



FREEPORT-McMoRAN

Sierrita Operations
Environment, Land & Water Department
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June 23, 2015

Via Certified Mail # 7014 3490 0001 5007 1921
Return Receipt Requested

Ms. Madeline Keller
Arizona Department of Environmental Quality
Water Quality Enforcement Unit
1110 West Washington Street
Phoenix, Arizona 85007-2935

Re: ADEQ Review of Mitigation Plan
Mitigation Order on Consent Docket No. P-50-06

Dear Ms. Keller:

In September 2014, Arizona Department of Environmental Quality (ADEQ) provided recommendations¹ to Freeport-McMoRan Sierrita Inc. on the Mitigation Plan² prepared in accordance with the above referenced Mitigation Order. This letter contains Sierrita's responses to ADEQ's recommendations. In the following responses, ADEQ's complete recommendation is provided in italicized text followed by Sierrita's response in regular font.

ADEQ Recommendation 1: *Sierrita Revise the Plan, Page 3, in Section 2.2 Description of the Mitigation Alternative, to provide a more precise schedule on when a Feasibility Study (FS) for the new tailing impoundment would be initiated and completed. The Plan should propose a schedule that discusses when a decision on whether a new tailing impoundment would be constructed in accordance with the December 18, 2013 revised Mitigation Plan. Once the decision is made on the new tailing impoundment, you should revise the last two sentences in this section of the Plan to document the decision and if the tailing impoundment is to be constructed, a proposed schedule on when the impoundment would be constructed, in accordance with the December 18, 2013 revised Mitigation Plan.*

Sierrita Response: As stated in Section 2.2 of the Mitigation Plan, "Sierrita's continued intent is to construct a new tailing impoundment in the future, thus enabling the STI time to draindown prior to the cessation of mining. However, due to the uncertainties associated with the project, Sierrita is unable to identify if and when a new tailing impoundment would be constructed and brought on-line." Alternative 3 was implemented because it would accomplish the mitigation action objective without a new tailing impoundment. The Mitigation Plan does not provide a schedule for a new tailing impoundment because Alternative 3 does not use a new tailing impoundment. If Sierrita decides to construct a new tailing impoundment in the future, Sierrita would provide ADEQ written notice of the project schedule.

ADEQ Recommendation 2: *Sierrita revise the last sentence in the first paragraph of Section 3.3.2.4 Data Use, and state "Ultimately, Sierrita may request termination of the Mitigation Plan and the Mitigation Order upon demonstration of groundwater monitoring data and technical analysis satisfactory to ADEQ and that the mitigation action objective would continue to be met without continued groundwater pumping." In addition, ADEQ also recommends that the*

¹ Correspondence from Madeline Keller, ADEQ, to Deborah Chismar, Sierrita, Re: Review of the revised Mitigation Plan (Plan) and the Well Field Operation and Maintenance (O&M) Plan for the Sierrita Mitigation Order, dated December 18, 2013, prepared by Clear Creek Associates, P.L.C. September 29, 2014.

² Clear Creek Associates. 2013. Mitigation Plan for Sulfate with Respect to Drinking Water Supplies in the Vicinity of the Freeport-McMoRan Sierrita Inc. Tailing Impoundment. Mitigation Order on Consent Docket No. P-50-06. December 18, 2013.

Plan state, "A work plan would be submitted to ADEQ to discuss how the evaluation of termination of groundwater pumping would be conducted and demonstrated."

Sierrita Response: The last sentence of the first paragraph of Section 3.3.2.4 will be modified as ADEQ recommends. As discussed below in Sierrita's response to ADEQ Recommendation 6, Section 4.3 would be revised to provide for submittal to ADEQ of a work plan describing the data and methodology to be used to demonstrate continued attainment of the mitigation action objective when the mitigation action has progressed to a point that the Mitigation Plan and Mitigation Order could be discontinued. The work plan would include a strategy for groundwater monitoring for sulfate to verify attainment of the mitigation action objective over time after the termination of pumping. Sierrita will add a reference to Section 4.3, Reduction or Termination of Mitigation Pumping, at the end of the first paragraph of Section 3.3.2.4.

ADEQ Recommendation 3: *That the language in the fourth and fifth sentences in Section 3.4 Contingency Measures – 2. Contingency Event of the Plan, be more specific on when the recommendation on modifications to performance goal pumping, due to reduction of water use for mining operations, would be submitted to ADEQ and whether ADEQ would have input on the recommendation.*

Sierrita Response: The contingency event referenced by ADEQ (the second contingency event in Section 3.4) would not recommend modifications to performance goal pumping. Instead, the contingency event states that a pumping and water management plan would be developed to maintain pumping at the performance goal rates in the contingency that Sierrita's water use is less than the amount of water pumped at the performance goal rates. The fifth sentence in the portion of Section 3.4 referenced by ADEQ will be modified as follows: "The plan would be submitted to ADEQ as notice 60 days prior to implementation. "

ADEQ Recommendation 4: *That the Plan, Section 3.4 Contingency Measures, contain a contingency measure that could be implemented if pumping for the current mitigation well field does not meet the current mitigation goals on speed of the sulfate plume reduction or if the sulfate plume expands unexpectedly.*

Sierrita Response: The mitigation action objective in the Mitigation Order is to "practically and cost effectively provide a drinking water supply that meets applicable standards and with sulfate concentrations less than 250 mg/L to the owner/operator of an existing drinking water supply determined...to have an average sulfate concentration in excess of 250 mg/L...as a result of the sulfate plume". The Mitigation Order does not have requirements for the size or rate of change of the plume; only that the mitigation action objective be met.

As described in Section 2.3 of the Mitigation Plan, the mitigation action objective can be met without reducing the current extent of the plume. The Mitigation Plan does show the predicted future reduction of the plume extent based on flow and sulfate transport numerical modeling of the Mitigation Plan pumping rates. However, the predicted rate of reduction is independent of whether the mitigation actions meet the mitigation action objective.

Sierrita respectfully submits that the speed of sulfate plume reduction or an unexpected expansion of the plume are considered by the Mitigation Plan and do not warrant separate contingency measures. The mitigation performance review process is included in the Mitigation Plan specifically to review the movement of the plume and recommend changes to pumping if the data analysis for the review indicates that the mitigation action objective would not be met in the future. In the event that the rate of plume reduction is slower than predicted by numerical modeling or that limited plume expansion occurs at some point, there would be no need to change the mitigation actions if they are expected to meet the mitigation action objective.

ADEQ Recommendation 5: *That the Plan, Section 4.2 Mitigation Performance Reviews, be revised to contain language on ADEQ concurrence prior to reducing or increasing the frequency of reviewing the mitigation performance.*

Sierrita Response: The first paragraph of Section 4.2 will be revised to include the following sentence after the first sentence. "The notice to ADEQ would request ADEQ concurrence within 90 days for a change in the frequency of mitigation performance reviews from frequency identified in the Mitigation Plan."

ADEQ Recommendation 6: *In Section 4.3 Reduction or Termination of Mitigation Pumping, that the Plan state, "A work plan would be submitted to ADEQ to discuss how the evaluation of termination of groundwater pumping would be conducted and demonstrated."*

Sierrita Response: The following sentence will be added at the end of the first paragraph of Section 4.3. "When the mitigation action has progressed to a point that the Mitigation Plan and Mitigation Order could be discontinued, Sierrita would submit a work plan to ADEQ describing the monitoring data and technical analysis that would be used to demonstrate that the mitigation action objective would be met without continued groundwater pumping. The work plan would include a strategy for groundwater monitoring for sulfate to verify attainment of the mitigation action objective after the termination of pumping. The results of the technical analysis would be submitted to ADEQ with a request to terminate the Mitigation Plan and Mitigation Order."

ADEQ Recommendation 7: *In the Plan, Section 6.1 Community Advisory Group, that the CAG members meet and come to a consensus on reducing the number of CAG meetings from four meetings per year to one meeting per year.*

Sierrita Response: Section 6.1 will be revised as follows. "A Community Advisory Group (CAG) was formed for the purpose of improving the public's access and understanding of information regarding the Mitigation Order. A CAG consisting of five persons selected from a cross section of the community will be maintained to meet throughout the mitigation or as needed based on community interest. The frequency of future meetings will be determined by a vote of the CAG, but will not exceed four meetings annually."

Please do not hesitate to contact me at (520) 393-2347 if you have any questions regarding this submittal.



Sincerely,
Deborah Chismar
Sr. Environmental Specialist
Freeport-McMoRan Sierrita Inc.

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