Hermosa Project Hydrogeological Services

Santa Cruz County, Arizona

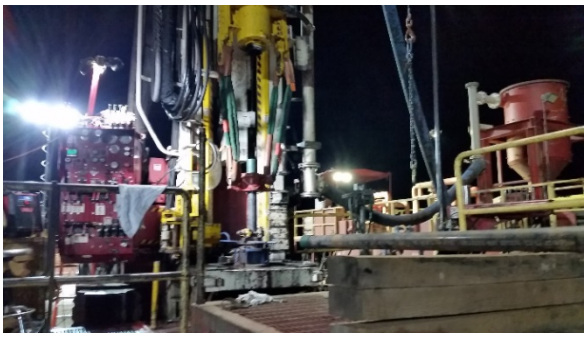
CLIENT

Arizona Minerals

HIGHLIGHTS

- APP acquisition
- Well design and installation oversight
- Springs and seeps inventory
- Design, oversight and analysis of extensive aquifer testing program
- Preparation of water resources monitoring plan
- Water resources evaluation for PEA
- Hydrologic study for USFS POO
- Developed groundwater flow model

Clear Creek's experience with the Hermosa project includes acquisition of an Aquifer Protection Permit (APP), design and installation oversight of two wells (production well WW-1 and deep test well HT-1), installation oversight for a second production well (BW-1), an inventory of springs and seeps, design, oversight and analysis of an extensive aquifer testing program, preparation of a water resources monitoring plan, a water resources evaluation for the Preliminary Economic Assessment (PEA), a hydrologic study for the USFS Plan of Operations (POO), and a groundwater flow model.



Clear Creek used a simple analytical model and aquifer testing results to demonstrate sufficient on-site groundwater resources for the project.

Clear Creek's work on the APP, along with our long history of working with regulatory agencies in Arizona, helped AMI establish a positive relationship with the Arizona Department of Environmental Quality (ADEQ). The APP Clear Creek helped obtain was for the tailing storage facility, underdrain collection pond, and the water treatment plant. We have since submitted an application for an amendment to that APP, and we are working on a significant amendment to include a new water treatment plant and increase the height of the tailing storage facility.

Clear Creek's work on BW-1 and WW-1 helped AMI secure a reliable water supply, and our work on HT-1 provided data on the hydrogeology of the site to a depth of 3,700 feet. Our inventory of springs and seeps encompassed 13,000 hectares and contributed significantly to our preliminary conceptual model of the area. The monitoring plan Clear Creek developed helped AMI organize its monitoring activities into an efficient program geared toward specific objectives. For the PEA, we used a simple analytical model and aquifer testing results to support the conclusion that sufficient on-site groundwater resources would likely be available for the project. For the POO, Clear Creek provided a baseline conditions evaluation of the site hydrogeology, along with an assessment of impacts of core drilling operations on regional water levels. Our groundwater flow model was based on an extensive compilation of on-site data in addition to data from private wells throughout an area of 30,000 hectares.