

GV plant aims to clean up drinking water

Process removes mining sulfates in groundwater

By Erica Meltzer

ARIZONA DAILY STAR

A Canadian company that specializes in the treatment of industrially contaminated water is working on a pilot plant to remove sulfate contamination coming from the Sierrita Mine northwest of Green Valley.

The plant, which will be built this year and start running by 2009, will be the first large-scale operation to use the company's ion-exchange process for removing sulfates from groundwater.

The state Department of Environmental Quality says sulfates — sulfur-based compounds that come from copper production — can cause diarrhea and harm the stomach and intestines.

Authorities have known since the mid-1980s that sulfates seeping from the Sierrita Mine had polluted groundwater and represented a potential threat to drinking-water supplies.

In 2005, the Community Water Co. of Green Valley had to close two drinking-water wells that had sulfates at levels above 500 parts per million, more than twice the recommended level.

Phelps Dodge, then the mine's owner, provided temporary replacement wells for the contaminated wells and paid \$8 million toward helping the company build new, permanent wells to replace those that were polluted.

There are no legally enforceable limits on sulfates in groundwater, but in 2006 Phelps Dodge entered into an agreement with the state to prevent the contamination from reaching other drinking-water wells.

Last year, Phelps Dodge was acquired by Freeport-McMoRan Copper and Gold, which now runs the Sierrita Mine and Phelps Dodge's other Arizona operations.

According to a press release from BioteQ Environmental Technologies, the two companies will work together to design, build and operate the demonstration plant. Freeport-McMoRan will pay for the construction and operation, and BioteQ will license the technology to the mining company so it can be used at other sites if the technology works.

The plant will be able to treat 125 gallons per minute. The company said the ion-exchange method for removing sulfates from water is less expensive than reverse osmosis, and its only byproduct is gypsum, which is used in making building products and fertilizers.

In a statement, Freeport-McMoRan said the demonstration plant is one of several methods the company is exploring to address the sulfate problem.

Officials with Community Water Co. have raised concerns that groundwater pumping to the east of Green Valley for the proposed Rosemont Mine could hasten the spread of the sulfate plume into their wells.

A spokesman with the state Department of Environmental Quality had no information Friday afternoon about the status of the consent decree with Freeport-McMoRan.

Did you know ...

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