

TECHNICAL MEMORANDUM

Utah Coal Regulatory Program

April 7, 2008

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TO: Internal File

THRU: James D. Smith, Permit Supervisor *DS 04/24/08*
Dana Dean, Team Lead

FROM: Wayne H. Western, Environmental Scientist III *WHW*

RE: Equipment Abandonment, Canyon Fuel Company, Skyline Mine, C/007/0005,
Task ID #2950

SUMMARY:

On March 18, 2008, the Division received an amendment from the Permittee to allow underground abandonment of 148 Gullick-Dobson hydraulic shields. The shields are in a longwall panel that should be completed near the end of April. Because several of the shields are totally non-functioning, and the roof conditions in the panel have been difficult, the Permittee would like to forego any unnecessary risks that may be required to recover the shields when the panel is mined out.

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

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TECHNICAL ANALYSIS:

OPERATION PLAN

SPOIL AND WASTE MATERIALS

Regulatory Reference: 30 CFR Sec. 701.5, 784.19, 784.25, 817.71, 817.72, 817.73, 817.74, 817.81, 817.83, 817.84, 817.87, 817.89; R645-100-200, -301-210, -301-211, -301-212, -301-412, -301-512, -301-513, -301-514, -301-521, -301-526, -301-528, -301-535, -301-536, -301-542, -301-553, -301-745, -301-746, -301-747.

Analysis:

Disposal Of Noncoal Mine Wastes

The Permittee met the requirements of this section of the regulations. The Permittee requested permission to leave 148 Gullick-Dobson hydraulic shields underground.

The R645 rules do not specifically address abandonment of equipment underground. R645-528.330 deals with noncoal mine waste. One general requirement is that the Permittee designate the location where noncoal mine waste will be disposed. The Permittee provided the Division with a map (Mine 3 Leave 2 and 3 Abandoned Mining Equipment Location) that shows the location of the abandoned mining equipment. The map meets the general requirement for locating where non coal mine will be located.

Other general concerns such as prevent combustion, wind-borne waste, minimal soil cover, slope stability, revegetation and RCRA requirements are of little or no concern. Because the equipment will be abandoned underground many of the concern do not apply. The reasons for that are that the equipment will be disposed so far underground that there will be no surface effects and that the metals in the shields are not considered hazardous according to RCRA standards.

Specific concerns about removal of fluids and materials that could pose a hazard and could be removed from the equipment will be addressed in the hydrology memo.

One specific concern in R645-301-528.332 deals with degradation of surface or underground water. Various agencies have questioned what could happen to groundwater from the metal equipment; could the metal content of groundwater rise as a result of corrosion?

The Division has looked at increases to metal content from machinery abandoned underground. The amount of that the machinery will contribute to increased levels of metal

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content depends on several factors including what type of metals are in the equipment, ph of the water and temperature.

Current mining practices require that large amounts of steel be left underground. In a letter dated April 4, 2008, the Permittee stated that in 2007 approximately 1,360 tons steel were placed in the mine to support the roof in one continuous miner section. In 2004 the Division approved the abandonment of 203 shields underground in the Skyline Mine

The amount of steel in the 148 shields that the Permittee proposes to leave underground is 3,500 tons. The amount of steel in those shields is approximately the amount of steel that would be left underground every three years because of one continuous miner operation, (1,360 tons of steel per year).

The Division does not have a means of establishing a threshold for the amount of metal that can be left underground without causing the metal levels in groundwater to exceed health and safety limits. Therefore, the Division cannot say that leaving the shields will not cause a problem.

The amount of steel in the shields is far less than the amount of steel currently in the mine that cannot be removed. In addition, future mining operations will require that significant amounts of steel be left underground. Based on the amount of none retrievable steel that has already been left underground and on the amount that will be left during future mining the Division cannot see why leaving the additional 148 shields underground will trigger degradation of groundwater.

Findings

The information in the proposed amendment is considered adequate to meet the requirements of this section.

MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

Analysis:

Mining Facilities Maps

The Permittee met the requirements of this section. The Permittee updated Drawing 2.5.2-1, (Mine Levels 2&3 Abandoned Mining Equipment Locations) to show where they will

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leave the Gullick-Dobson shields. The map shows the locations of all other equipment abandoned in the Skyline Mine.

Findings:

The information in the proposed amendment is considered adequate to meet the requirements of this section.

RECOMMENDATIONS:

The Division should approve the amendment.

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