NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

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Mr. John Buckley, NRC Project Manager
U.S. Nuclear Regulatory Commission
Decommissioning and Uranium Recovery Licensing Directorate
Division of Waste Management and Environmental Protection
Mail Stop T-8F5
Washington, DC 20555

June 13, 2008

RE: Comments on "Work plan for well 986 uranium evaluation (Homestake Mining Company Superfund Site CERCLIS ID NMD007860935)

Dear Mr. Buckley:

The New Mexico Environment Department ("NMED") has reviewed the above-captioned work plan that was received from Homestake Mining Company ("HMC"), and herein submits the following comments.

1. NMED notes that a second set of duplicate samples were collected from the subject well in May 2007. These indicated total/dissolved uranium concentrations in parts per billion ("ppb") of 51.4/54.9 and 52.4/55.0.
2. NMED requests a detailed list of analytes for which wells are proposed to be sampled for this task. Specifically, NMED recommends inclusion of analyses for anions and cations, by which water chemistry can be compared among the proposed wells, as well as with current Alluvial and San Andres monitor well data, in order to better characterize the possible origin of water in the subject well (see comments 3, 6, and 7 below).
3. NMED recommends sampling of the subject well at the conclusion of the test. If leakage from an overlying aquifer is occurring, a comparison of key cation and anion concentrations and ratios to those from nearby Alluvial and San Andres wells could provide additional indication of the origin aquifer of ground water in the subject well.
4. Casing integrity in well 806 previously has been determined to be compromised, and HMC has proposed to replace this well. However, if this well has not yet been replaced, then water level monitoring that is proposed for this well is unlikely to be useful. Additionally, NMED requests the pumping rate for well 986 be provided. NMED is concerned that a 24 hour test, if done with a relatively low pump rate may not influence water level changes in well 806 as it is located approximately 4000' from well 986. Water levels in wells 955, 987, and 991 may be more appropriate to monitor, even if done manually.
5. Please clarify when samples are proposed to be collected from the 3 additional San Andres wells and Alluvial well 993 in this study.
6. In order to better test the hypothesis of leakage from the Alluvial aquifer into the subject well, NMED recommends water level monitoring within nearby Alluvial wells during pumping, and also water quality sampling at the conclusion of the pumping test. Specifically, NMED recommends consideration of wells 983, 942, 982, 993,and 940.
7. San Andres well 822, which is located downgradient of the subject well, has very limited water quality data available, and was last sampled in 1996. From these limited data, an upward trend in uranium concentrations may be indicated. San Andres well 943, which is the nearest downgradient well to the subject well, has a more extensive water quality dataset that indicates no identifiable trend in uranium concentrations, but has had uranium concentrations which varied

between 0.001 (11/13/2002) and 0.0245 (10/26/1996) ppb. NMED recommends that these wells be sampled at the conclusion of the pumping test for comparison with the subject well.

Please contact David L. Mayerson at (505) 476-3777 or david.mayerson@state.nm.us, or Jerry Schoeppner at (505) 827-0652 or jerry.schoeppner@state.nm.us if you should have any questions.

Sincerely,

for David L. Mayerson
Superfund Oversight Section

Jerry Schoeppner
Mining Environmental Compliance Section

Copies: Mr. Sairam Appaji, EPA RPM
HMC 2008 correspondence file
NMED/GWQB/SOS June 2008 read file