



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

Michael O. Leavitt  
 Governor  
 Kathleen Clarke  
 Executive Director  
 Lowell P. Braxton  
 Division Director

1594 West North Temple, Suite 1210  
 PO Box 145801  
 Salt Lake City, Utah 84114-5801  
 801-538-5340  
 801-359-3940 (Fax)  
 801-538-7223 (TDD)

October 7, 1999

TO: File

THRU: Pamela Grubaugh-Littig, Permit Supervisor *[Signature]*  
 Daron Haddock, Permit Supervisor *[Signature]*

FROM: Peter Hess, Reclamation Specialist III

RE: Notice of Intent to Conduct Minor Coal Exploration, Canyon Fuel Company, LLC, SUFCO Mine, ACT/041/002-99E, Folder #2, Sevier County, Utah

**SUMMARY:**

ARK Land Company, a subsidiary of ARCH Coal Inc., and a sister company to Canyon Fuel Company, LLC, is proposing to drill five exploration holes and five shallow holes to be completed as piezometric (water monitoring) holes during the month of July, in the year 2000 to identify coal characteristics of the upper Hiawatha and lower Hiawatha coal seams. The application was received at the PFO on September 28, 1999. Upon completion of the exploration activities, the exploration holes will be plugged. The shallow holes will be completed as piezometers.

**TECHNICAL ANALYSIS:**

**MINOR COAL EXPLORATION**

**NOTICE OF INTENT TO CONDUCT**

Regulatory Reference: R645-201-210.

**Analysis:**

**Minor Coal Exploration**

The exploration process will implement the drilling of five boreholes to determine the chemical and physical coal characteristics of the upper and lower Hiawatha coal seams at the chosen locations. Less than two hundred and fifty tons of coal will be removed as a result of this

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 2

five hole exploration (see page 7 of the submittal). This submittal, therefore, qualifies as a minor coal exploration application.

**Findings:**

ACT/041/002-99E qualifies as a minor coal exploration amendment.

## **RESPONSIBILITIES FOR COAL EXPLORATION PLAN REVIEW**

Regulatory Reference: R645-201-100.

**Analysis:**

The five exploration holes and five piezometer holes relative to this minor coal exploration application will be drilled on land whose surface ownership is controlled by the U.S. Forest Service, Manti-La Sal National Forest; coal resources are administered by the U. S. Bureau of Land Management.

**Findings:**

The lead agency involved in the review of this minor coal exploration application is the U. S. Bureau of Land Management, with secondary responsibilities managed by the U. S. Forest Service, Manti-La Sal National Forest. The responsibility of the Utah Department of Natural Resources, Division of Oil, Gas and Mining is to provide comments only to the USBLM.

## **NOTICE OF INTENT TO CONDUCT MINOR COAL EXPLORATION**

Regulatory Reference: R645-201-200; 210 through 225.

**Analysis:**

This Notice of Intent to Conduct Minor Coal Exploration includes the following information.

- 1) Regulation 201-221; the name, address, and telephone number of the applicant seeking to explore, (see page 1 of the submittal).
- 2) Regulation 201-222; the name, address, and telephone number of the applicant's representative responsible for conducting the exploration activities, (see page 3 of the submittal).

- 3) Regulation 201-223; a narrative and map describing the exploration area and indicating where exploration will occur, (see Maps 1,2, and 3 and pages 3 and 4 of the submittal).
- 4) Regulation 201-224; a statement of the period of intended exploration is included, (see page 7).
- 5) Regulation 201-225; a description of the method of exploration to be used, the amount of coal to be removed, and the practices that will be followed to protect the area from adverse impacts of the exploration activities and to reclaim the area in accordance with the applicable requirements of R645-202. (See pages 7, 8, and 9 of the submittal).

**Findings:**

This notice of intent to conduct minor coal exploration includes sufficient information to adequately address the requirements of R645-201-210 through 225.

## **COAL EXPLORATION**

### **COMPLIANCE DUTIES**

Regulatory Reference: R645-202-100.

**Analysis:**

#### **Required Documents**

This notice of intent to conduct minor coal exploration includes a commitment to distribute copies of the approved finalized notice of intent to conduct minor coal exploration to those individuals (i.e., drillers, geologists, and other agents of the Company) directly associated with the exploration activities.

**Findings:**

The intent of R645-202-100, regarding distribution of required documents relative to this notice of intent to conduct minor coal exploration has been adequately met.

### **PERFORMANCE STANDARDS**

Regulatory Reference: R645-202-210.

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 4

**Analysis:**

**Conducting Minor Coal Exploration in Accordance With State Program**

This application commits the permittee to conduct this minor coal exploration according to the performance standards mandated by the R645 rules. Core samples will be recovered; the exploration activities will not substantially disturb the natural land surface. Drill sites will be reclaimed by backfilling mud pits, redistributing any soils removed, and by the scarifying and seeding of the area. Any minor drainages which have been affected will be reshaped and seeded. All seeding will utilize the seed mixture submitted as part of Appendix C, page 19. The mix should be reviewed by the USFS and receive that Agency's endorsement.

**Findings:**

This submittal's commitment to reclaim the drill sites according to the intent of the aforementioned regulation is adequate, assuming the USFS is in agreement on the seed mix to be implemented for the reclamation activities.

Regulatory Reference: R645-202-220.

**Analysis:**

**Minor Coal Exploration Performance Standards Mandate**

In this application, the permittee has made a commitment to conduct the minor coal exploration in accordance with the R645 performance standards relative to same.

**Findings:**

The submittal adequately addresses this requirement.

**OPERATIONAL STANDARDS**

Regulatory Reference: 202-231.

**Analysis:**

**Habitats of Unique or Unusually High Value/Threatened and Endangered Species**

The applicants submittal commits same to conducting an intensive field survey of the area to be disturbed and/or impacted if there is reason to believe that threatened or endangered species of plants or animals, or migratory bird species of high Federal interest occur in the area, (see page

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 5

10, Appendix B).

**Findings:**

The submittal adequately addresses this requirement.

**ROADS**

Regulatory Reference: 202-232.

**Analysis:**

**Roads**

No roads or other transportation facilities will be constructed . The applicant feels that the regulations cited under R645-202-232 are not applicable to this exploration plan because 1) the access routes will be used only 2-3 days, 2) only minor work will be needed to make the access routes travelable, and 3) the access routes will be reclaimed as soon as drilling is complete. The work planned for the access routes (wheel tracks and new routes) will be smoothing of rough spots with a grader, leveling spots where the gradient is too high, and grubbing some spots. Smoothing of rough spots and leveling spots will preferably done with material in the access route, but in some cases material will have to be hauled in. The total length of this work is one mile.

All roads associated with this minor exploration application are ancillary; all R645 rules relative to primary roads are inapplicable.

**Findings:**

The roads described within this submittal are ancillary and regulated by USFS guidelines. The R645 Utah coal rules are not applicable to same.

**TOPSOIL**

Regulatory Reference: R645-202-233.

**Analysis:**

**Protection of Topsoil Resource**

Topsoil soil removal during exploration road construction will be achieved by side casting of the material. This is standard practice, as it assists in the rapid redistribution of the

resource during reclamation activities. Page 9 of the submittal commits the permittee to the recovery and stockpiling of topsoil from the drill pad areas; this will prevent contamination of the resource by drilling activities. Redistribution of the soils will occur during the reclamation of the drill sites.

**Findings:**

This submittal adequately addresses the requirements of R645-202-233.

**HYDROLOGY**

Regulatory Reference: R645-202-234.

**Analysis:**

**Diversions of Overland Flows and Streams**

The exploration sites will be drilled on a gently rolling plateau having elevations in the 8000 to 8500 foot range. Overland flows are generally very small in nature; should any occur, they will be coursed about the exploration sites through utilization of berms, water bars, ditches, and/or culverts, preventing surface water contamination. There are no streams in close proximity to any of the chosen exploration sites.

**Findings:**

This submittal adequately addresses the requirements of R645-202-234.

Regulatory Reference: R645-202-235. and R645-301-356.300. through -301-356.400.

**Analysis:**

**Coal Exploration Activities Relative to Maintenance of Prevailing Hydrologic Balance  
Maintenance of Siltation Structures / Revegetation of Sites**

The submittal commits the applicant to cementing the boreholes for their entire length, or completing them as piezometers, which in both cases will seal any aquifers encountered to preclude cross connection.

**Findings:**

This submittal adequately addresses the requirements of R645-301-356.300. and -301-356.400.

## **IMPOUNDMENTS**

Regulatory Reference: R645-301-512.240; -301-513.200; -301-514.300; -301-515.200;  
-301-533.100 through -533.600

### **Analysis:**

**P.E. Certification of Impoundment Designs**  
**MSHA pond requirements**  
**Impoundments**  
**Impoundment Hazards/Notification of DOGM**  
**Impoundments**

The construction of mud pits at the drill sites will be necessary to control the drilling medium and keep it within the exploration site. These will be totally incised. It is felt that these containments do not have enough volume to warrant the application of the aforementioned regulations.

### **Findings:**

The aforementioned regulations, as they relate to impoundments, are not applicable to this submittal.

## **GROUND WATER**

Regulatory Reference: R645-301-731.100, -301-731.110, -301-731.111

### **Analysis:**

**Hydrologic Balance Protection/Groundwater**

Page 18 of the submittal commits the applicant to implement methods for protection of ground water. It is not anticipated that acid or toxic forming materials will be encountered during exploration because none have been encountered previously. Mud pits will allow evaporation of drilling water, minimizing the potential for this water to impact ground water systems. Preventive methods will be implemented to prevent the over topping of mud pits. All exploration boreholes will be plugged for their entire depth to prevent future contamination of ground water systems via surface influx.

### **Findings:**

This submittal adequately addresses the requirements of R645-301-731.100 through .111.

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 8

Regulatory Reference: R645-301-731.112.

**Analysis:**

**Ground Water Protection Relative to Surface Coal Mining**

This regulation relates to surface coal stripping operations. The SUFCO Mine is an underground extraction operation.

**Findings:**

R645-301-731.112 is not applicable to this submittal.

**SURFACE WATER**

Regulatory Reference: R645-301-731.120; -301-731.121; -301-731.122

**Analysis:**

**Surface Water Protection  
Surface Water Quality and Quantity Protection**

These regulations have been previously addressed under R645-301-731.100-111.

**Findings:**

This submittal adequately addresses the requirements of R645-301-731.120 through .122.

Regulatory Reference: R645-301-731.200 through -301-731.210.

**Analysis:**

**Ground Water Monitoring**

The shallow hole at each exploration site will be completed as a piezometer, bored to the depth of the base of the Castlegate sandstone, or just below same.

**Findings:**

Ground water monitoring will continue to be conducted by the permittee according to the plan which exists in the current mining and reclamation plan.

Regulatory Reference: R645-301-731.210; -301-731.211; -301-731.212;-301-731.213;

-301-731.214; -301-731.214.1; -301-731.214.2; -301-731.215;  
-301-731.220; -301-731.221; -301-731.222

**Analysis:**

**Surface Water Monitoring Requirements**  
**Ground Water Monitoring Plan**  
**Quarterly Monitoring Reports**  
**Division Approval Requirements**  
**Ground Water Monitoring through Bond Release**  
**Minimizing Disturbance to Post Mining Land Use**  
**Monitoring No Longer Necessary**  
**Maintenance of Water Quality/Quantity Monitoring Equipment Required**  
**Surface Water Monitoring**  
**Implementation of Plan According to PHC**  
**Identification of Surface Monitoring Parameters, Frequency, and Locations**

This minor coal exploration application will be conducted on land whose surface is managed by the U. S. Forest Service, Manti La-Sal National Forest. The coal resource lies within Federal coal lease U-76195 , which is part of the Canyon Fuel Company, LLC, SUFCO Mine lease area. The Division approved surface water monitoring plan, as it exists within the mining and reclamation plan, and adequately addresses the aforementioned R645 requirements.

**Findings:**

The aforementioned R645 rules, as they relate to surface and ground water monitoring regimes, have already been adequately addressed by the SUFCO Mine mining and reclamation plan. They do not need to be addressed in this minor coal exploration application.

Regulatory Reference: R645-301-731.800.

**Analysis:**

**Water Rights and Replacement Relative to Surface Coal Mining**

This regulation is not applicable to this minor coal exploration application. Geologic data which will be obtained is relative to an underground extraction process.

**Findings:**

This regulation is not applicable to this minor coal exploration application.

## **SILTATION STRUCTURES**

Regulatory Reference: R645-301-742.200 through -742.214.

### **Analysis:**

#### **Siltation Structures**

The construction of siltation structures is irrelevant to this minor coal exploration application.

### **Findings:**

These regulations have been adequately addressed in a previous section of this submittal.

## **SEDIMENTATION PONDS**

Regulatory Reference: R645-301-742.220; -301-742.221 through -742.240

### **Analysis:**

#### **Sedimentation Ponds**

There are no sedimentation ponds in close proximity to, nor will there be any constructed in association with, this minor coal exploration application.

### **Findings:**

These regulations are not applicable to this minor coal exploration application.

Regulatory Reference: R645-301-742.300.

### **Analysis:**

#### **Diversions**

These requirements have already been addressed within this submittal.

### **Findings:**

These requirements have already been addressed within this submittal.

Regulatory Reference: R645-301-763-.100 and -763.200.

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 11

**Analysis:**

**Siltation Structures**

There are no siltation structures associated with this minor coal exploration application. These regulations are not applicable.

**Findings:**

R645-301-763.100 and -763.200 are not applicable to this minor coal exploration application.

**ACID/TOXIC MATERIALS**

Regulatory Reference: R645-202-236.

**Analysis:**

**Handling/Disposal of Acid-Toxic Forming Materials**

The requirements of R645-202-236 have been addressed on page 18, Appendix C of the submittal.

**Findings:**

This submittal adequately addresses the requirements of R645-202-236.

**RECLAMATION STANDARDS**

Regulatory Reference: R645-202-240;-202-241; -202-242; -202-242.100; -202-242.200

**Analysis:**

**Return of Exploration Site to Approximate Original Contour  
Revegetation of Exploration Sites  
Revegetation/Utilization of Native Species  
Control of Erosion by Vegetation**

Page 15 of Appendix B of the submittal commits the applicant to the back filling of the associated mud pits during the reclamation process; approximate original contour will thus be achieved. The area will then be scarified and reseeded using a seed mix which is endorsed by the U. S. Forest Service. This will occur prior to the end of the field season.

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 12

**Findings:**

ACT/041/002-99E adequately addresses the requirements of R645-202-241 thru -242.200.

Regulatory Reference: R645-202-242.

**Analysis:**

**Sealing of Exploration Boreholes**

Page 19 of Appendix C (addressed under R645-202-235) of the submittal commits the applicant to cementing the five exploration holes from bottom to collar (entire depth) by the licensed driller. The machinery associated with the exploration will then be removed from the pad so that the remaining reclamation requirements (which have been previously addressed) can be initiated.

**Findings:**

The submittal adequately addresses the requirements of R645-202-243.

Regulatory Reference: R645-202-244; -202-244.100; -202-244.200; -202-244.300

**Analysis:**

**Removal of Drilling Apparatus  
Providing Additional Environmental Data  
Reduce or Control Impacts Due to Exploration  
Facilitate Future Mining and Reclamation**

All equipment associated with the exploration activities will be removed from the site(s) as soon as compilation of the geologic data is completed. Reclamation activities (as they have been previously addressed within this submittal) can then commence. As the exploration boreholes will be cemented for their entire depth, it will not be feasible to obtain additional environmental data. As previously noted, the five shallow holes will be completed as piezometers for the purpose of monitoring ground water levels within the Castlegate sandstone. The reduction of impacts due to exploration will not be necessary. The submittal adequately addresses the requirements of R645-202-244. through -244.300.

**Findings:**

ACT/041/002-99E adequately addresses the requirements of R645-202-244 thru -244.300.

Coal Exploration  
ACT/041/002-99E  
October 7, 1999  
Page 13

Regulatory Reference: R645-301-830.

**Analysis:**

**Determination of Bond Amount**

The applicant currently holds \$3, 988,000 worth of bond for the SUFCO Mine permit area. Based on the Division's 5% rule, there is sufficient bond in place for the reclamation of the disturbance associated with the five exploration boreholes.

**Findings:**

The current bond is adequate.

**CONCLUSIONS AND RECOMMENDATIONS**

ACT/041/002-99E adequately addresses the requirements of R645-201-100., -201-200., and R645-202.

It is recommended that the U. S. Forest Service review and determine the adequacy of the seed mix which the applicant has submitted on page 19 of Appendix C.

Water for exploration and dust suppression activities will be taken from the north fork of Quitcupah Creek where the North Fork flows under FDR 007, following proper procedure for obtainment through State water laws. The U. S. Forest Service, Manti La-Sal National Forest Service will initiate the arrangements for obtaining the 0.5 acre feet estimated for this exploration project.

It is recommended that all water usage approvals from the Utah State Engineer be in place for the applicant prior to the approval of this minor coal exploration application by the USBLM.