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DIVISION OF
OIL GAS & MINING

July 11, 1991

EarthFax

EarthFax
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Engineers/Scientists
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Suite 100
Midvale, Utah 84047
Telephone 801-561-1555

Mr. John Solum
Department of Natural Resources
Division of Water Rights
1636 West North Temple
Salt Lake City, Utah 84116-3156

SUBJECT: Drilling Permit - Crandall Canyon Mine in-mine groundwater monitoring wells.

Dear Mr. Solum:

In compliance with Utah Division of Oil, Gas and Mining regulations, Genwal Coal Company is planning to drill two in-mine groundwater monitoring wells in their Crandall Canyon Mine, Emery County, Utah. The aquifer to be monitored is the regional Upper Cretaceous Blackhawk-Star Point aquifer. Only water level measurements are to be taken from these two wells. Both monitor wells (MW-4 & MW-5) are located in T15S-R6E-Sec36. MW-4 will located approximately 3000 ft. FWL and 500 ft. FSL; MW-5 will be drilled approximately 100 ft. FEL and 2000 ft. FNL. These well locations are subject to minor change as dictated by mine conditions.

The drilling and completion procedures to be used in each well are dependent upon where the potentiometric surface is encountered during drilling. Three scenarios are herein presented.

CASE 1: ARTESIAN CONDITIONS - POTENTIOMETRIC SURFACE ABOVE MINE FLOOR.

Drill a 6.5 in. hole approximately 25 feet deep.

Four inch I.D. schedule-40 PVC pipe will be emplaced in the hole with the pipe hung above the hole bottom.

A basket will be attached several feet above the bottom of the PVC pipe.

Cement will be pumped down the annulus and lie from the basket to the surface.

A screw-on PVC cap equipped with a pressure gauge and a pressure-release valve will be fastened to the top of the pipe.

A flush-mounted metal protective cap will be cemented into the mine floor.

CASE 2: **POTENTIOMETRIC SURFACE LIES LESS THAN 100 FEET BELOW THE MINE FLOOR.**

Drill a 6.5 in. hole 20 feet below the potentiometric surface.

Four inch I.D. schedule-40 PVC pipe extending from the mine floor to the bottom of hole will be placed in the drill hole. The PVC pipe will be slotted (10-slot) from T.D. to approximately 5 ft. above the potentiometric surface.

A metal flush-mounted protective cap will be cemented into the mine floor to protect the well.

CASE 3: **POTENTIOMETRIC SURFACE LIES GREATER THAN 100 FEET BELOW THE MINE FLOOR.**

Drill a 6.5 in. hole 100 feet below the mine floor.

Install 4 in. schedule-40 PVC pipe from mine floor to T.D. The bottom 10 feet of the pipe will be slotted (10-slot).

A metal flush-mounted protective cap will be cemented into the mine floor to protect the well.

Drilling of these wells is planned for the third and fourth weeks of August, 1991. All drilling will be conducted in compliance with MSHA regulations.

If any further information is required please feel free contact me at EarthFax's Salt Lake City office (phone: 561-1555)

Sincerely,

Brent K. Bovee
Geologist

cc: David Darby, Division of Oil, Gas and Mining