



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

**MINOR MODIFICATION TO PERMIT NO. R9UIC-AZ3-FY16-1  
ISSUED TO EXCELSIOR MINING ARIZONA, INC.**

In accordance with 40 CFR §144.41, this permit is hereby modified to include changes requested by the Permittee in well construction and additional groundwater monitoring and reporting of such monitoring for the Gunnison Copper Project, under the authority of the Underground Injection Control (UIC) program. The permit modification includes cement placement procedures and monitoring well construction plans. The permit modification also includes the addition of six monitoring wells that exist along the southern border of the project outside the Area of Review (AOR). The AOR is described in Part I of the Authorization to Construct and Inject and depicted in Figure A7-A in Appendix A of the permit.

**Page 11, PART II.C. WELL CONSTRUCTION, - the following new language is added to the end of the requirement at Section 2. Logging and Testing during Drilling and Construction:**

If the annulus is filled to the surface by pressure grouting, it is not necessary to run a temperature log for FRP and PVC cased wells for determination of the top of cement in the casing/wellbore annulus within 48 hours of cementing the casing.

**Page 13, PART II.C. WELL CONSTRUCTION - the following new language is added to the end of the requirement at Section 5. Cementing:**

Upon filling the well annulus to the surface using the pressure grouting method, the Permittee may use a tremie pipe to top off cement in the annulus. The tremie pipe should be lowered to the top of cured cement and kept below the top of the cement slurry as the annulus fills with cement during the topping-off procedure.

Since the POC wells and OWs will not be pressurized, the Permittee may use the tremie method for cement placement to the surface in the annulus of POC and OW wells. The POC well and OW construction diagrams in Appendix B, Figures M-4 and M-5 are consistent with the use of the tremie method for cement placement in the annulus.

**Page 34, PART II.F. MONITORING PROGRAM - the following new section (Section 12) is added:**

12. Additional Monitoring Wells

The Permittee shall construct three monitoring wells on a line approximately three hundred (300) feet south of the southernmost hydraulic control wells and on land controlled by the Permittee. The Permittee shall construct three additional monitoring wells on a line approximately three

hundred (300) feet south of the three monitoring wells described above and on land controlled by the Permittee. The exact location of the six monitoring wells shall be determined, and their installation shall occur, after the Permittee submits the Groundwater Flow Model Report to the Arizona Department of Environmental Quality (ADEQ).

At least thirty (30) days prior to construction activities, the Permittee shall submit the proposed monitoring well locations, the basis for the locations, and construction details and diagrams of the six monitoring wells for EPA review and approval. Within 60 days after completion of the wells, the Permittee shall submit monitoring well completion reports to EPA for EPA review and approval.

The Permittee shall install and maintain in good operating condition a downhole Electrical Conductivity (EC) sensor in each of the monitoring wells to monitor continuously and record daily specific conductance measurements. The Permittee shall collect conductivity measurements to establish a representative baseline. The Permittee shall submit the results of the baseline and daily measurements in a table and graph for each monitoring well over the reporting period in the quarterly report required in Part II.G of this permit.

The Permittee shall measure groundwater elevation in feet relative to mean sea level in each of the monitoring wells on a quarterly basis and report the data in accordance with Part II.G of this permit.

All other permit conditions remain unchanged.

This minor modification is effective on \_\_\_\_\_.

Gullatt, Kristin

Digitally signed by Gullatt,  
Kristin

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Tomás Torres  
Director, Water Division