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# State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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August 9, 2001

TO: [redacted] File

FROM: Stephen J. Demczak, Reclamation Specialist, [redacted] Lead

RE: Dugout and Pace Canyon's Minor Exploration, Canyon Fuel Company, Dugout Mine, [redacted] EX01B-1

## SUMMARY:


Canyon Fuel Company has submitted a Notice of Intent to conduct exploration for the Dugout Mine. The proposed exploration area covers lands in Carbon County, Utah within the Dugout Mine permit area. Canyon Fuel Company plans to complete up to seven exploration drill holes and one seismic survey to evaluate the reserves and quality of the coal seams within the Blackhawk Formation. The permittee estimates that the extraction of coal will be less than 250 tons. Of the seven holes, two are on private land and have Utah State mineral rights. The other five holes are on private land and have Federal mineral rights status. This technical analysis will only cover the three drill holes that have Utah State mineral rights status. The BLM has jurisdiction over the other drill hole sites. Canyon Fuel plans to conduct a seismic investigation that has a distance of 9,500 feet. The seismic investigation will be conducted above Federal coal and, therefore, falls under the review of the BLM.

The two drill holes that are to be considered in this technical review are DT-1 and DT-2. Drill hole DT-1 is scheduled to be drilled in 2001. Drill hole DT-2 is scheduled to be drilled in the summer of 2002. The drilling depths of the holes, which are under the jurisdiction of DOGM, will be 750 feet for DT-1 and 2,135 feet for DT-2.

All required P.E. certification were signed by David Spillman, Badge Number 151610 for the Notice of Intent to Conduct Minor Exploration at Dugout and Pace Canyon areas in Carbon County, Utah.


## 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.

Minimum Requirements :
***minor coal exploration*** *during which 250 Tons coal or less will be removed require Division approval under R645-201-200 requirements*

## Analysis:

The permittee has estimated the total extraction of coal from the three drill holes will be 315 lbs. This is significantly less than the 250 ton maximum requirement.

## Findings:

By mining less than 250 tons of coal, the permittee has met the requirement for this project to be classified as a minor coal exploration by mining less than 250 tons of coal.

# 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

Minimum Requirements:
*For exploration removing ≤250 tons coal, the notice of intent shall include:*

1. *the name, address, and telephone number of the person seeking to explore and of the person' representative who will be present at and responsible for conducting the exploration activities.*
2. *a description of the exploration area or map at a scale of 1:24,000 or greater, showing the location of drill holes, existing and proposed roads, occupied dwellings, topographic features, bodies of surface water and pipelines*
3. *a statement of the period of intended exploration*
4. *a description of the method of exploration and the practices that will be followed to protect the area from adverse impacts and to reclaim the area in accordance with R645-202.*

*The obligation to respond to these information requirements is mandatory.*

*In this section the reviewer should ensure that the above requirements have been met and comment upon any of the information provided. The reviewer should determine whether the minor coal exploration will substantially disturb the environment. If so, comments about adverse environmental effects and reclamation techniques should be placed under the "Compliance" section below. If no substantial disturbance is envisioned, then the "Compliance" section is not included in the Technical Analysis.*

## Analysis:

Canyon Fuel Company has submitted a Notice of Intent to the Division of Oil, Gas, and Mining to drill three exploration holes. The applicant has submitted the necessary information as it relates to name, address, and telephone number.

The permittee has included a map of the exploration area on a scale of 1" = 2,000'.

The permittee anticipated drilling DT-1 after July 15, 2001 and will complete reclamation by November 2001. The drilling of drill hole DT-2 will commence after July 15, 2002 and reclamation will be completed by November 2002.

The permittee has described the method of conducting minor exploration on Page 11-18.

**Findings:**

The permittee has met the necessary requirements of this section of the exploration rules.

# COMPLIANCE DUTIES

Regulatory Reference: 30 CFR 772.13; R645-202.

**Analysis:**

The applicant has agreed to provide a copy of the Notice of Intent to for DOGM for review upon request.

**Findings:**

The applicant has met the requirements of this section of the coal exploration rules.

# OPERATIONAL STANDARDS

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

*Minimum Operational standards include:*

1. *protection of unique or high value habitat for fish, wildlife and T&E species*
2. *roads or other transportation facilities used for coal exploration will comply with R645-301 regulations cited in R645-202-232.*
3. *Topsoil will be separately removed, stored, and redistributed on areas disturbed by coal exploration activities to ensure successful revegetation as required by the Division.*
4. *Diversions of overland flows and ephemeral, perennial or intermittent streams will be made in accordance with R645-301-742.300.*
5. *Coal exploration will be conducted in a manner which minimizes disturbance of the prevailing hydrologic*

*balance in accordance with R645-301-regulations cited in R645-202-235. The Division may specific additional measures to be adopted.*

6. *Acid- or toxic-forming materials will be handled and disposed of in accordance with R645 rules specified in R645-202-236.*

**Analysis:**

**Roads**

The applicant will widen and grade some of the existing roads for the transportation of equipment to the drill sites. All roads are classified as ancillary roads. No new roads will be created for the drilling of DT-1 and DT-2. Some of the drill sites under BLM jurisdiction will have newly created roads.

**Diversions of Overland flows and streams**

The DT-1 and DT-2 drill holes are located near perennial streams. The drilling of DT-1 and DT-2 will be done on the existing road which is located approximately 25 feet from the stream. Silt fences or straw bales will be used to protect the stream from sediment during the drilling process. Therefore, it will not be necessary to create diversions for this exploration project. The only diversion-type structure is a small shallow trench transporting water from the drill rig to Mud Pit #1.

**Hydrologic Balance**

Each drill hole site will have two small mud pits for the purpose of retaining drill water. The mud pit dimensions are 20 feet x 10 feet x 6 feet. There will be no discharge of water from the mud pits. The two mud pits combined will self contain all drilling water. The typical impoundment design is P.E. certified by David Spillman with Badge Number 151610. This design is on Figure 5 in the Notice of Intent. This sediment pond does not meet the criteria of a MSHA impoundment. No quarterly inspection will be necessary since each site will be reclaimed within days of the initial pad development.

There is no potential for hazardous conditions from sediment ponds' failure because the ponds are incised and the total volume of each mud pit is only 1,200 cubic feet.

There will be a combination of straw bales and silt fences for sediment control at each drill hole site. The designs are P.E. certified and a typical installation is shown in Figures 1 and 2 of the Notice of Intent.

The hydrologic balance (ground and surface water) for this area should not be affected. As mentioned earlier, there are no ephemeral, perennial, or intermittent streams located near the drill hole sites. The pad area, where drilling is being performed will be protected by silt fences, berms, or straw bales. This is illustrated in Figure 4 for a typical drill pad construction and

layout design.

The ground water for this area is hundreds to thousands of feet below the surface of the exploration site. The small quantity of water which has gathered in the mud pits could not infiltrate the ground water. This conclusion was reaffirmed by the hydrologist for the Dugout Mine on this subject with the Project Lead.

The applicant states that previous exploration drilling in the Dugout Canyon area has encountered groundwater locally. These isolated perched ground water aquifers are occasionally found in the lenticular sandstones of the Price River and Blackhawk Formations, but rarely produce more than one or two gallons per minute.

The mud pits are designed to be self-contained; therefore, water discharge will not occur. The UPDES permit will not be required.

The straw bales/silt fences will be removed upon authorization by DOGM. Stored topsoil will be evenly distributed over the disturbed pad area and the site will be graded back to its approximate original contour.

**Acid- or toxic forming materials**

The ground water for this area is hundreds to thousands of feet below the surface of the exploration site. The small quantity of water which has gathered in the mud pits could not infiltrate the ground water. This conclusion was reaffirmed by the hydrologist for the Dugout Mine on this subject with the Project Lead.

The applicant stated on Page 18 in the Notice of Intent that, "The mud pits will be greater than four feet deep and sufficiently deep to allow for the burial of potentially acid/toxic materials below a minimum of four feet of cover." If acid/toxic materials occur, the material would be in such small qualities that four feet of cover would meet the requirements of this section.

**Findings:**

The information provided in the proposed Notice of Intent is considered adequate to meet the requirements of this section.

## RECLAMATION STANDARDS

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

*Minimum Reclamation standards include:*

- *returning the grade to the approximate original contour, promptly.*
- *revegetating in a manner that encourages prompt revegetation and recovery of a diverse, effective, and permanent vegetative cover.*
- *Revegetation will be accomplished by seeding or planting the same seasonal variety of species native to the area disturbed. Or if the land use is agriculture, planting of the crops normally grown.*
- *The vegetative cover will be capable of stabilizing the soil surface from erosion.*
- *Boreholes and wells an other exposed underground openings will be reclaimed in accordance with the R645 regulations specified in R645-202-243.*
- *Facilities and equipment will be promptly removed from the exploration area when no longer needed except for those facilities and equipment that the Division determines may remain to provide additional environmental data; reduce or control the on-site or off-site effects of the exploration; or facilitate future coal mining and reclamation operations.*

**Analysis:**

**Approximate Original Contour**

A small amount of earth work will be required for the construction of the drill pads. The major earth work will involve digging out two mud pits at each site. These dimensions are 20 feet x 10 feet x 6 feet. The applicant has committed to reclaiming the sites to the approximate original contour.

**Boreholes**

The hole plugging method described in 43 CFR II 3484.1(a) will be used for all holes. Each hole will be plugged with cement through mineable thick coal beds and aquifers for a distance of at least 50 feet above and below.

The drill holes DT and DT-2, will be located east of the existing water monitoring wells. This will be a new block of coal having no water monitoring wells for ground water. If the significant flow of water from any of the three drill holes (DT-1 and DT-2), the applicant will make one of these wells into a groundwater monitoring well. The groundwater monitoring well will need to be incorporated in the Mining and Reclamation Plan for the Dugout Mine.

**Facilities and Equipment**

Reclamation will be conducted concurrently with the drilling operations and continue for a few weeks after completion of the last drill hole as stated on Page 14 in the Notice of Intent. The applicant will be moving the drilling equipment from one pad area to the next until finished with the project. No facilities or equipment will be left on the drill sites.

**Findings:**

The information provided in the proposed Notice of Intent is considered adequate to meet the requirements of this section.

# PUBLIC AVAILABILITY OF INFORMATION

Regulatory Reference: 30 CFR 772.15;R645-203.

*All information submitted to the Division will be available for public inspection and copying at the Division except when the person submitting the information requests in writing, at the time of submission, that it not be disclosed and the information contains trade secrets or is privileged commercial or financial information relating to the competitive rights of the person conducting the exploration.*

*Information requested to be held as confidential will not be made publicly available until after notice and opportunity to be heard is afforded both persons seeking and opposing disclosure of the information.*

*The reviewer should indicate what portions (if any) of the application are to be held confidential.*

**Analysis:**

The applicant has stated on Page 18 in the Notice of Intent that information related to coal exploration activities be kept confidential and not be disclosed or made available for pubic inspection. The permittee is requesting the Notice of Intent document be kept confidential.

**Findings:**

The applicant has met the requirements of this section in the Coal Exploration Rules.

**RECOMMENDATIONS:**

The Notice of Intent is considered adequate and meet the requirements of the Coal Rules for minor exploration

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