

EXPLORATION TECHNICAL MEMORANDUM

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Utah Coal Regulatory Program

May 17, 2004

TO: Internal File

FROM: Peter H. Hess, Environmental Scientist III/Inspector, Team Lead *PHH Ryan*

RE: Coal Exploration for Seam Thickness and Quality, Canyon Fuel Company, LLC, Dugout Canyon Mine, C/007/039, Task ID #1916

SUMMARY:

Ark Land Company, which is a subsidiary of Arch Coal, Inc., submitted an application to permit three coal exploration holes to evaluate coals relative to School and Institutional Trust Lands Administration lease ML 48435-OBA, which is relative to Canyon Fuel Company's Dugout Canyon Mine. All surface lands are under private ownership, being held by the heirs of the Milton and Ardith Thayne Trust. Approximately 2,560 acres of reserves are associated with the SITLA lease.

The Division completed a Technical Analysis of the initial submittal on April 7, 2004, returning it to the permittee as deficient. The permittee responded to that Technical Analysis on April 30, 2004. Task ID #1916 is the second review / technical analysis of the initial minor coal exploration application.

EXPLORATION TECHNICAL ANALYSIS:

COAL EXPLORATION

Regulatory Reference: R645-200.

SCOPE AND RESPONSIBILITIES

Regulatory Reference: 30 CFR 772.1; 30 CFR 772.10; 30 CFR 772.11; R645-100-400; R645-200-100; R645-200-200; R645-201-100.

Analysis:

As part of the permitting process for three degasification wells for the Dugout Canyon Mine, (Task ID# 1642, approved September 19, 2003), the permittee included a copy of the notification letter sent to the heirs of the Milton and Ardith Thayn Trust. That letter describes the drilling activities that were being proposed by the applicant on the Thayn Trust lands, including the three degasification wells and three proposed exploration holes. The first submittal of this minor coal exploration application did not contain a notification to the heirs of the Milton and Ardith Thayn Trust describing the 2004 activities or the proposed 2005 activities. This deficiency was corrected in the response received on April 30, 2004 on page 1, section R645-201-130. A copy of the landowner notification letter is contained in Appendix B of the same submittal.

Findings:

The minimum regulatory requirements of this section have been met.

REQUIREMENTS FOR NOTICE OF INTENTION TO CONDUCT MINOR COAL EXPLORATION

Regulatory Reference: 30 CFR 772.10; 30 CFR 772.11; R645-100-412; R645-201-200.

Analysis:

Regulation R645-201-224 requires that the application contain "a statement of the period of intended exploration". The permittee stated on page 4 of the initial submittal "it is anticipated that the exploration will be initiated during the third week of July in both 2004 and 2005" (DUG0103 to be drilled in 2004, DUG0105 and DUG0205 to be drilled in 2005). Exploration activities will continue for approximately eight weeks as depicted by the bar graph on page 4. The second submittal received on April 30, 2004 proposes to revise the intended period of exploration such that the time line will initiate during the second week of June. Relative to a Division concern regarding infringement on the elk calving and fawning season in the proposed area for exploration, it was necessary for the Division, through the permittee, to work out a new time frame approval for the initiation date. The permittee did this by providing UTM coordinates to the Utah Division of Wildlife Resources. Two of the proposed exploration holes are located in an area that has been classified as critical value summer mule deer habitat. Due to the fact that the surface landowner had heavily logged the same area, DWR re-evaluated the situation based upon the fact that the mule deer are no longer using the area during the summer. DWR determined that they no longer object to Canyon Fuel Company beginning their work on the exploration sites prior to July 5, 2004. The DWR confirmed during a telephone conversation

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on May 11, 2004 that they do not have a concern relative to the permittee initiating exploration activities on June 15, 2004.

This information is adequate to meet the minimum regulatory requirements of this section.

Regulation R645-201-225 requires the following from a coal exploration application:

- 1) A description of the method of exploration to be used.
- 2) The amount of coal to be removed.
- 3) The practices that will be followed to protect the area from adverse impacts of the exploration activities.
- 4) (The methods to be used) to reclaim the area in accordance with the applicable requirements of R645-202.

Practices which will be implemented to protect the area from adverse impacts include the following: "Excavation will include grubbing, removal and separate storage of the soil A horizon and, if needed, removal and separate storage of material below the soil A horizon to make a level drill site. Two mud pits will be excavated in the material below the soil A horizon if there is sufficient soil depth. The only material disposed of at the drill sites will be cuttings and any drilling foam and/or mud which will be placed in the mud pits". "It is not anticipated that acid or toxic forming materials will be encountered during exploration because none have been encountered previously."

Page 5 of the application states that water will be pumped and/or hauled from the right fork of Dugout Creek and/or Pace Creek to the drill sites (Map 2). Page 7 of this minor coal exploration application states under section R645-202.230 that "no adverse impacts to the stream channel will occur during pumping activities. No water will be pumped from the North Fork of Dugout or Pace Canyon Creeks without an approved "Temporary Change of Water" from the Division of Water Rights. A copy of the approved Temporary Change will be forwarded to DOGM and will be in possession of the on-site geologist." CFC has two water rights in the Dugout Creek / Pace Canyon Creek area. The two rights are 91-409 and 91-519. The applicant transfers 2.5 acre-feet from each of these water rights (1.63 million gallons, total) to use for drilling activities.

The initial submittal did not contain a description of the methods which would be incorporated to protect the area where water will be pumped from the Dugout Creek / Pace Canyon Creek area by preventing additional contributions of suspended solids to those waters. Page 9, SURFACE WATER PROTECTION paragraph one of the April 30, 2004 submittal (Task ID #1916) commits the permittee "to protect the hydrologic balance, (by conducting) construction, maintenance, and reclamation operations will be conducted to handle earth materials and runoff in a manner that prevents, to the extent possible, additional contributions of suspended solids to stream flow outside the permit area, and otherwise prevent water pollution".

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This commitment is adequate to address the intent of the regulation. Should the permittee need to install straw bales or other types of treatment adjacent to the water pick-up point in Dugout or Pace Creeks, this commitment to minimize is adequate to enforce that action.

The April 30, 2004 submittal contains a copy of the approved temporary change of water received from the Utah State Engineer's Office that remains in effect until August 6, 2004. This information adequately addresses the deficiencies aired within the Division's April 7, 2004 Technical Analysis.

Findings:

The minimum regulatory requirements of this section have been addressed.

COMPLIANCE DUTIES

Regulatory Reference: 30 CFR 772.13; R645-202.

OPERATIONAL STANDARDS

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

Analysis:

Roads

R645-202-232 Roads / Associated Performance Standards, "All roads.....used for coal exploration will comply with the applicable provisions of:

- 1) R645-301-358, "the operator will, to the extent possible...minimize disturbances and adverse impacts on fish, wildlife, and related environmental values and will achieve enhancement of such resources where practicable". The three exploration holes being proposed by Ark Land Company are due east of the degasification well G-3, which was permitted by the Division and approved for implementation in September of 2003. The distances from the permitted degasification well G-3 to the proposed exploration holes range from 1.25 to 1.63 miles. The permittee's April 30, 2004 response gives a description of the access route to the borehole locations (See 4, paragraph 3 under **Cultural Resources**).
- 2) R645-301-526.200, Utility Installation and Support Facilities. The requirements of this regulation as they relate to roads associated with minor coal exploration activities are that the application must include a utility installation description

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which states that all coal mining and reclamation operations will be conducted in a manner which minimizes damage, destruction or disruption of services provided by oil, gas, water wells, oil, gas or coal slurry pipelines, railroads, electric and telephone lines, water and sewage lines which pass over or under or through the permit area unless otherwise approved by the owner of those facilities and the Division. As far as this minor coal exploration submittal is concerned, it is believed that there are no facilities as described within the exploration area. The permittee's April 29, 2004 response indicates that there are no utilities in the vicinity of the proposed drill hole locations (See 7 of that response). This is adequate to address the Division's concerns.

- 3) R645-301-527.230, the maintenance plan describes how the roads will be maintained throughout their life to meet their design standards throughout their use. Page 3 of the application states the following, "As necessary, existing roads will be made travelable by hauling gravel to fill rough areas on bedrock ledges and grading rutted areas." The permittee's April 29, 2004 submittal proposes to delete the commitment to "haul gravel to fill rough areas on bedrock ledges". The commitment to grade the roads where necessary is to be retained. A commitment has also been added to "water roads as needed for dust suppression". This will address the previous deficiency that had been aired in order to meet the need to "minimize adverse effects to fish, wildlife and related environmental values."
- 4) R645-301-742.410 et al. through 742.420 et al, Drainage and Sediment Control. The application does not contain any description of methods which may need implementation to control drainage or prevent to the extent possible additional contributions of suspended solids to stream flow. Although the April 29, 2004 submittal contains a description of the access route to be followed to the holes, (See page 4, paragraph 6 of the April 29, 2004 submittal), there is no description of the improvements which have been identified as necessary to minimize additional contributions of sediment to stream flow or to flows outside of the permit area. Pace Canyon road parallels the Creek. The applicant does not intend to modify the road drainage pattern in any way; there are no measures to be implemented.

Findings:

The application dated April 29, 2004 meets the minimum regulatory requirements of this section.

RECLAMATION STANDARDS

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

Analysis:

Approximate original contour

R645-202-241; the first submittal did not contain any discussion or commitment to return the three exploration sites to their approximate original contour. This deficiency was corrected in the April 29, 2004 submittal on page 9, section **R645-202-241**.

Boreholes

R645-202-243, Reclamation of Exploration Holes. Page 5, paragraph four of the minor coal exploration application specifically addresses the plugging of each of the exploration boreholes, (See R645-301-529, 301-551, 301-631, 301-765). R645-301-738 requires temporary capping of boreholes relative to ground water monitoring in surface coal mining operations, which renders it not applicable to this minor coal exploration application.

Facilities and Equipment

R645-202-244, Prompt Removal of Facilities and Equipment. The initial minor coal exploration application did not contain a commitment to promptly remove facilities and equipment upon completion of the exploration activities. The April 29, 2004 submittal addresses this deficiency on Page 10, section **R645-202-244**.

Reclamation Bond Amount

R645-201-225; Determination of Reclamation Bond Amount. There is no information provided relative to the amount of reclamation bond that is necessary to reclaim the three proposed exploration boreholes. The Division feels that the amount of excess bond that currently exists is adequate to reclaim the proposed boreholes.

Findings:

The application received on April 30, 2004 meets the minimum regulatory requirements of this section.

RECOMMENDATIONS:

This minor coal exploration application should be approved.