



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

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July 19, 2001

Rick Olsen, General Manager
Canyon Fuel Company, LLC
P.O. Box 1029
Wellington, Utah 84542

Re: Findings for Dugout and Pace Canyon, Canyon Fuel Company, Dugout Mine, [REDACTED]
EX01B, Ou [REDACTED]

Dear Mr. Olsen:

The above-referenced Exploration has been reviewed. There are deficiencies that must be adequately addressed prior to approval. A copy of our Technical Analysis is enclosed for your information. Please respond to these deficiencies by October 18, 2001.

If you have any questions, please feel free to call Stephen J. Demczak at (435) 613-5242, or me at (801) 538-5268.

Sincerely,

A handwritten signature in black ink, appearing to read "Pamela Grubaugh-Littig".

Pamela Grubaugh-Littig
Permit Supervisor

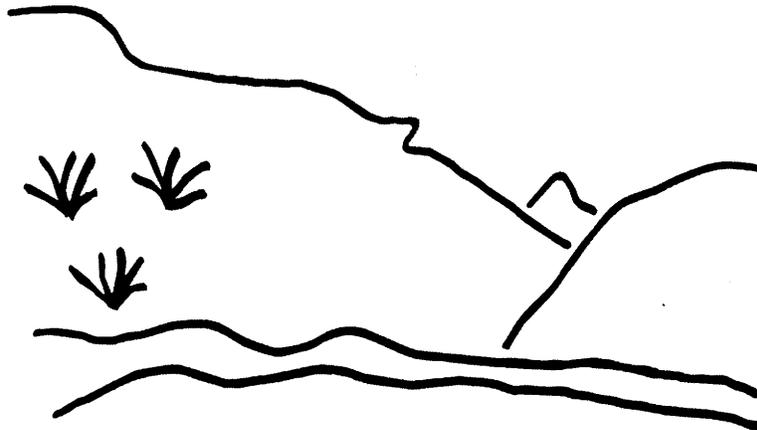
sd/sm

Enclosure:

cc: Price Field Office

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State of Utah



Utah Oil Gas and Mining

Coal Regulatory Program

Dugout Canyon Mine
Dugout and Pace Canyon
C/007/039-EX01B
Minor Exploration Analysis & Findings
July 18, 2001
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INTRODUCTION

INTRODUCTION

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 eight 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 eight holes, three 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 three drill holes that are to be considered in this technical review are DT-1, DT-2, and DT-3. Drill hole DT-1 is scheduled to be drilled in 2001. Drill holes DT-2 and DT-3 are scheduled to be drilled in the summer of 2002. The drilling depths of the holes, which are under the jurisdiction of DOGM, will vary from 750 feet to 2,135 feet.

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.

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July 18, 2001

INTRODUCTION

SUMMARY OF OUTSTANDING DEFICIENCIES

SUMMARY OF OUTSTANDING DEFICIENCIES

The Technical Analysis regarding the proposed permit changes is not complete at this time, pending submittal of additional information by the Permittee and further review by the Division, to address outstanding deficiencies in the proposal. A summary of those outstanding deficiencies is provided below. Additional comments, concerns, and deficiencies may also be found within the analysis and finding make in the Draft Technical Analysis which have not been presented in this summary. Upon finalization of this review, any outstanding deficiencies will be evaluated for compliance with the regulatory requirements. Such deficiencies may be conditioned to the requirements of the permit issued by the Division, result in denial of the proposed permit changes, or may result in other executive or enforcement actions as deemed necessary by the Division at that time to achieve compliance with the Utah Coal Regulatory Program.

Accordingly, the permittee must address those deficiencies as found within this Draft Technical Analysis and provide the following, prior to approval, in accordance with the requirements of:

The permittee has the following deficiencies which need to be addressed prior to approval of the Notice of Intent.

- R645-202-231**, the NOI must contain a reference to a study or statement from a qualified professional of no threatened or endangered plants or animals in the drilling area. . . . 10

- R645-202-232**, The permittee has not properly addressed this section of the Coal Exploration rules. The application needs to make the following changes: A) The applicant, on Page 9 in the Notice of Intent, under the section entitled, "Road Construction and Maintenance" states, "the movement of equipment across undisturbed land will be kept to a minimum." This statement is not acceptable. All equipment must either stay on the roads or be within the disturbed area of the drill pad once topsoil is removed. B) The applicant stated on Page 10 in the Notice of Intent that, "Roads will be reclaimed upon completion of their use, unless directed otherwise by the land owner." Roads not being reclaimed are classified as primary roads and must follow R645-202-232 and the sub-regulations in this section of the exploration rules. The applicant has classified these roads as ancillary roads on Page 16 in the Notice of Intent. . . . 11

- R645-202-233**, the NOI must describe the methods and depth of removal, storage, protection, and redistribution of topsoil for DT-3. . . . 11

- R645-202-235**, Information provided in the Notice of Intent is not considered adequate to meet the requirements of this section. The applicant must revise the Notice of Intent to address R645-301-742.212. The rule states siltation structures for an area will be constructed before beginning any coal mining and reclamation

SUMMARY OF OUTSTANDING DEFICIENCIES

- operations, thus, it will be unacceptable for the applicant to remove the siltation structure prior to reclamation. The applicant does not address or make a commitment to meet the requirement of R645-301-763.100 in the Notice of Intent. The rule requires that "Siltation structures will be maintained until removal is authorized by the Division and the disturbed area has been stabilized and revegetated. In no case will the structures be removed sooner than two years after the last augmented seeding." 11
- R645-202-242.100**, the seed mixture proposed in the NOI contains species not native to the area. Justification needs to be provided to justify their use or the seed mixture must be changed. A suggested seed mixture is provided in this review. 13
- R645-202-242.200**, the methods used to construct and reclaim the road to DT-3 is not sufficient to predict that the reclaimed area will be capable of stabilizing the soil surface from erosion. Greater detail and commitments to erosion control, topsoil, and surface roughening is required. 13
- R645-202-243**, The information in this section of the Notice of Intent is not considering adequate. The applicant should add the following statement to the Notice of Intent, "If a significant flow of water from any of the three drill holes (DT-1, DT-2, or DT-3) occurs, the applicant will make one of these wells into a groundwater monitoring well." 13

COAL EXPLORATION

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's 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.*

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 holes DT-2 and DT-3 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

COMPLIANCE DUTIES

Regulatory Reference: 30 CFR 772.13; R645-202.

Minimum Requirements:

All coal exploration and reclamation operations which substantially disturb the land surface or which remove >250 tons of coal will be conducted in accordance with the coal exploration requirements of the State program and any conditions on approval for exploration and reclamation imposed by the Division.

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 Requirements:

All exploration which substantially disturbs the natural land surface will have available (while in the exploration area) a copy of the Notice of Intent to Conduct Minor Coal Exploration or Approved Major Coal Exploration Permit for review by an authorized representative of the Division upon request.

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:

Biology

Minimal vegetation information is provided in the exploration Notice of Intent (NOI). A

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statement is given that the vegetation in the exploration area is dominated by pinyon-juniper, mountain shrubs, sagebrush-grass, conifer-aspen, and ponderosa pine communities. The vegetation map in the Dugout Canyon Mining and Reclamation Plan (MRP) show that drill locations DT-1 and DT-2 are within the deciduous stream bank vegetation type. The 6250 foot long road to DT-3 leaves the mixed conifer canyon bottom and traverse up the ridge line to a sagebrush community where the drill site is located (Dugout MRP, Vegetation Map).

Drill sites DT-1 and DT-2 are located within 20 feet of the drainage. The drainage is considered intermittent, drying only during the summer months¹. Pace Canyon drainage was monitored in 1978 and the Division's Electronic Water Database indicates the flow to be perennial that year. Pace Canyon appears to be a deep drainage within a well developed riparian zone.

The NOI states that because the drill holes are above 7,400 feet no threatened or endangered plant or animal species are believed to occur. No studies or authorities are cited with this statement. The results of the Mexican spotted owl survey must be provided as well as a reference from a qualified professional of no finding.

Raptor inventory data is not provided. The NOI commits to no drilling until after July 15 to avoid the raptor nesting period. The area is within critical mule deer summer range, but not within the critical fawning period.

The land use is grazing, logging, and wildlife habitat. Although, I have never visited Pace Canyon, visits to adjacent areas show heavy grazing and extensive road building from logging operations.

Roads

The applicant on Page 9 of the Notice of Intent, under the section entitled, "Road Construction and Maintenance" states, "the movement of equipment across undisturbed land will be kept to a minimum." This statement is not acceptable. All equipment must either stay on the roads or be within the disturbed area of the drill pad once topsoil is removed.

The applicant stated on Page 10 of the Notice of Intent that, "Roads will be reclaimed upon completion of their use, unless directed otherwise by the land owner." Roads not being reclaimed are classified as primary roads and must follow R645-202-232 and the sub-regulations in this section of the exploration rules. The applicant has classified these roads as ancillary roads on Page 16 in the Notice of Intent.

Topsoil

Only general soils information is provided in the NOI. The applicant does commit to removing

¹Phone conversation with Mike Stevenson, ARCH on July 12, 2001.

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topsoil and vegetation, storing, protecting, and replacing the soil and vegetation during reclamation. The Division has not required operators to remove the soil on flat road accesses but simply to rip the soil deeply at reclamation.

The road to DT-3 is 6000 feet long and will require cut and fills to build the road. The NOI requires greater detail on the methods and depth of removal, storage, protection, and redistribution of topsoil on this road to assure revegetation success.

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 from 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

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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 permittee stated on Page 12 of the Notice of Intent that, "The straw bales/silt fences will be removed to facilitate reclamation of the drill site. Stored topsoil will be evenly distributed over the disturbed pad area and the site will be graded back to its approximate original contour. Sediment control structures will be left in appropriate locations." This statement is in conflict with R645-301-742.212. The rule states that the siltation structures for an area will be constructed before beginning any coal mining and reclamation operations, thus, it will be unacceptable for the applicant to remove the siltation structure prior to reclamation.

The applicant does not address or make a commitment to meet the requirement of R645-301-763.100 in the Notice of Intent. The rule requires that, "Siltation structures will be maintained until removal is authorized by the Division and the disturbed area has been stabilized and revegetated. In no case will the structures be removed sooner than two years after the last augmented seeding."

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 quantities that four feet of cover would meet the requirements of this section.

Findings:

The information provided in the proposed Notice of Intent is not considered adequate to meet the requirements of this section. Prior to approval, the operator must provide the following in accordance with:

R645-202-231, the NOI must contain a reference to a study or statement from a qualified professional of no threatened or endangered plants or animals in the drilling area.

R645-202-232, The permittee has not properly addressed this section of the Coal Exploration rules. The application needs to make the following changes: A) The applicant, on Page 9 in the Notice of Intent, under the section entitled, "Road Construction and Maintenance" states, "the movement of equipment across

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undisturbed land will be kept to a minimum.” This statement is not acceptable. All equipment must either stay on the roads or be within the disturbed area of the drill pad once topsoil is removed. B) The applicant stated on Page 10 in the Notice of Intent that, ”Roads will be reclaimed upon completion of their use, unless directed otherwise by the land owner.” Roads not being reclaimed are classified as primary roads and must follow R645-202-232 and the sub-regulations in this section of the exploration rules. The applicant has classified these roads as ancillary roads on Page 16 in the Notice of Intent.

R645-202-233, the NOI must describe the methods and depth of removal, storage, protection, and redistribution of topsoil for DT-3.

R645-202-235, Information provided in the Notice of Intent is not considered adequate to meet the requirements of this section. The applicant must revise the Notice of Intent to address R645-301-742.212. The rule states siltation structures for an area will be constructed before beginning any coal mining and reclamation operations, thus, it will be unacceptable for the applicant to remove the siltation structure prior to reclamation. The applicant does not address or make a commitment to meet the requirement of R645-301-763.100 in the Notice of Intent. The rule requires that “Siltation structures will be maintained until removal is authorized by the Division and the disturbed area has been stabilized and revegetated. In no case will the structures be removed sooner than two years after the last augmented seeding.”

RECLAMATION STANDARDS

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

Minimum Requirements:

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 and 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

COMPLIANCE DUTIES

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.

Revegetation

After topsoil replacement, the site will be lightly roughened and then seeded. The Division recommends the use of extreme surface roughening. Extreme roughening reduces or eliminates surface water runoff and retains the water on site for seed germination and plant growth. In addition, it greatly reduces the occurrence of off-road vehicle vandalism.

The seed mixture to be applied has three introduced species, 2 grasses and 1 forb. No justification has been provided for use of the introduced species as required. The following seed mixture is recommended.

<u>Species</u>	<u>PLS lbs/Acre</u>
Western wheatgrass (<i>Agropyron smithii</i>)	2
Bluebunch wheatgrass (<i>Agropyron spicatum</i>)	2
Indian ricegrass (<i>Oryzopsis hymenoides</i>)	2
Thickspike wheatgrass (<i>Agropyron lanceolatus</i>)	2
Kentucky bluegrass (<i>Poa pratensis</i>)	0.5
Northern sweetvetch (<i>Hedysarum boreale</i>)	1
Pacific aster (<i>Aster chilensis</i>)	0.1
Fourwing saltbush (<i>Atriplex canescens</i>)	2
Bitterbrush (<i>Purshia tridentata</i>)	2
Total	13.6

The road cut to DT-3 traverses a steep, south facing hillside. Erosion control and revegetation will be more difficult in this area. Greater detail and commitments to erosion control, surface roughening, and topsoil salvage and redistribution is needed for this road to demonstrate that the area can meet reclamation standards.

Boreholes

The hole-plugging method described in 43 CFR II 3484.1(a) will be used for all holes. Each hole

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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-1, DT-2, and DT-3 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, DT-2, or DT-3), 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 not considered adequate to meet the requirements of this section. Prior to approval, the permittee must provide the following in accordance with:

R645-202-242.100, the seed mixture proposed in the NOI contains species not native to the area. Justification needs to be provided to justify their use or the seed mixture must be changed. A suggested seed mixture is provided in this review.

R645-202-242.200, the methods used to construct and reclaim the road to DT-3 is not sufficient to predict that the reclaimed area will be capable of stabilizing the soil surface from erosion. Greater detail and commitments to erosion control, topsoil, and surface roughening is required.

R645-202-243, The information in this section of the Notice of Intent is not considering adequate. The applicant should add the following statement to the Notice of Intent, "If a significant flow of water from any of the three drill holes (DT-1, DT-2, or DT-3) occurs, the applicant will make one of these wells into a groundwater monitoring well."

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PUBLIC AVAILABILITY OF INFORMATION

PUBLIC AVAILABILITY OF INFORMATION

Regulatory Reference: 30 CFR 772.15;R645-203.

Minimum Requirements:

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

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 public 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.