



Tyrone Operations
P.O. Box 571
Tyrone, NM 88065

October 15, 2015

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Return Receipt Requested

Mr. David Ohori
Mining and Minerals Division
Mining Act Reclamation Program
1220 South St. Frances Drive
Santa Fe, NM 87505

Dear Mr. Ohori:

Re: Freeport-McMoRan Tyrone Inc. Response to Public Comments
from the Little Rock Public Hearing held on September 2, 2015

Freeport-McMoRan Tyrone Inc. (Tyrone) submitted an application to the New Mexico Mining and Mineral Division (MMD) on July 10, 2014, to expand the Little Rock Mine permit and design limit boundaries and to update the closeout plan (Revision 14-1). Tyrone also submitted an application to revise the New Mexico Ground Water Bureau (NMED) Discharge Permit No. 1236 (DP-1236 Renewal Application), which is being considered separately by NMED. Tyrone has submitted numerous scientific reports and documents in support of the MMD revision and NMED modification requests including a ground water flow and geochemical model. On September 2, 2015, a public hearing was held in Silver City, New Mexico, before MMD and its hearing officer, and public comment and written comment was solicited during the open hearing record though September 23, 2015.

Tyrone received copies of the post public hearing comments in a letter dated September 29, 2015, from MMD. Tyrone was asked to review the comments and provide responses at Tyrone's discretion. Included with the MMD letter were six public comment letters. The comment letters included questions and comments. The intent of this letter is to respond to the questions. Tyrone notes that many of the questions are addressed in the detailed application, reports and correspondence submitted to MMD prior to the hearing. Rather than repeating the information, where applicable, this response identifies the information previously submitted that is responsive to comments.

The responses are organized by the assigned topic and letter number. The letter numbers are listed in the order Tyrone received them from MMD. The Gila Resources Information Project (GRIP) letter, as well as a form letter, were both assigned to number 1 since they contain essentially the same comments. The Carol Martin letter is number 2; the Rebecca Summer letter is number 3; the Jan and Pat McCreary letter is number 4; the Janet Wallet-Ortiz letter is number 5; and the Scott Terry letter is number 6, which was submitted on behalf of the Silver City Grant Chamber of Commerce, is not listed below because it does not request information, but urges approval of the revision application.

Ground Water:
Letter Nos. 1, 3, 4, 5,

The DP-1236 Renewal Application addresses the water quality of the pit lake. Mine rock at Little Rock is tested in accordance with the MMD/NMED approved material handling plan to ensure that the rock geochemistry will not result in impacts to groundwater. If rock with sulfide minerals is encountered, that have the potential to impact groundwater, the material is not placed in the Little Rock Mine.

Unlike most copper porphyry deposits, significant amounts of calcite are present in the rocks at Little Rock. The presence of calcite adds significant acid neutralizing capacity to the rocks and is therefore expected to neutralize any acid generated from sulfide minerals present within the rocks. Numerous samples of the rocks at Little Rock have been collected and analyzed for their potential to release water contaminants, including acid. Results of these analyses generally show very high acid-neutralizing potential and little acid generation.

Geochemical modeling was conducted to estimate long-term Little Rock pit lake water quality after closure. The modeling included stormwater runoff from within the perimeter of the open pit as well as groundwater inflow, direct precipitation onto the pit lake surface, and stormwater runoff from California Gulch. The simulated water quality associated with each of these inflows to the pit lake was based on data collected at the site, including data from rocks expected to be exposed within the perimeter of the open pit at closure. Results of the geochemical modeling show that the water quality of the pit lake is expected to meet groundwater quality standards set forth in 20.6.2.3103 NMAC (“Section 3103 Standards”), with the exception of fluoride. The geochemical modeling approach and results are presented in DBS&A (2014), which was submitted to and reviewed by NMED. The pit lake is not expected to adversely affect groundwater quality. NMED is addressing this analysis as it takes action on the application regarding DP-1236.

The only facility at the site with the potential to generate water contaminants at levels in excess of Section 3103 Standards is the historical Copper Leach Stockpile, which has been closed and reclaimed according to a closure plan approved by MMD and NMED. The closure and reclamation work is designed to reduce or eliminate seepage from the former leach stockpile. This is expected to result in improved groundwater quality over time. Tyrone monitors groundwater conditions, including water levels and water quality, at wells located in the Little Rock area. Six new monitor wells will be installed at Little Rock after the renewal of DP-1236. These wells will be added to the existing monitor well network and will be used to monitor groundwater conditions around the

perimeter of the mine at closure. Groundwater levels and quality are monitored quarterly, and the results are reported to NMED in DP-1236 quarterly monitoring reports.

Groundwater in the Little Rock Mine flows to the east toward the Tyrone Mine, where groundwater is extracted at several of the open pits. Groundwater modeling results presented in DBS&A (2014) show that groundwater originating from the Little Rock pit lake will flow toward the Tyrone Main Pit, which, unlike the Little Rock Pit, will continue to be dewatered at closure. A small portion of the groundwater to the west and north of the Little Rock Mine may flow to the north, across the Southern Star Fault, any such flow is not expected to impact groundwater quality to the north of the Southern Star Fault because it will not be impacted by mining operations.

Surface Water:
Letter No. 1

Stormwater runoff at Little Rock Mine will be managed using the open pit, reclamation and diversion structures proposed within the *Updated Little Rock Closure/Closeout Plan 2014*. Please review the letter Tyrone sent NMED, dated September 25, 2015, for additional details on the stormwater plan.

Reclamation/Financial Assurance:
Letter Nos. 1, 2, 3, 4, 5

Tyrone has recently submitted an updated Closeout Plan to MMD for approval under 19.10.5.506 NMMA, which includes a financial assurance proposal to cover reclamation costs in the unlikely case of an event that results in forfeiture of financial assurance. There is sufficient financial assurance in place for the current mine plan.

Tyrone has demonstrated its ability to properly reclaim mined areas using multiple sources of cover material. To date Tyrone has completed over 4,000 acres of reclamation, using both Gila Conglomerate and Precambrian Granite (leach cap) cover sources, of which most occurred on the inactive tailing ponds. The older stockpiles around the Little Rock Mine also have been reclaimed using Precambrian Granite cover. From a petrography perspective the rock that compose these two geologic formations are very similar. The geologic source for most of the Gila Conglomerate at Tyrone is from eroded Precambrian Granite

There are 32 Tyrone test plots of which 16 use Gila Conglomerate as the cover material. The 7A and UNSR test plots sites were developed specifically to evaluate the use of Precambrian Granite cover material. Ultimately, the results from Precambrian Granite test plots and areas reclaimed with Precambrian Granite, such as the Little Rock Copper Leach Pile, can be compared to results from the test plots and areas reclaimed using Gila Conglomerate.

MMD has approved (GR007RE) Tyrone to use "live- handled" top dressing from the Little Rock mine or hauled from the existing north stockpile and pit area stockpiles for Little Rock Reclamation and UNSR test plots. The Copper Leach Stockpile, located just south of the Little Rock Mine, was reclaimed in 2010 using material mined from the Little Rock Mine

(Precambrian Granite) and revegetated using an approved seed mix. In 2013 a qualitative vegetation establishment study on the Copper Leach Stockpile was completed 3 years after seeding of the areas (Golder, 2014). This study concluded that vegetation establishment had been achieved. These areas were performing as expected for this stage in the reclamation process and, given sufficient time, are expected to demonstrate that the Precambrian Granite will act as suitable reclamation material. Now, five years after seeding, the vegetation continues to perform well (Figure 1). For additional information on this subject, please access the MMD website to download the April 17, 2015, letter entitled *Response to Little Rock Expansion and Updated Closeout Plan Comments, Revision 14-1, Permit GR007RE*.

Tyrone's seed mix is made up of plant species native and common to the desert southwest region. The seed mix was developed by regional experts and approved by the MMD with input from the New Mexico Game and Fish. Furthermore, the seed mix is designed to promote the colonization process by adjusting the seeding rate to optimize the balance between initial cover and potential domination of the site by a single species. The approved seed mix at Tyrone was selected based on the post-mine land use designation of wildlife use. This allows Tyrone to meet the New Mexico Mining Act which requires reclamation to meet an approved post-mining land use rather than restoration to pre-existing conditions. The scientific and practical basis for mine reclamation is to establish a diverse complement of native and adapted species to provide ground cover to stabilize the site. Once stabilized, the vegetation on the site may change in character as species from the surrounding undisturbed area colonize the reclamation and successional process progresses.

Vegetation studies conducted on the reclamation demonstrate colonization by endemic species is occurring and other native species are sometimes displaced after serving their intended function of the initial site stabilization. Importantly, Tyrone makes special efforts to avoid the introduction of noxious weeds, which is a critical issue for both the reclamation and surrounding lands. Tyrone works with a number of native seed suppliers.

With few exceptions, Tyrone uses mulch on all the reclamation sites. A variation of the timing of mulch application, relative to seeding, is also being evaluated on the USNR test plots, whereby mulch is applied either prior to seeding or immediately after seeding.

Tyrone has assessed fertilizers and found no positive long term response from the use of these materials. We agree that unamended Gila Conglomerate covers have been proven successful at Tyrone. A common vegetation response to amendments is to allow some plants, including weeds, to initially out-compete other native plants. While Tyrone is committed to plant cover concentrations, we also support a strong balance of plant diversity as specified in the MMD permit. Therefore, in Tyrone's opinion, the scientific literature does not support the need for or use of amendments to achieve a self-sustaining ecosystem in this environment.

Tyrone also takes steps to protect public safety. A six foot high fence will be constructed around the rim of the mine where steep highwalls exist, primarily for the protection of people (but will also limit access by large mammals). In areas where slopes allow safe access to the mine, livestock fence will be installed to limit livestock access during the vegetation establishment period.

The Little Rock in-pit stockpiles cannot be reclaimed when mining is in progress. The stockpiles will be constructed as part of the current mining operation and are necessary to remain in use for the life of the mine plan.

In summary, the goal is to create a “self-sustaining ecosystem consistent with the surrounding life zone.” Tyrone is proposing the scientifically appropriate path to meet this goal by utilizing the same material as the entire plant community at and around the mine is growing in (Precambrian Granite). Not only is this the right conceptual approach, but the success is already proven by the plant communities growing in the historic Precambrian Granite waste stockpiles and the reclaimed leach stockpile at the Little Rock site. There is no logical or scientific reason to only support the use of Gila Conglomerate. In fact, Precambrian Granite has been approved for use in reclamation at the Little Rock site for the reclamation project referenced above.

Comment Letter 1 speculates that MMD would decide to use a different cover source than what is readily available on site and takes the position that Tyrone should set aside financial assurance for a decision that is not supported by scientific fact, would be a waste of resource and environmentally questionable, and a bad project management decision. Tyrone does not agree with this speculation nor the proposal that Tyrone set aside financial assurance for it. It is an extreme and unnecessary proposal to take Gila Conglomerate (that all around the Tyrone mine is composed of Precambrian Granite particles and similar grains size characteristics to the material that would be covered) to cover the non-acid generating, Precambrian Granite stockpiles, currently being constructed at the Little Rock mine.

Geology:
Letter No. 3

The regional geology of this area of New Mexico is complex, however, on a local scale the Little Rock Mine is located in the Big Burro Mountains. The mountains are primarily composed of Precambrian Granite. This granite is part of a batholith that was intruded by the Tyrone laccolith nearly 56 million years ago (Kolessar, 1982). Only Precambrian Granite and Tertiary intrusive rocks are exposed in Little Rock. Several dikes and faults have been mapped in the area of Little Rock, which generally trend northeast to northwest. Through exploration drill logs and exposed mine highwalls, it has been demonstrated that the lithology is very predictable and the faults are well defined throughout the mine area.

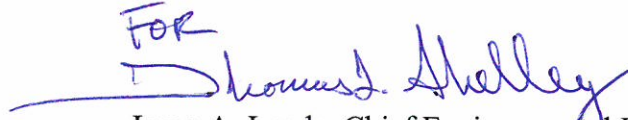
Additional information can be found in response letters Tyrone sent MMD and NMED and the *Updated Closure/Closeout Plan for the Little Rock Mine, 2014*.

Tyrone is committed to long term reclamation and appreciated the depth of comments received from the public participation process. The Little Rock reclamation plan has been developed in cooperation with State and Federal Mining and Environmental Agencies and public involvement over the last 20 years. The Tyrone staff and consulting staff are committed to using the best available scientific knowledge and available material around the mine in the development of practical reclamation plans. The reclamation work already completed at Tyrone has received compliments from our community and awards from the MMD. Tyrone has developed a Little

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Rock Mine reclamation plan that includes long term ground water monitoring and reporting requirements and believes it will result in good wildlife habitat, achievement of a self-sustaining ecosystem and be protective of human health.

Sincerely,

FOR


Lynn A. Lande, Chief Environmental Engineer
Reclamation

LAL:ml
Attachment
20151015-100



Figure 1