

State of New Mexico
Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham
Governor

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Cabinet Secretary

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Mining and Minerals Division



June 17, 2019

Ms. Sherry Burt-Kested, Manager
Freeport-McMoRan Chino Mines Company
P.O. Box 10
Bayard, NM 88023

RE: Technical Comments on Earthwork Cost Estimate and Net Present Value Calculation, Revision 18-1 for the 2018 Updated Closure/Closeout Plan, Chino Mine, Grant County, New Mexico, Permit No. GR009RE

Dear Ms. Burt-Kested:

The Mining and Minerals Division ("MMD") reviewed the Earthwork Cost Estimate and Net Present Value ("NPV") calculation provided by Freeport-McMoRan Chino Mines Company ("Chino") in support of Revision 18-1 to permit GR009RE for the Chino Mine, Grant County, New Mexico. At a meeting in Santa Fe with MMD, the New Mexico Environment Department ("NMED") Chino and Gila Resources Information Project ("GRIP") on May 14, 2019, the group discussed several issues about the earthwork cost estimate and NPV calculation. This letter provides Chino with written agency comments regarding a few follow-up issues on the Chino cost estimate and NPV calculation.

1. Attachment 1, Appendix B.1.2, Table of Adjusted EquipmentWatch Specific Inputs. "The Annual Use Hours are adjusted in EquipmentWatch to eliminate the EquipmentWatch 50-minute work hour." Please provide supporting documentation for the basis that EquipmentWatch uses a 50-minute work hour.
2. Appendix B.5 Direct Quotes, Layne Christensen Company. The quoted exploration borehole plugging cost is approximately \$10.47 per foot, however additional quotes from Wilcox Professional Services (provided in a 2011 letter) that range from \$15.75 to \$23.83 per foot are included in Appendix B.5. Please provide justification for use of the Layne Christensen Company quote instead of an average per foot cost from all the quotes provided. MMD believes that some wells may require a more detailed plugging plan of operations than an exploration borehole. Older wells may require ripping, drilling, removing or cutting casing for an adequate seal of the annulus to limit hydraulic connections and subsurface pathways. Generally, undamaged, properly sealed wells should have less complexity during plugging except when adjacent wells may be impacted from sealant flowing beyond the sand/gravel filter pack of the plugged well.

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3. Attachment 2, NPV Calculation and Supporting Information, Escalation and Discount Rates. Chino cites a preference for the longest possible data sets for escalation (35-100 years) and discount (43-46 years) rates, and these inputs calculate a net discount rate per year of cash flow. While the larger data sets are useful for evaluating historical trends, MMD and NMED recommend using a time period of the last 25 years for geometric means of escalation and discount rates. Please provide an updated NPV calculation using the revised escalation and discount rates.
4. Attachment 2, NPV Calculation flow sheet. The duration of earthwork includes the major capital expenditures, and this interval should track the usage of short-term discount rate. Please update the NPV calculation to be consistent with 1-20 years of earthwork and 21-100 years of long-term costs.

Enclosed with this letter are comments from the NMED, dated June 3, 2019, to be addressed in writing by Chino.

Please provide written responses to these comments within 45-days of receipt.

If you have any questions, please feel free to contact me at (505) 476-3434 or by email at david.ennis@state.nm.us.

Sincerely,



David J. (DJ) Ennis, P.G., Permit Lead
Senior Reclamation Specialist
Mining and Minerals Division

Encl: NMED Comments (dated June 3, 2019)

cc: Brad Reid, NMED Permit Lead
Mine File (GR009RE)



Michelle Lujan Grisham
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**NEW MEXICO
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James C. Kenney
Cabinet Secretary

Jennifer J. Pruett
Deputy Secretary

MEMORANDUM

Date: June 3, 2019

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

Through: Jeff Lewellin, Mining Act Team Leader, Mining Environmental Compliance Section

From: Anne Maurer, Mining Environmental Compliance Section

Subject: **NMED Comments, Freeport-McMoRan Chino Mine, Review of Sitewide Closure Closeout Plan Financial Assurance Cost Estimate, Revision 18-1, Grant County, New Mexico, MMD Permit No. GR009RE**

The New Mexico Environment Department ("NMED") received correspondence from the Mining and Minerals Division ("MMD") on March 28, 2019 requesting NMED review and provide comments on the above-referenced MMD permitting action. A request for extension of submittal of NMED comments was granted by MMD via email on May 16, 2019. In accordance with 19.10.6.605.C NMAC, NMED has the following comments.

Background

The Freeport-McMoRan Chino Mines Company ("FMI") provided an updated financial assurance proposal for the Chino Mine to MMD on March 25, 2019. Chino Mine submitted a site-wide financial assurance cost estimate for both the North Mine Area and South Mine Area that is based on the conceptual reclamation design presented in the 2018 Updated Closure/Closeout Plan ("CCP").

Mining Environmental Compliance Section

The Mining Environmental Compliance Section ("MECS") of NMED has reviewed the March 28, 2019 Chino Mine site-wide financial assurance ("FA") proposal and has the following comments:

1. Section 6.2.4 of Attachment 2, *Chino Mine Closure/Closeout Plan Update, Basis of Cost Estimate for Water Management and Treatment*, dated March 18, 2019, discusses the

replacement, operation and maintenance (“O&M”), and routine maintenance costs associated with the proposed short and long-term water management and treatment systems. FMI states that routine maintenance costs are set at 1.5% annually of the total capital costs for each component of the water treatment systems with the exception of the Sludge Disposal Facility and Salt Disposal Facility. The replacement O&M costs are set at 1.5% annually for the South Treatment System (“STS”). In Attachment B, STS Direct Cost Cash Flow by Year in Current Cost Dollars, the table shows that 1.0% has been allocated for replacement O&M and 1.5% for routine maintenance. This is not consistent with what is stated in Section 6.2.4. The replacement O&M should be 1.5%. Please update the table to reflect this. In addition, labor costs as shown in the STS Direct Cost Cash Flow by Year in Current Cost Dollars table, indicate that labor costs decrease approximately 50% by year 16. Please provide the rationale for significantly decreasing labor costs by year 16.

NMED Summary Comment

NMED will continue to coordinate with MMD and FMI to resolve any outstanding matters associated with approval of the proposed financial assurance cost estimate.

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

cc: Fernando Martinez, Division Director, EMNRD-MMD
DJ Ennis, Lead Staff, EMNRD-MMD
Kurt Vollbrecht, Program Manager, MECS
Brad Reid, Permit Lead, MECS