



The State
of Wyoming



Department of Environmental Quality

Dave Freudenthal, Governor

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July 29, 2003

Ms. Donna Wichers
 General Manager
 COGEMA Mining, Inc.
 P. O. Box 730
 Mills, WY 82644

40-8502

RE: Irigaray-Christensen Ranch Operations, Permit No. 478

Dear Ms. Wichers:

This letter is provided in response to your May 14, 2003, correspondence regarding the removal of six (6) Shallow Sand monitor wells, (SSM-3, SSM-18, SSM-40, SSM-1, SSM-42 & SSM-43) and one (1) Deep Sand monitor well (DM-10) from excursion status at the Irigaray Mine.

SHALLOW SAND MONITOR WELLS EXCURSION STATUS

The excursion in Shallow Sand monitor wells SSM-3, SSM-18, SSM-40, SSM-1, SSM-42 and SSM-43 represents a unique situation. The excursion occurred primarily because a number of improperly abandoned drillholes were present when COGEMA began mining. (Unfortunately these holes were not found before COGEMA's collection of baseline hydrologic data prior to mining). These holes provided conduits from the production zone to the Shallow Sand. Damaged production well casings also contributed to the excursions.

Once the excursions were detected, the mitigation efforts included properly abandoning the drill holes and abandoning or repairing all damaged wells. This effectively blocked continued upward migration of fluids from the production zone; however, it also limited the options available for addressing the Shallow Sand excursions.

The transmissivity of the Shallow Sand is quite low, as is the quantity of water in that sand. As a result, the wells will not sustain prolonged pumping and often go dry during sampling operations. Over two decades of sampling, the Shallow Sand wells have been sampled monthly or biweekly for excursion parameters and several times for the Land Quality Division (LQD) Guideline 8 parameters. None of the concentrations of these groundwater parameters have exceeded the Class-of-Use standards established by the Water Quality Division (WQD) for Class III (Livestock) standards. This was the premining Class-of-Use of the Shallow Sand water.

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Because the excursion mitigation effort effectively precluded further movement of fluid from the production zone to the Shallow Sand and the quality of the Shallow Sand water is still suitable for the same uses as before mining, the LQD is removing Shallow Sand monitor wells SSM-3, SSM-18, SSM-40, SSM-1, SSM-42 and SSM-43 from excursion status.

DEEP SAND MONITOR WELL EXCURSION STATUS

The excursion in well DM-10 is believed to have occurred because of a geologic connection between the Deep Sand and the ore zone or Upper Irigaray Sandstone. This provided a conduit from the production zone to the Deep Sand, resulting in the excursion.

Once the excursion was detected in July 1989, the mitigation efforts included pumping selected wells in the overlying production zone. Groundwater restoration efforts in the production zone have also had a marked effect on DM-10, including making it possible to remove it from excursion status from December 1992 to September 1993.

Over more than a decade of sampling, the Deep Sand monitor wells have been sampled monthly or biweekly for excursion parameters and DM-10 has been sampled several times for the LQD Guideline 8 parameters. None of the concentrations of these ground water quality parameters have exceeded the Class-of-Use standards established by the WQD for Class III (Livestock) standards. This was the pre-mining Class-of-Use of the water in the Deep Sand. In addition, the water from DM-10 meets drinking water standards.

After consultation with the WQD and the Nuclear Regulatory Commission, and because the wellfield restoration effectively precluded further movement of fluid from the production zone to the Deep Sand and the quality of the ground water in the Deep Sand is still suitable for the same uses as before mining, the LQD is removing Deep Sand monitor well DM-10 from excursion status.

If you have any questions or require additional information, please contact me at 777-7046 or Glenn Mooney in the Sheridan District III Office at 672-6488.

Sincerely,



Richard A. Chancellor
Administrator
Land Quality Division

RAC:gm

xc: Ramona Christensen
District III
NRC - MD
Water Quality Division