quality of water at Apache Mound because they are upgradient. If there were an issue, they would address it with the Water Quality Bureau. They do expect some drawdown, and will compare it to the model to confirm their estimate is correct.

Testimony on Behalf of Gila Resources Information Project (GRIP)

Ms. Allyson Siwik, GRIP's Executive Director, offered introductory remarks. For more than 20 years GRIP has worked to ensure that copper mining is done responsibly in Grant County. GRIP "recognizes the economic benefit and the need of the minerals for renewable energy, but mining must respect its neighbors."

Ms. Siwik said that the Emma Project, as a new unit, must fulfill all new rules and use the most appropriate technology, as well as continuing reclamation.

James Kuipers, GRIP's technical consultant and an experienced mineral process engineer, stated that GRIP's technical comments on the proposed permit revision are in development pending further review because MMD has not yet determined that the CCP is technically complete, the Environment Department is still reviewing the groundwater discharge permit application, and GRIP has not yet had an opportunity to meet with Tyrone. They hope to avoid going to hearing on the discharge permit application. He recommended that the public comment period remain open until 30 days after the CCP is deemed complete.

Mr. Kuipers also addressed the other impacts on the local community such as noise and blasting, lights and visual impacts, dust, safety and overall well-being and way of life. The New Mexico Mining Act and regulations require that these impacts be analyzed, and that the mining operation use the most appropriate technology and the best management practices. He also listed a number of other questions and concerns: project duration, post-mining land use, climate change and planning for extreme storm event, geochemistry, the potential for metals leaching, a waste management plan, conditionally exempt material, highwall stability and public safety, the discharge permit, and long-term financial assurance. He noted that there has been a reduction of the corporate guarantee. "It was 75 percent, now it's 25-30 percent. I'd like to see it zero." [Mr. Kuipers' slides are part of the administrative record.]

Dylan Duverge, P.G., of Stratus Environmental, testified regarding the protection of the neighbors' access to water. He reviewed two ground water drawdown analyses conducted by Daniel B. Stephens & Associates in 2021 and by John Shomaker &

Associates in 2022, which are based on different assumptions and reached different conclusions as to the likely maximum drawdown result.

Mr. Duverge does not believe either study incorporated adequate baseline data; numerical models should be based on a complete hydrogeological conceptual model. The aquifer at this site is in a complex intrusive igneous geology, and he believes the model validation is questionable. Information on the domestic wells was limited to logs from the Office of the State Engineer, and there is some evidence that ground water levels have been declining. In making an impact determination, it is inappropriate to compare drawdowns to water column thickness. A sentinel well may not effectively detect impacts in a fractured hard-rock aquifer.

He recommends a written and enforceable ground water monitoring and mitigation plan consisting of Apache Mound Well Subdivision Inventory/Survey; establishment of LPPLs based on actual well construction/operation, inclusive of dynamic drawdowns, and incorporating exercise of all domestic water rights; identification of at least two representative monitoring locations, one closest to the Emma Project, and the well within at least 2 miles whose current water level is closest to its LPPL; establishment of baseline conditions for as long a period as feasible prior to interception of the water table; a plan of action to mitigate any detected impacts such as well deepening or water trucking at FMI's expense; and an agency reporting and verification procedure.

Public Comment

Public comment was offered during the hearing.

David Rose encouraged Freeport to minimize the size of the water pit for wildlife benefit, because the water quality will exceed safe levels of cadmium and selenium.

Harry Browne hopes that any decision made by MMD will improve the local quality of life. He knows the expansion will reap benefits, as we need copper, but we should not expect a subset of residents to suffer. He hopes the application will be approved with requirements on how it affects neighbors, their water quality, and their night sky. He hopes the company will provide monitoring of wells in the area, and air quality monitoring. They are proud of their night skies, and have two major mines that need light. He asks for a report that the light will not affect the skies.

Tony Trujillo read a letter from **Senator Siah Correa Hemphill**): 'Mining jobs and the tax revenue from them are pillars to Grant County. The Emma Mine will produce much needed jobs and copper. The Emma will produce U.S. produced copper. Freeport has proven and demonstrated that it believes in protecting the environment.'"

Art Ratcliffe spoke of the unprecedented drought affecting New Mexico and the rest of the world. The Loma Blanca subdivision is concerned about water levels and the effects of ground water drawdown. Although Freeport states that the cone of depression in the water table will not affect them, they would like to see a mitigation plan for what Freeport will do if the drawdown of water does impact their wells. As a military veteran with PTSD, he is not looking forward to hearing the blasting. He can probably survive that, but they cannot survive without water.

Gerald Billings own property directly across from Apache Mound subdivision, with several wells for livestock and family. Freeport has proven to be a responsible neighbor, and they are heavily regulated by state Mining Rules, especially compared to foreign companies. Freeport is not a bully; they've been neighbors since 1965. As we move to renewable energy and vehicles, the need for copper grows many times over. Freeport has a \$366 million impact to New Mexico, with good jobs. Copper is a product to sustain our future, and we shouldn't restrict mining.

Glenn Griffin noted that Freeport seems to be stuck on the 100-year floodplains, but we need studies on the 500-year floodplains. What amount of water will Freeport be pulling from the ground water? Will Freeport pay property taxes? They have an exemption, but there will be cumulative environmental impacts from the five water pits in the area. Cumulative impacts should be taken into account. There should be a condition that will allow lined tailings to keep the heavy metals out of the groundwater. It would protect the neighbors.

Diana Edwards lives on 7 ½ acres that she is restoring on Apache Mound. How does Tyrone propose to monitor air quality? There is a lot of wind in the area and mining will stir up dust and particles. No one has mentioned insects. How do noise and light affect them? The birds need something to eat. How will the open pit be covered completely? Toxic metals will be poisonous forever. One hundred years will not be covered by \$12 million. How will the pit water be managed to keep it from killing birds, as it will exceed water quality standards? 100 years is not perpetuity. Mr. Shelley said typically the levels will be acceptable, but if you expect plants and animals to die, that is

not acceptable to her. She will say that Freeport has always been very open, courteous and polite in response to her questions.

Randy Chulick asked that the public comment be extended to 30 days after August 16. [This request was granted shortly after the hearing.]

Christina Hess noted that the map completely fails to show Loma Blanca. A good number of people are living near this project. They all need protection, and the protection map should show Loma Blanca and Apache Mound. She will never believe that there won't be an impact, and doesn't think their private wells have been taken into account. There will be a lot of water going down to the pit and 200 feet below the water table. How will that affect their wells? There will be five monitoring wells, but they won't know the impact until their wells start to fail; they need other wells closer to the water supply, and the commitments in a legal document. Drought has a major impact, the mine expansion will use more water, and there's never enough water. They need a legal agreement that their wells will not be impacted. Freeport will forever be pumping water out of the pit. Is the Freeport forever plan covered by money for forever care for a massive open pit? Her major concerns are about air, light pollution and blasting all seven days a week. Is blasting part of the noise study? How much dust will there be and what impact on the dark skies? There will be trucks and heavy equipment. There will be huge impacts to their quality of life. She requests another hearing on the new plans that need to be made. There must be responsibility and legal agreements.

Carol Martin read through the impact assessment. If there are no springs or wetlands, why did they find bullfrogs on Oak Grove Creek? There is another internal

conflict between pages 8-10 and attachment 114; the plant species have three pages listed. She hopes that only these plants species will be used in reclamation without any invasive plants. Why waste time planting things that are not native to the area?

Written Public Comment

The Hearing Officer received written comment submitted by two state representatives in connection with the hearing. **Representatives Rebecca Dow and Luis M. Terrazas** expressed strong support for the Emma Project and proposed expansion at Tyrone Mine, stating that mining jobs and the associated tax revenue are the backbone of the economy in Grant County, and that the Emma Project is very important for extending the life of the Tyrone Mine, with its high-paying jobs, and increasing production of domestic copper, which is in high demand for renewable energy and electrification. Freeport-McMoRan has repeatedly demonstrated that they take environmental protection very seriously and done a first-rate job of reclaiming mined land, providing a high level of confidence that the Emma Project will be operated with all environmental safeguards. Trusting that the state agencies reviewing the mine permits will produce plans protective of water and other natural resources, they encouraged MMD to issue all needed permits as expeditiously as possible.

Respectfully submitted,

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