

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

Ken McQueen
Cabinet Secretary

Matthias Sayer
Deputy Cabinet Secretary

Fernando Martinez, Director
Mining and Minerals Division



September 13, 2018

Mr. David Q. Tognoni, P.E.
Managing Partner
American Magnesium, LLC
P.O. Box 684
Elephant Butte, NM 87935-0684

**RE: Technical Comments on the Amended Plan of Operations (dated July 2018),
American Magnesium, LLC, Dolomite Mine, Luna County, New Mexico, Permit
Tracking No. LU035MN**

Dear Mr. Tognoni:

The Mining and Minerals Division (“MMD”) reviewed the Amended Plan of Operations (“Amended PoO”) submitted by American Magnesium, LLC (“AmMg”) in July 2018. The permit application for a new minimal impact mining operation permit submitted by AmMg to MMD frequently refers to the PoO, therefore the Amended PoO is a document directly related to MMD’s permitting process. Upon review of the Amended PoO, MMD has the following comments to be addressed, in writing, by AmMg:

1. AmMg’s mine plan states that the hill within Claim Area 21 and 22 will be mined from the highest elevation down to the valley floor. This will eventually (over approximately 30 years) result in an approximate 100 foot sheer vertical highwall along the eastern edge of the Phase 2 and Phase 3 Mining Areas and an approximate 40 foot highwall along the western edge of the Phase I Mining Area. Section 3.2 of the Amended PoO acknowledges that mining will result in “pit-like” walls and that during reclamation these walls will be “terraced to a slope comparable to the surrounding hill slope.” In MMD’s experience, terracing/benching of a sheer highwall cannot be easily accomplished at reclamation; benching is more easily achieved during operations as part of the mine plan.

Please provide:

- a. a detailed mining/quarry plan including proposed bench heights and bench widths;

September 13, 2018

Page 2

- b. a map showing the location of the initial pit within the Phase I Mining Area at the approximate end of Year 1 of mining;
 - c. a map showing the surficial dimensions of the initial pit within the Phase I Mining Area at the approximate end of Year 1 of mining;
 - d. North-south and east-west cross-sections of the initial pit depicting the proposed bench heights and bench widths at the approximate end of Year 1 of mining;
 - e. a map showing the surficial dimensions of the estimated pit dimensions within the Phase I Mining Area at the approximate end of Year 5 of mining;
 - f. North-south and east-west cross-sections of the estimated pit dimensions within the Phase I Mining Area at the approximate end of Year 5 of mining.
2. A fundamental assumption in the PoO is that AmMg will mine the hill down to the valley floor. This may eventually be the case, but this is anticipated to take up to 30 years, according to the PoO. MMD requires a reclamation plan that takes a “snapshot-in-time approach” that is updated every 5 years. As such, MMD requires a reclamation plan that shows the approximate mine dimensions at the end of Year 5 of mining (as required in comment #1 above) and a plan for reclamation of the mine at the end of Year 5 of mining. Please provide a detailed reclamation plan for the anticipated configuration of the site at the end of Year 5 of mining.
 3. The Amended PoO proposes hydroseeding as the primary revegetation technique. In MMD’s experience, hydroseeding in an arid environment is ineffective except in steep locations where broadcast or drill seeding cannot be accomplished. Please note that salvage and replacement of topsoil followed by scarification, broadcast or drill seeding and mulching will be a future permit condition of reclamation.
 4. AmMg states “the proposed verification drill holes will be used as blast holes during active mining.” This is contradicted by the Blasting Plan submitted in Appendix A of the Amended Plan of Operations.

For example, the exploratory drill holes will be:

- up to 100 feet deep, placed on a 100’ x 100’ grid, using a 6” diameter bit.

The blasting plan calls for holes to be:

- 12 to 50 feet deep, placed on a 9’ x 9’ grid, using a 3.5” or 4.5” diameter bit.

Therefore, the blasting plan renders the exploration drill holes impractical for future blasting. Please note that as a future permit condition, MMD shall require AmMg to properly plug and abandon all exploratory drill holes in accordance with 19.10.3.302.L NMAC.

September 13, 2018

Page 3

5. In the Amended PoO, AmMg issues contradictory statements about whether primary crushing will occur on-site or not. Please note that for purposes of determining financial assurance, on site primary crushing will not be included in the future MMD permit. However, if primary crushing on site is determined by AmMg to be necessary after issuance of the MMD permit, AmMg can submit a request to modify the MMD permit to include primary crushing on site.
6. The two proposed existing access routes, B016 (“North Route”) and B013 (“South Route”) both appear to have mixed land-status of BLM, private, and/or State of New Mexico. Proper access agreements or permits to utilize and/or improve, widen or otherwise disturb either of these access routes shall be incumbent on AmMg to obtain. Please note that this will be a future MMD permit condition.
7. Where B016 and B013 cross drainages, AmMg proposes to use culverts to maintain existing drainage patterns. Section 404 Permitting with the Army Corp of Engineers or other permitting to place fill/culverts within drainages shall be incumbent on AmMg to obtain. Please note that this will be a future MMD permit condition.

Please provide written responses to these comments within 30-days after your receipt of this letter.

MMD would be happy to meet with you and/or your consultants to further explain any of these comments. The snapshot-in-time mining and reclamation plan details might be better discussed in person so that AmMg can address them accordingly.

If you have any questions, please feel free to contact me at (505) 476-3437 or by email at Holland.Shepherd@state.nm.us.

Sincerely,

Holland Shepherd, Manager
Mining Act Reclamation Program (“MARPs”)
Mining and Minerals Division

cc: Fernando Martinez, Director, MMD
Bill Auby, BLM Santa Fe
Mine File (LU035MN)