

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

August 14, 2007 OK

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor *PK*
Steve Demczak, Team Lead *SGD Ryan*

FROM: *D* Dana Dean, P.E.; Senior Reclamation Hydrologist

RE: Minor Coal Exploration - Winter Quarters Canyon, Canyon Fuel Company, Skyline Mine, C/007/0005, Task ID #2835

SUMMARY:

Canyon Fuel Company (CFC) notified the Utah Division of Oil, Gas and Mining (the Division) on July 30, 2007 of their intent to conduct minor coal exploration in Winter Quarters Canyon.

CFC proposed to drill one borehole, on fee land within a fee coal lease, by helicopter-supported continuous wireline drilling. Helicopter support for the drill rig will be located on nearby US Forest Service land.

The hole will be 2.4-inches in diameter, with 100-200-feet of 3-inch surface casing set. The total depth will be 900-feet, and total disturbance will be 0.003 acres.

This technical memorandum discusses the hydrology related issues pertaining to the application.

The application meets the requirements of the relevant hydrology regulations. The Division should approve the exploration.

OPERATIONAL STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-100.

Analysis:

Roads

This project will not involve any new road construction.

Diversions of Overland flows and streams

The application meets the hydrology Operational Standards for diversions of overland flows and streams as provided in R645-202-234. No permanent diversions of streams or other flows will be necessary for the duration of this project. CFC will prevent surface runoff from entering the drill-pad by elevating the edges of the pit liner. The drill pad will alter overland flow patterns only minimally.

Hydrologic Balance

The application meets the hydrology Operational Standards for hydrologic balance as provided in R645-202-235. No surface water is located in the immediate vicinity of the proposed borehole location. CFC will place a brattice or pit liner underneath all equipment, and covering the entire drill pad. The liner will prevent any leaking fluids from infiltrating into the ground at the site. CFC will store all produced water and cuttings in tanks. When the tanks fill, and at the end of drilling, CFC will haul them off-site and dispose of all cuttings and produced water properly at an approved wastewater disposal site. No water will leave the site uncontained.

CFC will transport water for the drilling process by truck from the Skyline Mine facilities to an 18,000-gallon tank in Winter Quarters Canyon. They will then pump the water from the tank to the drill site. CFC will place the pumps on brattice or pit liner to prevent spillage and/or infiltration. The Utah Division of Water Rights (DWRi) has approved a temporary change for the use of the water coming from the Skyline facilities (App. E). CFC plans to use a total of 0.6 acre-feet of water for this project.

Acid- or toxic forming materials

The application meets the hydrology Operational Standards for acid- and/or toxic-forming materials as provided in R645-202-236. As described above, no water will leave the site uncontained. Additionally, CFC will test samples of drill core from the 10-ft. interval above and below each seam of minable thickness for acid- or toxic-forming materials.

Findings:

The information provided meets the minimum hydrology requirements for Minor Coal Exploration Operational Standards.

RECLAMATION STANDARDS

Regulatory Reference: 30 CFR 772.13; R645-202-200.

Analysis:

Boreholes

The application meets the hydrology Reclamation Standards for reclaiming the boreholes as provided in R645-202-243. CFC will properly abandon the borehole upon completion of drilling by plugging it with a cement, bentonite, or cement/bentonite slurry to full depth. They will place a brass tag in cement at ground level to identify who drilled the hole, the hole number, and legal description.

Findings:

The information provided meets the minimum hydrology requirements for Minor Coal Exploration Reclamation Standards.

RECOMMENDATIONS:

The application meets the requirements of the relevant hydrology regulations. The Division should approve it and allow drilling to begin.