



Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

1110 West Washington Street • Phoenix, Arizona 85007
(602) 771-2300 • www.azdeq.gov



Benjamin H. Grumbles
Director

July 13, 2010

Received

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Freeport McMoRan CQB

Rebecca A. Sawyer
Senior Environmental Engineer
Freeport-McMoRan Corporation, Copper Queen Branch
36 West Highway 92
Bisbee, Arizona 85603

Re: Work Plan for Focused Bedrock Investigation
Mitigation Order on Consent Docket No. P-121-07

Dear Ms. Sawyer:

The Arizona Department of Environmental Quality (ADEQ) has reviewed the above referenced work plan dated June 10, 2010. According to the work plan, the purpose is to provide additional characterization of the bedrock aquifer east of the Black Gap Fault and additional evaluation of geologic and hydrogeologic information to determine if the conceptual and numerical models can be improved. The work plan proposes to install, aquifer test, and water quality test two new groundwater monitoring wells in the bedrock aquifer north of Bisbee Junction. The work plan also proposes to aquifer test at two existing monitoring wells, TM-16, TM-42 and the Fleming Well. The previously collected resistivity and induced polarization surface geophysical data covering this portion of the bedrock will be re-evaluated. A detailed evaluation of water quality data in bedrock east of the Black Gap Fault will be conducted and the Aquifer Characterization Report will be updated and the conceptual and numerical models will be re-evaluated. Monitoring well BMO-2010-1M will be adjacent to and deeper than monitoring well TM-16 with a proposed screen interval of 700 to 800 feet below ground surface (ft bgs). Monitor well BMO-2010-2M is located to the north of BMO-2010-1M at a location between two different potentiometric regimes and has a proposed screen interval of 300 to 400 ft bgs. ADEQ has the following comments:

1. Task 1: Installation and Testing of Two Monitoring Wells – The work plan in this section does not discuss the aquifer tests that are to be conducted on the two new monitoring wells as was stated in Task 1 of Proposed Scope of Work. The work plan should provide a brief description on how the aquifer tests are to be conducted.
2. Task 1: Installation and Testing of Two Monitoring Wells – While the work plan states that one of the purposes was to gain additional geologic and hydrogeologic information

Northern Regional Office
1801 W. Route 66 • Suite 117 • Flagstaff, AZ 86001
(928) 779-0313

Southern Regional Office
400 West Congress Street • Suite 433 • Tucson, AZ 85701
(520) 628-6733

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for the area east of the Black Gap Fault, this section does not include collecting information about the nature of the fractures in the bedrock in these two proposed locations. The nature of the fractures would include orientation of the fractures and how amenable for the fractures to contain or allow movement of water and/or contaminants. ADEQ recommends taking advantage of this opportunity to collect more information about the bedrock aquifer characteristics through the use of borehole geophysical logging. Logging options may include: optical and/or acoustic televiewer, caliper, natural gamma, normal/guard and single point resistivity, and neutron logs.

ADEQ appreciates the opportunity to comment on the work plan. If you have any questions regarding these comments, please do not hesitate to call me at (602) 771-2209.

Sincerely,

A handwritten signature in black ink that reads "Cynthia S. Campbell". The signature is written in a cursive, flowing style.

Cynthia S. Campbell, Manager
Water Quality Compliance Section

Cc: Michael Jaworski, Freeport-McMoRan Corporation, Copper Queen Branch

Stuart M. Brown, Freeport-McMoRan Copper & Gold
One North Central Avenue
Phoenix, AZ 85004

James R. Norris, Clear Creek Associates
221 N. Court Avenue, Suite 101
Tucson, Arizona 85701