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Dave - Route to file

DIVISION OF WATER RIGHTS
REQUEST FOR MONITOR WELL CONSTRUCTION

RECEIVED
AUG 0 2 1991
DIVISION OF
OIL GAS & MINING

APPLICANTS NAME Earthfax Engineering INc.

APPLICANTS ADDRESS 7324 South Union Park Avenue, Suite 100 Midvale, Utah 84047

INDIVIDUAL CONTACT Brent K. Bovee (Name) 561-1555 (Phone)

CURRENT PROPERTY OWNER Genwal Coal Company - Crandall Canyon Mine

PROPOSED NUMBER OF WELLS Two DIAMETERS 4 inch APPROX. DEPTHS _____

TYPE OF COMPLETIONS (Casing, intake, gravel pack, grout, etc.) 6½-inch bore hole, 4-inch schedule 40 pvc casing, if screened, 10-slot pvc screen installed, cement grout the annulus, flush mount protective cap cemented into the mine floor.

PROJECT ENGINEER/MANAGER _____ (Name)

_____ (Address) _____ (Phone)

GENERAL LOCATION DESCRIPTION Crandall Canyon Mine COUNTY Emery

WELLS IN CONJUNCTION WITH (LEAKING) UNDERGROUND STORAGE TANKS _____ (Yes) X (No)

NAME OF LICENSED DRILLER _____ LICENSE # _____

PROPOSED CONSTRUCTION DATE August 19, 1991 ANTICIPATED COMPLETION DATE August 31, 1991

LOCATION OF WELLS:

1. N/~~S~~ 500 FT. & E/~~W~~ 3000 FT. FRM SW COR. or SW1/4 SE1/4 of SEC. 36 T 15 ~~S~~/N R 6E/~~W~~ SLBM/~~USM~~
2. ~~N~~/S 2000 FT. & ~~E~~/W 100 FT. FRM NE COR. or SE1/4 NE1/4 of SEC. 36 T 15 ~~S~~/N R 6E/~~W~~ SLBM/~~USM~~
3. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
4. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
5. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
6. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
7. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
8. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
9. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM
10. N/S_____FT. & E/W_____FT. FRM __COR. or __1/4__1/4 of SEC.___T___N/S R__E/W SLBM/USM

(continued on reverse side)

Comments or explanation Note the three scenarios present in the request. Completion will be determined as the monitor wells are constructed. Completed depths will be determined by the potentiometric surface encountered during drilling.

For office use only

DATE OF REQUEST July 18, 1991 APP/REJ DATE BY July 30, 1991

AREA OFFICE Southeastern - Price AUTHORIZATION # 91-93-02MW

July 11, 1991

EarthFax
EarthFax Engineering Inc.
Engineers/Scientists
7324 So. Union Park Ave.
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 Bovée

Brent K. Bovee
Geologist

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

STATE OF UTAH
NATURAL RESOURCES
Water Rights

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Robert L. Morgan, State Engineer

Southeastern Area • 453 S. Carbon Avenue • P.O. Box 718 • Price, UT 84501-0718 • 801-637-1303

July 31, 1991

Earthfax Engineering, Inc.
Attn: Brent K. Bovee
7324 South Union Park Avenue, Suite 100
Salt Lake City, Utah 84047

Re: Monitor Well Application 91-93-02MW
Expiration Date: January 31, 1992

Dear Mr. Bovee:

Reference is made to your request to drill two monitor wells within the Crandall Canyon Coal Mine. The wells are to be located in Section 36, T15S, R6E, SLB&M.

The information provided in your correspondence dated July 11, 1991 meets the State's requirements for the completion of monitor wells. Permission is hereby granted to complete the wells according to the scenarios in your request, and the potentiometric conditions at the drill sites.

1) This letter grants permission to proceed with the operation with the understanding that 6-1/2" diameter bore holes will be drilled and completed with 4" schedule 40 pvc casing. If screening is installed, it will be 10-slot pvc. A portion of the annulus of the bore hole will be cemented using Neat Cement. No more water is to be diverted than is necessary to determine the characteristics of the aquifer as required by the Division of Oil, Gas & Mining. Reports of your findings and volumes of water withdrawn must be submitted for each of the wells when your testing is completed.

2) Following the completion of drilling and testing, the wells must be either permanently or temporarily abandoned, as required by Section 12 of the State of Utah Administrative Rules for Well Drillers, adopted July 15, 1987.

3) The drilling contractor must be licensed in the State of Utah, and have a current license as required by the Utah State Engineer. Before starting, he must file with this Division a Notice of Intent to Drill Card. Within thirty days of completion or abandonment of the wells, the licensed driller must submit a Driller's Report, as specified under Section 4.3 of the Administrative Rules. Such report is to become part of the files in this Division pertaining to this project.

4) If water is to be used in the drilling operation, it must be of potable quality, and additives used in the drilling process or other contaminants from the drilling equipment or the mine work in the area must not be allowed to enter the bore hole. Each of the completed monitor wells must be finished with a screw on water tight cap to prevent water or other contaminants from entering the completed wells.

This is your authorization to have the licensed driller proceed with your monitor well project. Note that the expiration date of this permit is January 31, 1992.

Sincerely,

Mark P. Page, Price Area Engineer
for Robert L. Morgan, P.E.,
State Engineer

cc: Jerry Bronicel - Division of Water Rights
Daron Haddock - Division of Oil, Gas & Mining

RLM/MPP/mjk