

State of New Mexico  
Energy, Minerals and Natural Resources Department

---

**Susana Martinez**  
Governor

**David Martin**  
Cabinet Secretary

**Brett F. Woods, Ph.D.**  
Deputy Cabinet Secretary

**Fernando Martinez, Director**  
Mining and Minerals Division



7012 0470 0000 0880 6146

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

February 10, 2015

Mr. Daniel D. Broderick, President and General Manager  
Freeport-McMoRan Inc.  
Tyrone Operations  
P.O. Drawer 571  
Tyrone, NM 88065

**RE: Comments on Little Rock Mine Expansion and Updated Closeout Plan,  
Revision 14-1, Permit No. GR007RE**

Dear Mr. Broderick,

The New Mexico Mining and Minerals Division ("MMD") received a submittal from Freeport-McMoRan Inc., Tyrone Operations ("Tyrone") titled, "Permit GR007RE – Little Rock Mine Existing Mining Operation, Permit Revision Application for Expansion of the Little Rock Mine", dated July 10, 2014 ("Application Letter"). The Application Letter included an Updated Closure/Closeout Plan for the Little Rock Mine ("Updated CCP"), dated June 19, 2014. MMD has assigned Revision 14-1 to process the Application.

MMD has reviewed the Application Letter and Updated CCP and provides the following comments. MMD conducted an inspection of the proposed mine expansion areas at the Little Rock Mine on November 20, 2014 including other state and federal agencies. MMD has received comments from the state agencies pursuant to 19.10.5.506.E NMAC and tribal entities for the Application. Copies of the agency and tribal comments are enclosed. Please review and respond to the comments provided herein within 45 days of receipt.

MMD Comments on the Application Letter

1. Paragraph 2, page 2 – Please provide a paper copy and an electronic copy of the Environmental Assessment for the Little Rock Mine expansion to MMD within 30 days after it becomes available.
2. Paragraph 3, page 2 – The Application Letter states that, "The remaining pit walls and overburden materials are exactly the same as the materials encountered in the surrounding steep-canyon ecosystem. These materials sustain the native flora

populations, which is consistent with the primary goal of closeout.” MMD concurs that the geologic materials of the Little Rock open pit and overburden stockpiles have similar chemical and physical characteristics to the geologic materials found in the surrounding steep-canyon terrain, and that the undisturbed steep-canyon ecosystem surrounding the Little Rock Mine exhibits native flora populations. However, it has not yet been demonstrated that the reclaimed Little Rock pit walls, and the overburden materials proposed for use as a cover material and vegetative growth medium, will meet the revegetation standards of the mine closeout plan. The overburden materials from the Little Rock Mine are currently being evaluated using test plot studies, in part, for the ability of the overburden material to support vegetation. Additional test plot studies using Little Rock overburden materials have been proposed by Tyrone, and MMD is currently reviewing the work plan for these test plots. It has not yet been concluded that the geologic materials of the Little Rock open pit and the overburden will meet the revegetation standards of the Little Rock Mine closeout plan.

3. Paragraph 3, page 2 – The Application Letter states that, “Over the years Tyrone has learned how to utilize these materials, such as the leached cap (predominant geologic material in and around the mine on which native vegetation is growing), to successfully achieve the objectives of closeout.” MMD does not yet concur with this statement. At this time, it is unknown whether the geologic materials including leached cap from the Little Rock Mine will be successful in meeting the revegetation standards of the mine closeout plan. For example, the re-vegetation at the copper leach stockpile and former precipitation plant at the Little Rock Mine that were reclaimed several years ago using Little Rock leach cap overburden has not yet been demonstrated to meet the revegetation standards of the mine closeout plan. As stated in Comment 2. above, the leach cap overburden from the Little Rock Mine is currently being tested in test plot studies or will be tested in additional test plots studies proposed at the Tyrone Mine.
4. Figure 2, Existing Little Rock Mine Facilities and Permit Boundaries; and Figure 3, Proposed Mining Area Design Limit and Changes to Mine Permit Boundary are stamped, “DRAFT”. Please provide final copies of these figures in hardcopy and electronic formats.

#### MMD Comments on Update Closure/Closeout Plan

5. Section 1.5, Proposed Modifications to Mine Permit Boundary and Open Pit Design Limit, page 4 of the Updated CCP – states that, “The Tyrone Mine (MMD Permit GR010RE) is currently under a revision process to

incorporate the 2013 CCP Update (Golder, 2013). Tyrone anticipates that the GR010RE permit boundary will be updated as part of that ongoing permit revision to reflect the proposed permit boundary changes shown on Figure 1-3.” Please amend the application for revision 09-1 for the Tyrone CCP Update by submitting an updated map showing the changes to the Tyrone permit boundary based on the proposed expansion of the Little Rock Mine.

6. Section 2.1.1, Open Pit, page 6 of the Updated CCP – states, “The open pit at the EOY 2017 is anticipated to encompass approximately 280 acres...”. Figure 1-3 shows the projected extent of the open pit at end of mine life. Page 2 of the Application Letter states, “The proposed permit revision will increase the design limit to a total of approximately 470 acres...”. Please provide an estimate of the size (in acres) and depth (in feet) of the open pit at end of mine life within the proposed 470 acre mining design limit.
7. Section 2.1.3, Overburden Stockpiles, page 7 of the Updated CCP – states that, “Although no additional reclamation measures are proposed for the North and West Canyon stockpiles, reclamation costs are included in this CCP until financial assurance is released. Reclamation costs presented in Appendix B include ripping the stockpile surfaces to a depth of 18 to 24 inches, and revegetation.” Does the Updated CCP including the reclamation cost estimate provide a contingency for additional regrading of the North and West Canyon stockpiles during reclamation? The reclamation plan and cost estimate may require be amended to account for the regrading of these stockpiles during reclamation.
8. Section 2.1.4, Historic Ohio Mine and Reservoir, page 8 of the Updated CCP - states that, “Surface water that collects behind the Ohio Mine dam is currently being conveyed by pipeline to the lined 1X1 pond. This water will continue to be conveyed by pipeline to the lined 1X1 pond until the Ohio Mine dam is removed as part of the expansion of the open pit to the north. Once the Ohio Mine dam is removed, any surface water that enters the open pit will be collected within the open pit sump and pumped to the 1X1 pond.” What is the current status of the Ohio Mine dam?
9. Section 2.1.5, Haul Roads, page 8 of the Updated CCP – states, “The existing haul road will be reconfigured and a new spanning arch culvert will be constructed within the proposed Mining Area Design Limit by the EOY 2017 as shown in Figure 2-1 to provide access for mining operations.” Please show an outline of the proposed new haul road from the Little Rock Mine to the Tyrone Mine on Figure 2-1.
10. Section 2.1.6, Dewatering System and Conveyance Pipelines, page 9 of the Updated CCP – provides a description of the dewatering systems at the Little

Rock Mine during mine operations. Figure 2-1, EOY 2017 Little Rock Mine Facilities and Mine Permit Boundaries – shows the Seepage Collection Pipeline and the Dewatering Pipeline Alignment #1 and #2. The pipeline alignments and seepage collection pipeline shown on Figure 2-1 are faint and difficult to see. Please revise Figure 2-1 to show these features in bolder print. In addition, on Figure 2-1, please mark the locations of the reclaimed copper leach stockpile seepage collection trenches CLDS and CLDS-1.

11. Section 2.3.8, Overburden Materials, page 17 of the Updated CCP – states that, “the leach cap is considered to be a reasonable substitute for native soils.” Although the leach cap material is considered by Tyrone to be a “reasonable substitute for native soils”, these materials are currently being evaluated in the Tyrone and Little Rock test plot programs for performance of the leach cap as reclamation cover material. According to the Updated Closure/Closeout Plan for the Little Rock Mine dated July 21, 2010, “The information derived from this testing will be used to evaluate the success of revegetation, resistance to surface water erosion and to provide the data needed to derive certain hydraulic properties of the material.”
12. Section 4.1, Stockpiles, page 25 of the Updated CCP – states that the North stockpile and the West Canyon stockpile, “are currently being colonized by native vegetation, are erosionally stable, and no additional reclamation measures are proposed for these two facilities, pending vegetation studies.” For consistency, it should be noted that according to Tyrone, “reclamation costs are included in this CCP until financial assurance is released. Reclamation costs presented in Appendix B include ripping the stockpile surfaces to a depth of 18 to 24 inches, and revegetation.” (see Comment 7 above).
13. Section 4.3, Haul Roads, page 28 of the Updated CCP- states that, “By the EOY 2017, all but approximately 4 acres of the existing haul road, including the existing spanning arch culvert over Deadman Canyon which will be removed as a part of mine operations (Figure 2-1).” Figure 2-1 shows the alignment of the Deadman Canyon Channel Diversion. Please show on Figure 2-1 an outline of the portion of the existing haul road remaining, and an outline of the new haul road connecting the Little Rock Mine to the Tyrone Mine, if applicable.
14. Section 4.5, Other Ancillary Facilities and Structures, page 29 of the Updated CCP – Descriptions are presented of ancillary facilities and structures present at the Little Rock Mine. Please show the power substation and water tank facilities and storm water structures for drainage, diversion and sediment

control, if applicable, on Figure 2-1, or on another drawing in the Updated CCP.

15. Section 5.1, Stockpiles, page 31 of the Updated CCP – states that, “The North, West Canyon, and reclaimed Copper Leach stockpiles are constructed above the surrounding terrain and therefore run-on controls are not required for these facilities.” Section 5.1.1, Existing Components That Will Be Used for Post-Closure Purposes, page 32 of the Updated CCP states that existing closure components that will be used for post-closure purposes include, in part, “Operation and maintenance of surface water diversion structures constructed to route upland flows around the Copper Leach Stockpile and P-Plant reclaimed areas and surrounding impacted areas.” Please clarify whether stormwater and surface water run-on controls will be used and maintained for the reclaimed Copper Leach Stockpile and P-Plant area.
16. Section 5.3, Haul Roads and Access Roads, page 34 of the Updated CCP - states that, “If acid-generating material is encountered [during haul road reclamation], the roads will be ripped, covered with 36 inches of the suitable cover material and revegetated in accordance with MMD Permit GR007RE.” Please specify how Tyrone will inspect for acid generating material in the haul roads during reclamation.
17. Section 5.4, Pipelines, page 36 of the Updated CCP – describes how pipeline alignment #1 and #2 will be reclaimed. If applicable, please modify the Tyrone Mine Updated CCP for reclamation of these pipeline alignments where they are located within the Tyrone Mine permit boundary.
18. Section 7.2, Site Specific Revegetation Success Guidelines, page 44 of the Updated CCP – states that, “The proposed Mining Area Design Limit combines the estimated extent of disturbed areas and the projected LOM open pit configuration as shown on Figure 2-1.” In addition, “The proposed Mining Area Design Limit proposed changes to the Little Rock mine permit boundary, projected LOM open pit configuration, and associated new unit and existing unit disturbance areas are presented in Figure 7-2. Figures 2-1 and 7-2 do not show the projected LOM open pit configuration. The projected LOM open pit configuration is only shown on Figure 1-3. Please provide revised Figures 2-1 and 7-2 to show the project LOM open pit configuration.
19. Sections 7.2.1, Canopy Cover, and 7.2.2, Shrub Density, page 45 of the Updated CCP – states that for the New Unit disturbances as shown on Figure 7-2, the proportional success guideline for total canopy cover and shrub density will be equal to 90 percent of the measured reference area value in accordance with 19.10.5.508.E NMAC. Figure 7-2 shows these areas shaded in green color.

Some of these green shaded areas are projected over open pit high walls. In previous meetings with MMD, Tyrone has stated that the flat areas of the high walls that Tyrone can safely access will be reclaimed by ripping up to 24 inches deep and re-seeding. Tyrone has also stated that the high wall faces will not be reclaimed. Please confirm that this is the intent of the Updated CCP for these areas.

20. Figure 1-3 of the Updated CCP shows the projected LOM open pit configuration. Please provide the total area in acres of the projected LOM open pit configuration.

#### Appendix A, Reclamation Design Drawings

21. Sheet 4: Little Rock Mine CCP Cross Sections of the Updated CCP - shows the cross section drawings on Sheet 3: EOY 2017 Reclaimed Contours Cross Section Locations. Cross section A-A' shows a cross section through the Little Rock mine open pit area, generally in a West to East orientation. Please show the proposed Deadman Canyon Channel Diversion in Sheet 3 and in cross section A-A' on Sheet 4.
22. Sheet 5: Little Rock Mine CCP Post Reclamation of the Updated CCP – shows, in part, revegetated areas for the reclaimed Little Rock Mine as gray shaded areas. Please show an outline of the projected pit lake that is described in Section 5.2, Open Pit of the Updated CCP on Sheet 5 and provide an estimate of the pit lake area in acres and the volume of the pit lake in acre-feet.
23. Sheet 5: Little Rock Mine CCP Post Reclamation of the Updated CCP – shows a revegetated area located in the north, central portion of the projected open pit that is isolated from the other revegetated areas of the projected open pit. As stated in Section 7 of the Updated CCP, the approved post-mining land use is wildlife habitat. Please describe how this area and other isolated revegetated areas can be made less isolated from the other revegetated areas in the vicinity and more accessible to deer and other wildlife. MMD recommends that as much of the reclaimed area as feasible, be made contiguous and accessible to wildlife. In addition, in order to understand more completely the proposed topography of the reclaimed open pit area, please revise Sheets 3 and 4 to show additional cross sections of the reclaimed open pit area. MMD is available to discuss the locations of the additional cross section locations at Tyrone's convenience.

## Appendix B, Reclamation Cost Estimate Summary Report

### General Comments

24. Will rip rap be required for stormwater diversion and control? If so, what will be the source of rip rap and are the costs for rip rap borrow and hauling included in the reclamation cost estimate?
25. Are the costs associated with topsoil salvaging and placement during reclamation included in the reclamation cost estimate?
26. All unit costs should be updated to 2015 prior to final review and approval of the reclamation cost estimate for the Updated CCP.

### Specific Comments

27. Section 3.2, Little Rock Open Pit, page 6 - states that the California Gulch and Heap Leach Northwest Diversion will be routed along the bedrock at the in-pit stockpile and pit wall contact. Please show an outline the path of the diversion on Sheet 5, Little Rock Mine CCP Post Reclamation drawing.
28. Section 3.3, Operations and Maintenance, Water Quality Monitoring and Reporting, page 8 – lists the water quality sampling frequency and locations after reclamation at the Little Rock Mine. Will this monitoring include the reclaimed copper leach stockpile seepage collection trenches CLDS and CLDS-1?
29. Capital Reclamation Cost Estimate Worksheet #14 shows the revegetation costs for the reclamation at the Little Rock Mine. Please confirm that these revegetation costs correlate to and include all of the gray shaded revegetated areas shown on Sheet Number 5 of Appendix A, Reclamation Design Drawings.

### Other Agency Comments

Please see the attached copies of comments from the New Mexico Environment Department (“NMED”), the New Mexico Department of Cultural Affairs (“NMDCA”), and the New Mexico Office of the State Engineer (“NMOSE”). Please review the comments from these agencies and provide responses along with the responses to the MMD comments.

### Comments from Tribal Entities

Please see the attached copies of comments from the Navajo Nation, the Hopi Tribe, and the White Mountain Apache Tribe. Please review the comments from these tribal entities

RE: Comments on Little Rock Mine Expansion and Updated Closeout Plan, Revision 14-1,  
Permit No. GR007RE  
February 10, 2015  
Page 8

and provide responses along with the responses to the MMD comments and the comments from other New Mexico state agencies.

Please contact me at (505) 476-3432 or at [David.Ohori@state.nm.us](mailto:David.Ohori@state.nm.us) if you have any questions.

Sincerely,



David Ohori, Permit Lead  
Mining Act Reclamation Program ("MARF")

Enclosures

cc: Holland Shepherd, Program Manager, MARP  
John Hall, Mining Act Team Leader, Mining Environmental Compliance  
Section, New Mexico Environment Dept., Ground Water Quality Bureau  
Keith Ehlert, Permit Lead, MECS  
Tom Shelley, Reclamation Manager, Tyrone Mine  
Allyson Siwik, Executive Director, Gila Resources Information Project  
Mine File (GR007RE)





NEW MEXICO  
ENVIRONMENT DEPARTMENT



SUSANA MARTINEZ  
Governor

JOHN A. SANCHEZ  
Lieutenant Governor

Harold Runnels Building, N2050  
1190 South St. Francis Drive (87505)  
P.O. Box 5469, Santa Fe, NM 87502-5469  
Phone (505) 827-0187 Fax (505) 827-0160  
[www.nmenv.state.nm.us](http://www.nmenv.state.nm.us)

RYAN FLYNN  
Secretary

BUTCH TONGATE  
Deputy Secretary

**MEMORANDUM**

November 25, 2014

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

FROM: John Hall, NMED Mining Act Team Leader

RE: **NMED Comments, Little Rock Mine Expansion, Revision 14-1, Permit No. GR007RE**

---

The New Mexico Environment Department (NMED) received correspondence from the Mining and Minerals Division (MMD) on September 29, 2014 requesting comments on the Little Rock Mine Expansion Application submitted by Freeport McMoRan Tyrone, Inc. (Tyrone). The application consists of an Updated Closeout/Closure Plan (UCCP) for the Little Rock Mine dated June 19, 2014.

NMED has reviewed the UCCP and comments from the Ground Water Quality Bureau, Surface Water Quality Bureau, and Air Quality Bureau are submitted jointly in this memorandum. The Air Quality Bureau comments are attached under separate letterhead.

**Ground Water Quality Bureau Comments**

Tyrone is in the process of submitting a revised application for renewal of the discharge permit for the Little Rock Mine (DP-1236). The UCCP must be evaluated relative to the revised permit application, and the Ground Water Quality Bureau will provide comments directly to the applicant as part of the permit renewal process. NMED will coordinate with MMD regarding further review of the UCCP and will copy MMD on any comments pertaining to the UCCP.

**Surface Water Quality Bureau Comments**

The Surface Water Quality Bureau submits the following comments regarding the updated closure/closeout plan for Little Rock Mine:

“Under the updated close-out plan, Tyrone is proposing a 68 acre expansion to Little Rock Mine, and 323 acre expansion of the Little Rock open pit design boundary. These changes will have a direct, though negligible impact, on two ephemeral drainages, Deadman Canyon and California Gulch. Currently California Gulch storm water is directed into the open pit and pumped to the lined 1x1 pond. Expansion of the open pit design limit boundary will capture portions of the Deadman Canyon drainage. Stormwater from Deadman Canyon will be diverted around the eastern edge of the open pit. The diversion will be constructed of non-acid generating rock similar to native material in the area.

At closure, a pit lake will form within Little Rock Mine due to cessation of dewatering activities. Models suggest this lake will meet WQ standards within the possible exception of fluoride which is found to be naturally elevated in portions of the mined area. Finally, two freshwater springs exits outside the boundaries of the close-out plan modification, and are expected to be unaffected by the proposed close-out plan revisions.

Assuming all relevant permit conditions are adhered to and best management practices are followed and maintained, the Surface Water Quality Bureau anticipates no adverse impact to waters of the state as a result of the updated Little Rock Mine closure/closeout plan.”

If you have any questions, please contact John Hall at (505) 827-1049.

xc: Jerry Schoeppner, Chief, GWQB  
James Hogan, Chief, SWQB  
Richard Goodyear, Chief, AQB  
Fernando Martinez, Director, EMNRD-MMD  
David Otori, EMNRD-MMD  
Kurt Vollbrecht, Program Manager, MECS



SUSANA MARTINEZ  
Governor

JOHN A. SANCHEZ  
Lieutenant Governor

New Mexico  
**ENVIRONMENT DEPARTMENT**

***Air Quality Bureau***

525 Camino de los Marquez, Suite 1  
Santa Fe, NM 87505  
Phone (505) 476-4300  
Fax (505) 476-4375  
[www.nmenv.state.nm.us](http://www.nmenv.state.nm.us)



Ryan Flynn  
Cabinet Secretary

Butch Tongate  
Deputy Secretary

**MEMORANDUM**

DATE: October 3, 2014

TO: Keith Ehlert,  
Acting Mining Act Team Leader  
Ground Water Quality Bureau

FROM: Neal Butt  
Environmental Scientist / Specialist, Air Quality Bureau

RE: Request for Comments, Little Rock Mine Existing Mining Operation, Permit Revision,  
Application for Expansion, Grant County, New Mexico  
Revision 14-1, Permit No GR007RE

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

***Air Quality Permitting History***

The Tyrone facility, inclusive of the Little Rock Mine, has two active air quality permits: a New Source Review (NSR) construction permit and a comprehensive air quality operating permit under Title V of the Clean Air Act. The NSR Permit (NSR 2448 M1) has no expiration date. The Tyrone Title V permit (P147 – R1M3) covers air emissions from Tyrone facilities, including the Little Rock Mine, and associated infrastructure. This permit is currently valid through October 24, 2015.

**Details**

The applicant has submitted a permit revision application for the Little Rock Mine in Grant County, New Mexico, Permit Tracking No. GR007RE. This revision request includes an expansion of the Little Rock Mine's design limit and permit boundary area and an update to the Closure/Closeout Plan (CCP). The Little

Rock Mine is approximately 11 miles south of Silver City, New Mexico and 1 mile west of the Tyrone Mine. According to the application, the site features at the Little Rock Mine include an existing open pit copper mine, haul road, and associated facilities to support mining operations. The Little Rock Mine also includes lands that were disturbed by earlier operations (1970's) and have since been reclaimed.

As part of an updated CCP, Tyrone is proposing to modify both the existing Little Rock Mine Permit Boundary and the current open pit design limit to account for the current life of mine (LOM) plan. Tyrone is proposing to expand the existing Little Rock Mine Permit Boundary by approximately 68 acres to account for the projected expansion of the open pit and associated disturbance areas outside the current permit boundary limits. Approximately 40 acres of the proposed 68 acre mine permit boundary expansion lies within the existing Tyrone Mine Permit Boundary. The Tyrone Mine (MMD Permit GR010RE) is currently under a revision process to incorporate the 2013 Tyrone CCP Update. Tyrone is also proposing to combine and expand the current approved Little Rock Mine open pit design limit boundary. The proposed combined design limit boundary is referred to as the "Mining Area Design Limit." The proposed Mining Area Design Limit increases the current open pit design limit boundary from approximately 197 acres to approximately 470 acres. The proposed Mining Area Design Limit is consistent with the proposed limit of disturbance presented in the Amendment to Mine Plan of Operations NMNM091644 (MPO Amendment) for the Little Rock Mine.

### Air Quality Requirements

The New Mexico Mining Act of 1993 states that "Nothing in the New Mexico Mining Act shall supersede current or future requirements and standards of any other applicable federal or state law." Thus, the applicant is expected to comply with all requirements of federal and state laws pertaining to air quality. Current requirements which may be applicable in this mining project include, but are not limited to the following:

Subsection A of 20.2.72.200 NMAC, *Application For Construction, Modification, NSPS, And NESHAP - Permits And Revisions*, states that: "Permits must be obtained from the Department by:

(1) "any person constructing a stationary source which has a potential emission rate greater than 10 pounds per hour or 25 tons per year of any regulated air contaminant for which there is a National or New Mexico Ambient Air Quality Standard {e.g. PM, TSP}. If the specified threshold in this subsection is exceeded for any one regulated air contaminant, all regulated air contaminants with National or New Mexico Ambient Air Quality Standards emitted are subject to permit review[. . .]"; and

(3) "Any person constructing or modifying any source or installing any equipment which is subject to 20.2.77 NMAC, *New Source Performance Standards* {e.g. *Subpart 000—Standards of Performance for Nonmetallic Mineral Processing Plants*}, 20.2.78 NMAC, *Emission Standards for Hazardous Air Pollutants*, or any other New Mexico Air Quality Control Regulation which contains emission limitations for any regulated air contaminant;"

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

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

### **Permitting Requirements for Regulated Equipment and Sources of Fugitive Dust (e.g. PM , TSP)**

The Air Quality Bureau regulates particulate matter emissions from stationary sources that process mined materials via: 20.2.15 NMAC, *Pumice, Mica, and Perlite Processing*; 20.2.19 NMAC, *Potash, Salt or Sodium Sulfate Processing Equipment – PM*; 20.2.42 NMAC, *Coal Mining and Preparation Plants – PM*; and 20.2.72 NMAC, *Construction Permits*. The emissions from equipment and activities such as crushers, screens, conveyors, baghouses, material drop and transfer points, haul roads, and storage piles must all be considered in determining applicability under 20.2.72 NMAC. Please contact the Permit Section for additional guidance.

Fugitive dust is a common problem at mining sites. Fugitive dust emissions are regulated generally by 20.2.72.200.A NMAC (e.g. 10 lb./hour or 25 TPY). However, specific strategies to control fugitive dust may be left up to the discretion of the owner / operator of the source. The following control strategies can be included in a comprehensive facility dust control plan (from EPA’s *Compilation of Air Pollutant Emission Factors, AP-42*):

Unpaved haul roads and traffic areas: paving of permanent and semi-permanent roads, application of surfactant, watering, and traffic controls, such as speed limits and traffic volume restrictions.

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

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

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

Scraping: wet suppression of scraper travel routes.

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

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

The above is not intended to be an exhaustive list of all requirements that could apply. The applicant should be aware that this determination does not supersede the requirements of any current federal or state air quality requirement. The Air Quality Bureau or the US Environmental Protection Agency may implement additional requirements, regulations and standards for the control of fugitive dust sources in the future. This written determination does not preclude the applicability of any forthcoming state or federal regulations.

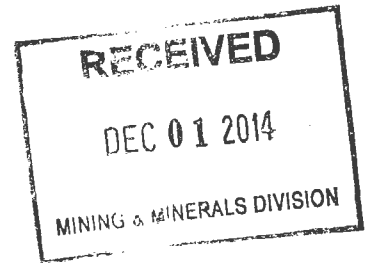
If you have any questions, please contact me at (505) 476-4317.



STATE OF NEW MEXICO  
**DEPARTMENT OF CULTURAL AFFAIRS**  
**HISTORIC PRESERVATION DIVISION**

Susana Martinez  
Governor

BATAAN MEMORIAL BUILDING  
407 GALISTEO STREET, SUITE 236  
SANTA FE, NEW MEXICO 87501  
PHONE (505) 827-6320 FAX (505) 827-6338



November 25, 2015

David Ohoi  
Permit Lead  
Mining Act Reclamation Program  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Request for Comments, Little Rock Mine Expansion, Revision 14-1, Permit No. GR007RE

Dear Mr. Ohoi:

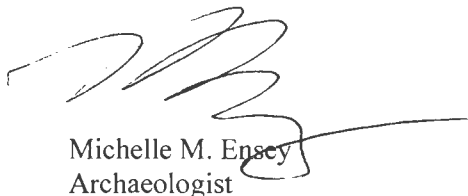
I am writing in response to your request for review and comment on the above referenced permit revision received at the Historic Preservation Division (HPD) September 29, 2014.

According to our records, there are no cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties within the permit area. Our records also show that much of the mine permit area has been surveyed and archaeological sites were identified during these surveys. A recent survey, conducted by Dos Rio Consultants in April 2014 for the Bureau of Land Management (BLM), Las Cruces District Office documented two new archaeological sites and one previously recorded archaeological site.

The BLM will review the archaeological survey report and associated archaeological site records and determine whether the proposed expansion will have an effect on the archaeological sites pursuant to Section 106 of the National Historic Preservation Act. If any archaeological sites will be adversely affected by the expansion, the BLM will consult with this office and seek our concurrence on their determination.

If you have any questions concerning these comments, please do not hesitate to contact me. I can be reached by telephone at (505) 827-4064 or by email at [michelle.ensey@state.nm.us](mailto:michelle.ensey@state.nm.us).

Sincerely,



Michelle M. Ensey  
Archaeologist

Log: 100000

**From:** Myers, Kevin, OSE  
**Sent:** Thursday, November 20, 2014 4:38 PM  
**To:** Ohori, David, EMNRD  
**Cc:** Johnson, Mike S., OSE; Valentine, Lloyd, OSE; Mcmillan, Martin, OSE  
**Subject:** NMOSE Comments for MMD permit No. GR007RE, Rev. 14-1, Little Rock Mine Expansion - Updated Closure/Closeout Plan

David,

On September 25, 2014, the Mining and Minerals Division (MMD) requested that New Mexico Office of the State Engineer Hydrology Bureau (NMOSE) review and comment on the Revision 14-1 for the MMD permit GR007RE – Little Rock Mine Expansion (Revision). For the Revision, Freeport-McMoRan Tyrone, Inc. submitted an Updated Closure/Closeout Plan dated June 19, 2014 (Updated CCP), which was prepared by Golder Associates Inc.. The Revision incorporates a 68 acre expansion of the Little Rock Mine open pit, and approximately 40 of the 68 acres are located within existing Tyrone Mine Permit Boundary. West of Tyrone Mine, the Little Rock Mine is located within NMOSE’s Gila San Francisco Underground Water Basin.

Previously, NMOSE commented on GR007RE Revision 10-1 on September 2, 2010, Revision 13-1 on July 10, 2013 and Revision 13-2 on October 16, 2013.

NMOSE has reviewed the Updated CCP for the Revision. NMOSE has the following comments:

1. Page 19, Section 2.2.4 Water Rights. The Updated CCP references No. 02260 License (i.e., NMOSE license SD-02260-1 (T14)), temporary permission at the Little Rock Mine. According to the temporary permission dated November 29, 2010, the maximum annual diversion is 1,300 acre-feet. The Updated CCP contemplates a pit lake and post-mining land use (PMLU) such as wildlife. The PMLU may have water usage that may not match all of the beneficial uses identified in the temporary permit, which only lasts through the end of December 2020. For example and in accordance with subsection 19.26.2.15 NMAC, a permit to appropriate water is necessary for mine excavation that fills with water. The evaporative losses to 42-acre areal extent of pit lake would also be considered by NMOSE. While the Updated CCP indicates a likelihood that the permit may be modified to accommodate other beneficial uses, this does not eliminate the need to complete application process for changes to water rights. The NMOSE District III office in Deming will evaluate any changes to water rights for the closure and post-closure period at the Little Rock Mine. Thus, in 2017 or whenever the closure and post-closure phases begin, some costs may be incurred for water rights application and permit process.

*“Tyrone has a temporary permit from NMOSE License No. 02260 License to divert and consume up to **1,100 acre-feet per year** at the Little Rock Mine. This permit allows Tyrone to dewater and use pit water for beneficial uses that would include SX-EW and leaching. Additionally the permit could be modified to allow for reclamation and any other approved beneficial use recognized by NMOSE...”*

2. Table 1. Add row for water rights administered by NMOSE under license SD-02260-1 (T14) to the table entitled Summary of Applicable Permits and Regulatory Framework for the Little Rock Mine. Also, well plugging administered by NMOSE pursuant to 19.27.4 NMAC.
3. Page 32, Updated CCP, Section 5.1.2; Page 40, Updated CCP, Section 6.3.1; Page 48, Section 8.1; Appendix B. Text mentions will be abandoned. Based on other sections of the report, the well will be plugged. The capital costs estimate includes plugging and abandoning wells within the line item for other ancillary facility and

structures. Based on Appendix B, seven wells will be plugged. Pursuant to 19.27.4 NMAC, applicant must submit plugging plan of operations to NMOSE.

If you have any questions, please contact me.

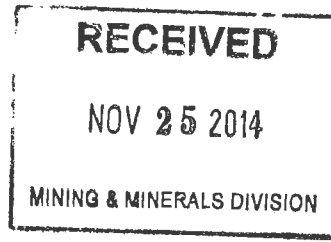
Kevin Myers, Hydrologist  
Hydrology Bureau - NM OSE  
P.O. Box 25102  
Santa Fe, NM 87504-5102  
Ph: (505) 476-7402  
Fax: (505) 476-0220

<http://www.ose.state.nm.us/>





THE  
NAVAJO  
NATION



Historic Preservation Department, POB 4950, Window Rock, AZ 86515 • PH: 928.871-7198 • FAX: 928.871.7886

BEN SHELLY  
PRESIDENT

REX LEE JIM  
VICE-PRESIDENT

November 20, 2014

Fernando Martinez, Director  
State of New Mexico  
Energy, Minerals and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Subject: **19.10.7.701.E NMAC-LITTLE ROCK MINE FREEPORT MCMORAN INC. TYRONE OPERATIONS PERMIT #GR007RE**

Dear: Mr. Martinez,

The Historic Preservation Department-Traditional Culture Program, hereafter (HPD-TCP) is in receipt of the letter notification for the request for Consultation, on the Little Rick Mine Permit Revision Application for of approximately two hundred and ten acres of expansion located near Tyrone, in Grant County, New Mexico.

After reviewing the information documents provided, HPD-TCP has concluded that this particular initiative **will not have** adverse affects to Navajo Traditional Cultural Properties, but note that there are two Navajo Traditional Cultural Properties located just northwest of the Little Rock Mine. HPD-TCP on behalf of the Navajo Nation has no concerns at this time.

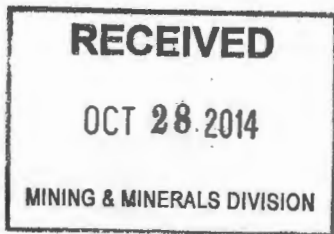
If the proposed application for expansion inadvertently discovers habitation sites, plant gathering areas, human remains and objects of cultural patrimony, HPD-TCP request that we be notified respectively in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA). *(The Navajo Nation claims cultural affiliation to all Anasazi people (periods from Archaic to Pueblo IV) of the southwest. The Navajo Nation makes this claim through Navajo oral history and ceremonial history, which has been documented as early as 1880 and taught from generation to generations).*

The HPD-TCP appreciates the State of New Mexico's consultation efforts regarding this document. Should you have any additional concerns and/or questions do not hesitate to contact me electronically at [tony@navajohistoricpreservation.org](mailto:tony@navajohistoricpreservation.org) or telephone at 928-871-7750.

Sincerely,

Tony H. Joe, Jr., Supervisory Anthropologist  
Section 106 Consultation  
Traditional Culture Program  
Historic Preservation Department

# THE HOPI TRIBE



Herman G. Honanie  
CHAIRMAN  
Alfred Lomahquahu Jr.  
VICE-CHAIRMAN

October 22, 2014

Fernando Martinez, Director, Mining and Minerals Division  
Attention: David Ochori  
New Mexico Energy, Minerals, and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

Re: Application for Revision 14-1, Little Rock Mine, Freeport McMoRan Inc., Tyrone Operations  
Permit No GR007RE

Dear Mr. Martinez,

This letter is in response to your correspondence dated October 14, 2014, regarding an Application for Revision 14-1, from Freeport McMoRan Inc., Tyrone Operations, Permit No GR007RE, to increase the mine permit area from 470 to 680 acres in Grant County. The Hopi Tribe claims cultural affiliation to earlier identifiable cultural groups in New Mexico. The Hopi Cultural Preservation Office supports identification and avoidance of prehistoric archaeological sites and Traditional Cultural Properties, and we consider the archaeological sites that are habitations of our ancestors to be "footprints" and Hopi Traditional Cultural Properties. Therefore, we appreciate your continuing solicitation of our input and your efforts to address our concerns.

The Hopi Cultural Preservation Office is interested in consulting on any proposal in New Mexico with the potential to adversely affect prehistoric sites. Therefore, to enable us to determine if this application may affect cultural resources significant to the Hopi Tribe, please provide us with a copy of the cultural resources survey of the area of potential effect for review and comment. If prehistoric cultural resources are identified and will be adversely affected by project activities, we request continuing consultation on this proposal including being provided with a copy of any proposed treatment plans for review and comment.

Should you have any questions or need additional information, please contact Terry Morgart at [tmorgart@hopi.nsn.us](mailto:tmorgart@hopi.nsn.us). Thank again you for your consideration.

Respectfully,

A handwritten signature in black ink, appearing to read "Leigh J. Kuwanwisiwma".

Leigh J. Kuwanwisiwma, Director  
Hopi Cultural Preservation Office

xc: New Mexico State Historic Preservation Office



# White Mountain Apache Tribe

Office of Historic Preservation

PO Box 1032

Fort Apache, AZ 85926

Ph: (928) 338-3033 Fax: (928) 338-6055

**To:** Fernando Martinez, Director – Mining and Minerals Division, New Mexico

**Date:** October 27, 2014

**Re:** Consultation and Application for Revision 14-1, Little Rock, Freeport-McMoran Inc., Tyrone Operations, Permit No. GR007RE, New Mexico

.....  
The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the proposed project, October 14, 2014 . In regards to this, please attend to the following checked items below.

► ***There is no need to send additional information unless project planning or implementation results in the discovery of sites and/or items having known or suspected Apache Cultural affiliation.***

N/A - The proposed project is located within an area of probable cultural or historical importance to the White Mountain Apache tribe (WMAT). As part of the effort to identify historical properties that maybe affected by the project we recommend an ethno-historic study and interviews with Apache Elders. The tribe's ***Cultural Heritage Resource Director Mr. Ramon Riley*** may be contacted at (928) 338-3033 for further information should this become necessary.

► Please refer to the attached additional notes in regards to the proposed project:

We have received and reviewed information regarding the above MMD proposed issuance of permit for the expansion of the Little Rock Mine, Grant County, New Mexico, and we have determine the proposed project will ***not have an impact*** on the White Mountain Apache tribe's (WMAT) historic and/or traditional cultural properties. Regardless, any/all ground disturbing activities should be monitored ***if*** there are reasons to believe that there are human remains and/or funerary objects are present, and if such remains and/or objects are encountered they shall be treated with respect and handled accordingly until such remains are repatriated to the affiliated tribe.

Thank you. We look forward to continued collaborations in the protection and preservation of place of cultural and historical significance.

Sincerely,

***Mark T. Altaha***

White Mountain Apache Tribe

Historic Preservation Office