July 11, 2008

Mr. Robert Casey
Water Quality Enforcement Unit Manager
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007

Re: Mitigation Order on Consent No. P-121-07
Monitoring Well Sites Nos. 1 and 12

Dear Mr. Casey,

This letter requests permission for two proposed modifications to the Work Plan\(^1\) for investigation of sulfate in the vicinity of the Concentrator Tailing Storage Area of the Freeport-McMoRan Copper Queen Branch (CQB). The modifications pertain to proposed monitoring well Sites 1 and 12 (Figure 1). Information on Sites 1 and 12 is provided in Section 3.3.3, Table 7, and Figure 23 of the Work Plan.

We propose to move Site 1 approximately 1,800 feet east of the location proposed in the Work Plan (Figures 1 and 2) because water quality information collected for the well inventory indicates sulfate concentrations exceeding 250 milligrams per liter in a well near the location originally proposed. As discussed in the Work Plan, a single well is planned for Site 1 with the objective of defining the lateral extent of sulfate. The revised location is hoped to be outside the eastern extent of the sulfate plume to satisfy the objective for Site 1.

The Work Plan proposes a single well at Site 12 east of the South Tailing Impoundment and south of the former Warren Wastewater Treatment Plant (Figure 1). Section 3.3.3 and Table 7 of the Work Plan indicate that an existing well at the proposed Site 12 may be substituted for the proposed well if the existing well is suitable for monitoring. The existing well at Site 12 is 593116 owned by City of Bisbee (COB) and installed in 2002. Attachment 1 contains the as-built well construction information filed Arizona Department of Water Resources for 593116. The well is screened the upper portion of the bedrock aquifer from 90 to 150 feet below surface in essentially the same location as the proposed Site 12 (Figure 3 and 4). The depth to water in the 593116 was approximately 58 feet below surface in May 2008 and the sulfate concentration of a sample from the well was 90 mg/L. The CQB has an access agreement with COB for access to 593116 for groundwater monitoring.

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According to the Work Plan, the well at Site 12 would consist of a single well with a 100- to 200-foot screen starting near the water table to determine the lateral extent of sulfate. Well 593116 meets the minimum criteria for Site 12 because it provides a monitoring capability similar to that of a well with a 100-foot screen and the sulfate concentration is less than 250 mg/L indicating the well is outside the plume. Because well 593116 meets the Work Plan objectives for a well at Site 12, CQB requests permission to use 593116 for monitoring in lieu of installing a well at Site 12.

We respectfully request that you respond to this request by July 21, 2008, when drilling is scheduled to start at Site 1. Please do not hesitate to contact Mr. Stuart Brown at (503) 675-5252 or myself at (520) 432-6209 if you have any questions regarding this request.

Sincerely,

Michael Jaworski
Site Manager
Copper Queen Branch

Attachments

cc:  Cynthia Campbell, Arizona Department of Environmental Quality
     Rebecca Sawyer, Copper Queen Branch
     Sheila Deely, Freeport-McMoRan Copper & Gold Inc.
     Stuart Brown, Bridgewater Group, Inc.
     James Norris, Hydro Geo Chem, Inc.
ATTACHMENTS

FIGURES

1 Sites 1 and 12 Well Locations
2 Proposed Revised Site 1 Monitoring Well Locations
3 Locations of Proposed Site 12 and Substitute Well 593116
4 Schematic Well Diagram for Well 593116

ATTACHMENT

1 Arizona Department of Water Resources Imaged Records for Well 593116
FIGURES
Site 12
- Proposed in Work Plan

LOCATION OF PROPOSED SITE 12 AND SUBSTITUTE WELL 593116
ATTACHMENT 1

ARIZONA DEPARTMENT OF WATER RESOURCES
IMAGED RECORDS FOR WELL 593116
# Water Report
## Well Log

**SECTION 1: REGISTRY INFORMATION**

<table>
<thead>
<tr>
<th>Well Owner</th>
<th>Location of Well</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITY OF BISBEE</td>
<td>TOWNSHIP (NWS) RANGE (EM) SECTION</td>
</tr>
<tr>
<td>MAILING ADDRESS</td>
<td>23S 24W 35S</td>
</tr>
<tr>
<td>118 ARIZONA ST</td>
<td>SW 1/4 NW 1/4 SE 1/4</td>
</tr>
<tr>
<td>BISBEE, AZ 85603</td>
<td>LATITUDE</td>
</tr>
<tr>
<td></td>
<td>31° 22' 56&quot; N</td>
</tr>
<tr>
<td></td>
<td>LONGITUDE</td>
</tr>
<tr>
<td></td>
<td>109° 52' 51&quot; W</td>
</tr>
<tr>
<td>CITY/STATE/ZIP</td>
<td>LAND SURFACE ELEVATION AT WELL</td>
</tr>
<tr>
<td></td>
<td>4836.59</td>
</tr>
<tr>
<td>CONTACT PERSON NAME AND TITLE</td>
<td>Feet Above Sea Level</td>
</tr>
<tr>
<td>TELEPHONE NUMBER</td>
<td>COUNTY WHERE WELL IS LOCATED</td>
</tr>
<tr>
<td>520-432-6000</td>
<td>Cochise Co.</td>
</tr>
</tbody>
</table>

**SECTION 2: DRILLING AUTHORIZATION**

<table>
<thead>
<tr>
<th>Drilling Firm</th>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>YELLOW JACKET DRILLING</td>
<td></td>
</tr>
<tr>
<td>DWR LICENSE NUMBER</td>
<td>78</td>
</tr>
<tr>
<td>TELEPHONE NUMBER</td>
<td>602-453-3252</td>
</tr>
<tr>
<td>FAX</td>
<td>602.453.3252</td>
</tr>
</tbody>
</table>

**SECTION 3: WELL CONSTRUCTION DETAILS**

<table>
<thead>
<tr>
<th>Date Well Construction Started</th>
<th>Date Well Construction Completed</th>
<th>Flowing Well Method of Flow Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-16-02</td>
<td>7-22-02</td>
<td>□ Valve □ Other</td>
</tr>
</tbody>
</table>

**Drill Method**

- [X] Air Rotary
- [ ] Bored or Augered
- [ ] Cable Tool
- [ ] Dual Rotary
- [ ] Mud Rotary
- [ ] Reverse Circulation
- [ ] Driven
- [ ] Jetted
- [ ] Air Percussion / Odex Tubing
- [ ] Other (please specify)

**Method of Well Development**

- [X] Check One
  - [X] Airlift
  - [X] Bail
  - [X] Surge Back
  - [X] Surge Pump
  - [ ] Other (please specify)

**Method of Sealing at Reduction Points**

- [X] Check One
  - [ ] None
  - [ ] Packed
  - [ ] Swaged
  - [ ] Welded
  - [ ] Other (please specify)

**Water Level Information**

- Static Water Level: 101.50 feet below land surface
- Date Measured: 7-22-02

DWR-55-55-10/01 (Rev.)
### Borehole Construction Design

<table>
<thead>
<tr>
<th>Depth From Surface (ft)</th>
<th>Borehole Diameter (inches)</th>
<th>Depth From Surface (ft)</th>
<th>Outer Diameter (inches)</th>
<th>Material Type (X)</th>
<th>Perforation Type (X)</th>
<th>Slot Size if Any (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30</td>
<td>12</td>
<td>18</td>
<td>8</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>150</td>
<td>85</td>
<td>90</td>
<td>4</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>90</td>
<td>150</td>
<td>4</td>
<td>x</td>
<td>0.20</td>
</tr>
</tbody>
</table>

### Installed Annular Material

<table>
<thead>
<tr>
<th>Depth From Surface (ft)</th>
<th>Annular Material Type (X)</th>
<th>Filter Pack</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>x</td>
<td>8/12</td>
</tr>
<tr>
<td>150</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Depth of Boring
- 150 feet below land surface

### Depth of Completed Well
- 150 feet below land surface
## SECTION 5: GEOLOGIC LOG OF WELL

<table>
<thead>
<tr>
<th>FROM (feet)</th>
<th>TO (feet)</th>
<th>DESCRIPTION</th>
<th>Check (X) every interval where water was encountered</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>36'</td>
<td>S.G.C.</td>
<td></td>
</tr>
<tr>
<td>36'</td>
<td>150'</td>
<td>limestone</td>
<td></td>
</tr>
</tbody>
</table>

J.D. = 150'
### SECTION 6. WELL SITE PLAN

<table>
<thead>
<tr>
<th>NAME OF WELL OWNER</th>
<th>COUNTY</th>
<th>ASSESSOR'S PARCEL ID NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CITY OF BISBEE</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- Please draw the following: (1) the boundaries of property on which the well was located; (2) the proposed well location; (3) the locations of all septic tank systems and sewer systems on the property or within 100 feet of the well location, even if on neighboring properties; and (4) any permanent structures on the property that may aid in locating the well.
- Please indicate the distance between the well location and any septic tank system or sewer system.

See attached Site map.

1" = ____ ft

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I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

**DRILLING FIRM**

Yellow Jacket Drilling

**SIGNATURE OF QUANTIFYING PARTY**

[Signature]

**DATE**

8-17-02

DWR-55-55 (Rev. 10/11/01)