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FLORENCE PROJECT

October 11, 1995

Ms. Shirin Tolle
Aquifer Protection Project Officer
Arizona Department of Environmental Quality
3033 North Central Avenue
Phoenix, Arizona 85012

15-1899/43

Subject: Magma Copper Company, Florence Project
Monthly Progress Report
September 1995

Dear Ms. Tolle:

Magma Copper Company (Magma) is pleased to provide the September 1995 Progress Report for the Florence Project.

Drilling, Well Installation and Vadose Zone Programs

A total of 52 wells have been installed: 18 monitoring wells, 17 pumping wells, and 17 observation wells. All of the proposed monitoring wells and 9 aquifer test well clusters have been installed.

During September, aquifer tests were completed in 7 monitoring well clusters (39, 19, 12, 8, 3, 15, and 49). Analysis of the test is scheduled to be completed during the month of October. Presentation of the test results will be included in the APP application.

The vadose zone investigations included drilling 8 soil borings to a maximum depth of 95 feet. Piezometers for infiltration testing were installed in 4 of the borings. Water was encountered in two borings, between 75 and 80 feet below ground surface. Water was not encountered in borings located on the southern edge of the mine area. Because water was not encountered in all borings, this water likely represents a wetting front associated with existing irrigation of farm fields.

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Sampling Activities

Groundwater samples were collected from all 18 monitoring wells. Water samples were also collected from the irrigation canal, air shaft, and the drill water supply tank. Organic analyses were included for the September sampling event. Laboratory reports are anticipated to be issued by October 15, 1995. Groundwater sampling of all monitoring wells is scheduled to begin the week of October 16, 1995.

Modeling Activities

Groundwater modeling activities during September were focused on the input of additional layers into the model in the immediate area of the proposed in-situ mine. A presentation of the influence of extreme flood, extreme drought, and extreme changes in the groundwater conditions near the proposed in-situ mine area is being prepared. This presentation is scheduled for October 17, 1995 in Florence, Arizona with the Gila River Indian Community and the Arizona Department of Environmental Quality (ADEQ).

Additional attenuation testing was completed in September using previously leached materials and the conglomerate material. Partitioning coefficients (Kd) are being evaluated using this data..

Aquifer Protection/Underground Injection Control (UIC) Permit Activities

The third update meeting for the Aquifer Protection Permit (APP) application was held on September 28, 1995, and included a review of the Data Management Plan, initial point of compliance (POC) locations, and the planned hydraulic control program.

Application Preparation Activities

A draft APP application outline was submitted for review and comment to the ADEQ. Currently the project team is preparing the first draft of this document. Based on the meeting of September 28, 1995, only one double-sided copy of laboratory data is required by the ADEQ. However, the ADEQ has requested three copies of the application. A draft outline for the Aquifer Exemption/UIC application will be submitted to the United States Environmental Protection Agency (USEPA) on October 12, 1995.

Other application activities during September included:

- Evaluation of surface facility designs;
- Completion of geotechnical investigations;
- Preparation of a response to ADEQ comments on Sampling and Analysis Plan;

- Evaluation of data from 25 aquifer tests; and
- Evaluation and compilation of field data in accordance with the Data Management Plan.

The fourth APP application meeting is scheduled for October 31, 1995 at the Brown and Caldwell office in Phoenix. If you have any questions, please do not hesitate to contact me in Florence at (520) 868 -5094 or Mr. Steve Mellon at Brown and Caldwell, telephone number (602) 222-4445.

Very truly yours,

John Kline
Environmental Project Manager

SAM:rbb
Attachment

cc: Mr. Bruce Gaither, Digital Precision GeoScience
Mr. Jose Gutierrez, USEPA
Mr. Steve Mellon, Brown and Caldwell
Mr. Dan Ramey, Magma Copper Company
Mr. Terry Steinborn, Applied Research Associates, Inc.

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FLORENCE PROJECT
November 9, 1995

Ms. Shirin Tolle
Aquifer Protection Project Officer
Arizona Department of Environmental Quality
3033 North Central Avenue
Phoenix, Arizona 85012

15-1899/43

Subject: Magma Copper Company, Florence Project
Monthly Progress Report
October 1995

Dear Ms. Tolle:

Magma Copper Company (Magma) is pleased to provide the October 1995 Progress Report for the Florence Project.

Field Activities

A focused Environmental Site Assessment was completed at the existing facility structures. Shallow surface sampling was conducted and the analytical results will be included in the Aquifer Protection Permit (APP) Application. No additional wells were installed during this period and aquifer tests were completed at well clusters 13 and 28.

Sampling Activities

Groundwater samples were collected from 17 of the 18 monitoring wells. Monitoring well M17-GL is being evaluated for re-development and is anticipated to be included in the scheduled November sampling event. Water samples were also collected from the irrigation canal, air shaft, and drill water supply tank. Based on the analytical results from previous sampling events (August and September), no organic analyses were included for the October sampling event. Groundwater sampling of all monitoring wells is scheduled to begin the week of November 13, 1995.

Modeling Activities

Groundwater modeling activities during October were focused on the input of the aquifer parameters derived from the field testing. A presentation of the influence of extreme flood, extreme drought, and extreme changes in the groundwater conditions near the proposed in-situ mine area

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was conducted on October 17, 1995 for both the Arizona Department of Environmental Quality (ADEQ) and the Gila River Indian Community. Based on comments received during this meeting, additional modeling scenarios (total of eight) were presented to the ADEQ and the U.S. Environmental Protection Agency (USEPA) on October 3, 1995.

Aquifer Protection/Underground Injection Control (UIC) Permit Activities

The fourth update meeting for the APP Application was held on October 31, 1995 and included a review of proposed Best Available Demonstrated Control Technology (BADCT) design for surface facilities, proposed facilities applicability table, plan for compliance to standards, and proposed permit submittal schedules. Currently the project team is preparing the first draft of the APP Application for submission of baseline technical reports to the ADEQ, and the aquifer exemption application to the USEPA.

If you have any questions, please do not hesitate to contact me in Florence at (520) 868-5094 or Mr. Steve Mellon at Brown and Caldwell, telephone number (602) 222-4445.

Very truly yours,

Steve Mellon for

John Kline
Environmental Project Manager

SAM:rbb

cc: Mr. Bruce Gaither, Digital Precision GeoScience
Mr. Jose Gutierrez, USEPA
Mr. Steve Mellon, Brown and Caldwell
Mr. Dan Ramey, Magma Copper Company
Mr. Terry Steinborn, Applied Research Associates, Inc.