



United States Department of the Interior 3481
BUREAU OF LAND MANAGEMENT U-49332
(U-067)

Moab District
P.O. Box 970
Moab, Utah 84532

MAY - 5 1988

Mr. D. Wayne Hedberg
Data Management Coordinator
Utah Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Dear Mr. Hedberg:

Enclosed for your review is a copy of Beaver Creek Coal Company's amendment to the approved 1987 coal exploration plan on Trail Mountain, Emery County. As you are aware, the original 1987 plan was submitted by Trail Mountain Coal Company, but was not drilled due to the sale of the mine to Beaver Creek. Beaver Creek plans to drill these three approved holes, plus one additional hole this year. Please review the plan for your recommendations and/or concurrence with regards to your requirements. Stephen Falk or Neil Simmons in Price at 637-4584 will be the BLM contact should you have any questions.

Sincerely yours,

C. Deland Backus

District Manager

ACTING

Enclosure:
Exploration Plan

cc: SD (U-921) w/o enclosure

RECEIVED
MAY 6 1988

DIVISION OF
OIL, GAS & MINING

TABLE 1

LEGAL DESCRIPTION
TRAIL MOUNTAIN 1988
EXPLORATION LICENSE APPLICATION AREA

T. 17 S., R. 6 E., Salt Lake Meridian, Emery County, Utah.

Section 26, W1/2 SW1/4 NE 1/4, S1/2 NW1/4, SW1/4,
W1/2 W1/2 SE1/4; (300.00 Ac)

Section 27, S1/2 NE1/4, SE1/4 NW1/4, E1/2 SW1/4, SE1/4;
(360.00 Ac)

Section 34, NE1/4, E1/2 NW1/4, E1/2 SW1/4, SE1/4;
(480.00 Ac)

Section 35, Lots 3 and 4, W1/2 SW1/4 NE1/4, S1/2 NW1/4,
SW1/4, W1/2 W1/2 SE1/4. (380.49 Ac)

T. 18 S., R. 6 E., Salt Lake Meridian, Emery County, Utah.

Section 1, Lots 1 through 8, and S1/2 N1/2; ~~(448.20 Ac)~~ ^{447.66}

Section 2, Lots 1 through 8, and S1/2 N1/2; (451.36 Ac)

Section 3, Lots 1, 2, and 8. (106.35 Ac)

T. 18 S., R. 7 E., Salt Lake Meridian, Emery County, Utah.

Section 6, Lots 4 through 7, and W1/2 SE1/4 NW1/4,
W1/2 E1/2 SW1/4. (204.95 Ac)

Containing ^{2,730.81} ~~2,731.35~~ Acres, more or less.

3410.2-1(a)(3) - "EACH APPLICATION SHALL CONTAIN THREE COPIES OF AN EXPLORATION PLAN WHICH COMPLIES WITH THE REQUIREMENTS OF 3482.1(A) OF THIS TITLE."

Three copies of the entire Exploration Permit Application are enclosed. The Exploration Plan makes up the second section of this Application. As required in 3482.1(a)(2), five copies of the Exploration Plan have been submitted to the authorized officer.

3410.2-1(a)(4) - "EACH APPLICATION AND ITS SUPPORTING DOCUMENTS SHALL BE FILED WITH A NONREFUNDABLE FILING FEE (43 CFR 3473.2)."

Enclosed is the non-refundable filing fee of \$250.00.

3410.2-1(a)(5) - "EXPLORATION LICENSE APPLICATIONS SHALL NORMALLY COVER NO MORE THAN 25,000 ACRES IN A REASONABLY COMPACT AREA AND ENTIRELY WITHIN ONE STATE. AN APPLICATION FOR AN EXPLORATION LICENSE COVERING MORE THAN 25,000 ACRES MUST INCLUDE A JUSTIFICATION FOR AN EXCEPTION TO THE NORMAL ACREAGE LIMITATION."

The total number of acres in the proposed exploration area is 2,731.35. The Exploration License Application area is reasonably compact, and well within the 25,000 acre size limitation.

3410.2-1(b) - "NOTHING IN THIS SUBPART SHALL PRECLUDE THE AUTHORIZED OFFICER FROM ISSUING A CALL FOR EXPRESSIONS OF LEASING INTEREST IN AN AREA CONTAINING EXPLORATION LICENCES OR APPLICATIONS FOR EXPLORATION LICENSES."

3410.2-1(c) - "APPLICANTS FOR EXPLORATION LICENSES SHALL BE REQUIRED TO PROVIDE AN OPPORTUNITY FOR OTHER PARTIES TO PARTICIPATE IN EXPLORATION UNDER THE LICENSE ON A PRO RATA COST SHARING BASIS."

3410.2-1(c)(1) - "IMMEDIATELY UPON THE FILING OF AN APPLICATION FOR AN EXPLORATION LICENSE THE APPLICANT SHALL PUBLISH A "NOTICE OF INVITATION," APPROVED BY THE AUTHORIZED OFFICER, ONCE EVERY WEEK FOR 2 CONSECUTIVE WEEKS IN AT LEAST ONE NEWSPAPER OF GENERAL CIRCULATION IN THE AREA WHERE THE LANDS COVERED BY THE LICENSE APPLICATION ARE SITUATED. THIS NOTICE SHALL CONTAIN AN INVITATION TO THE PUBLIC TO PARTICIPATE IN THE EXPLORATION UNDER THE LICENSE AND SHALL CONTAIN THE LOCATION OF THE BUREAU OF LAND MANAGEMENT OFFICE IN WHICH THE APPLICATION SHALL BE AVAILABLE FOR INSPECTION. COPIES OF THE NOTICE OF INVITATION SHALL BE FILED WITH THE AUTHORIZED OFFICER AT THE TIME OF PUBLICATION BY THE

APPLICANT, FOR POSTING IN THE PROPER BUREAU OF LAND MANAGEMENT OFFICE AND FOR BUREAU OF LAND MANAGEMENT'S PUBLICATION OF THE NOTICE OF INVITATION IN THE FEDERAL REGISTER.

A copy of the "Notice of Invitation" to be published in the local newspapers and the Federal Register is included at the end of this section.

3410.2-1(c)(2) - "ANY PERSON WHO SEEKS TO PARTICIPATE IN THE EXPLORATION PROGRAM CONTAINED IN THE APPLICATION SHALL NOTIFY THE AUTHORIZED OFFICER AND THE APPLICANT IN WRITING WITHIN 30 DAYS AFTER THE PUBLICATION IN THE FEDERAL REGISTER. THE AUTHORIZED OFFICER MAY REQUIRE MODIFICATION OF THE ORIGINAL EXPLORATION PLAN TO ACCOMODATE THE LEGITIMATE EXPLORATION NEEDS OF PERSONS SEEKING TO PARTICIPATE, AND TO AVOID THE DUPLICATION OF EXPLORATION ACTIVITIES IN THE SAME AREA, OR MAY NOTIFY THE PERSON SEEKING TO PARTICIPATE THAT THE PERSON SHOULD FILE A SEPARATE APPLICATION FOR AN EXPLORATION LICENSE."

3410.2-1(d) - "AN APPLICATION TO CONDUCT EXPLORATION WHICH COULD HAVE BEEN CONDUCTED AS A PART OF EXPLORATION UNDER AN EXISTING OR RECENT COAL EXPLORATION LICENSE MAY BE REJECTED."

NOTICE OF INVITATION TO PARTICIPATE
IN COAL EXPLORATION PROGRAM;
BEAVER CREEK COAL CO.

Beaver Creek Coal Company is inviting all qualified parties to participate in its proposed exploration of certain Federal coal deposits in the following described lands in Emery County, Utah:

T. 17 S., R. 6 E., Salt Lake Meridian, Emery County, Utah.

Section 26, W1/2 SW1/4 NE 1/4, S1/2 NW1/4, SW1/4,
W1/2 W1/2 SE1/4; (300.00 Ac)

Section 27, S1/2 NE1/4, SE1/4 NW1/4, E1/2 SW1/4, SE1/4;
(360.00 Ac)

Section 34, NE1/4, E1/2 NW1/4, E1/2 SW1/4, SE1/4;
(480.00 Ac)

Section 35, Lots 3 and 4, W1/2 SW1/4 NE1/4, S1/2 NW1/4,
SW1/4, W1/2 W1/2 SE1/4. (380.49 Ac)

T. 18 S., R. 6 E., Salt Lake Meridian, Emery County, Utah.

Section 1, Lots 1 through 8, and S1/2 N1/2; ~~(448.20 Ac)~~ ^{447.66}

Section 2, Lots 1 through 8, and S1/2 N1/2; (451.36 Ac)

Section 3, Lots 1, 2, and 8. (106.35 Ac)

T. 18 S., R. 7 E., Salt Lake Meridian, Emery County, Utah.

Section 6, Lots 4 through 7, and W1/2 SE1/4 NW1/4,
W1/2 E1/2 SW1/4. (204.95 Ac)

TOTAL ^{2,730.81}
~~2,731.35~~ Ac.

Any party electing to participate in this exploration program must send written notice of such election to the Bureau of Land Management, Utah State Office, 324 S. State Street, Suite 301, Salt Lake City, Utah, 84111-2303, and to Kenneth S. Fleck, geologist, Beaver Creek Coal Company, P.O. Box 1378, Price, Utah, 84501. Such written notice must be recieved within thirty days after publication of this notice in the Federal Register.

INTRODUCTION

This Exploration Plan has been prepared by Beaver Creek Coal Company (Beaver Creek) in accordance with the requirements of the Code of Federal Regulations, Title 43, Chapter II, Subparts 3482 (Exploration Plans) and 3484 (Performance Standards) as well as CFR Title 30, Chapter VII, Part 815 (Permanent Program Performance Standards - Coal Exploration) and Utah State Rules for Coal Exploration UMC 776.11 (General Requirements: Exploration of Less than 250 Tons) and UMC 815 (Permanent Program Performance Standards - Coal Exploration).

This Exploration Plan has been prepared by Beaver Creek to accompany the Federal Coal Exploration License Application filed in April, 1988.

The format used in this Exploration Plan follows the format of 43 CFR, Chapter II, Subpart 3482.1 (Exploration and resource recovery and protection plans).

EXPLORATION PLAN
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EXPLORATION PLAN

3482.3(a)(3) i, ii - Names and Addresses of Applicant,
Operator, and Lessee of Record:

APPLICANT:

Beaver Creek Coal Company
P.O. Box 1378
1305 S. Carbon Ave.
Price, Utah 84501

(801) 637-5050

OPERATOR:

Beaver Creek Coal Company
(Operator for W.K. Minerals, Inc.)
(Address and Number same as above)

LESSEE OF RECORD:

(There is no Operator/Lessee of Record for the Trail Mountain
Federal Tract.)

ADJACENT LEASES:

W.K. Minerals, Inc.
555 17th Street
Denver, Colorado 80202

Federal Coal Lease U-082996
Federal Coal Lease U-49332
Utah State Coal Lease ML-22603

REPRESENTATIVE OF APPLICANT:

Kenneth S. Fleck
Geologist

Beaver Creek Coal Company
P.O. Box 1378
1305 S. Carbon Ave.
Price, Utah 84501

(801) 637-5050 ext. 25

EXPLORATION PLAN

3482.1(a)(3)(iii) - Narrative Description of Exploration Area:

The proposed exploration area is located approximately 11 miles northwest of Orangeville, Utah (See Figure 1).

The proposed exploration area lies within the unleased Federal Coal Tract known as the Trail Mountain Tract (delineated in 1982), to the west and northwest of the existing Trail Mountain Mine and leases (U-49332 and U-082996, and State Lease ML-22603). The proposed exploration area is outlined on Figure 4, and a Legal Description of the proposed exploration area is presented in Table 1.

SURFACE TOPOGRAPHY:

All exploration activities will take place on top of Trail Mountain, between 8,400 and 9,200 feet elevation. The top of Trail Mountain consists of gently rolling terrain bounded by steep escarpments of the Castlegate Sandstone.

GEOLOGY:

The proposed Trail Mountain Exploration License Application area lies near the center of the Wasatch Plateau Coal Field within the Mahogany Point and Joes Valley Reservoir U.S.G.S. 7 1/2 minute quadrangle maps (see Figure 4).

Previous geological work has been done in this area by Spieker (1931), Ellis and Frank (1981), and Kitzmiller (1982). The U. S. Geological Survey and the Utah Geological and Mineral Survey have conducted previous exploration drilling programs in and adjacent to the proposed exploration area.

The general stratigraphy of the area consists of members of the Mancos Shale and Mesaverde Group of the Cretaceous System, and the overlying Wasatch Group of Tertiary age (see Figure 2).

The Masuk Shale member of the Mancos Shale outcrops lowest in the area. About 0 - 500' of this unit are exposed along the lower reaches of Straight Canyon and Cottonwood canyon.

Overlying the Mancos Shale are the Mesaverde Group beds, which consist of, in ascending order, the Star Point Sandstone, the Blackhawk Formation (coal bearing), and the

Price River Formation, itself consisting of the lower massive Castlegate Sandstone member and the Upper Price River member. Mesaverde Group outcrops form the steep canyon walls in the area.

The North Horn Formation and overlying remnants of the Flagstaff Limestone of Tertiary age cap the top of Trail Mountain.

The Blackhawk Formation of the Mesaverde Group is the major coal-bearing formation of the area. The only known mineable coal at Trail Mountain is the Hiawatha Seam, which is found immediately on top of the Star Point Sandstone, at the contact of the Star Point Sandstone and the overlying Blackhawk Formation. Other seams are present in the Blackhawk Formation, but all are too thin to be of economic importance in the Trail Mountain area.

The strata in the Trail Mountain area dip generally at 2 - 5 degrees to the southwest. No faults have been identified in the exploration area, but minor faulting related to the Joes Valley fault system is likely to occur along the western extent of the Trail Mountain Tract.

WATER RESOURCES:

The climate in the Trail Mountain area is considered semi-arid, receiving 10 - 20 inches of precipitation annually, depending on elevation (precipitation increases as elevation increases).

Major streams in the area include Cottonwood Creek to the east of the Application Area, and Straight Canyon Creek to the south, which is supplied year-round by Joes Valley reservoir.

Ground water aquifers are known to exist in the North Horn Formation, in sandstones of the Blackhawk Formation, and the Star Point Sandstone. Several springs originating from the North Horn Formation supply water to stock and wildlife ponds on the top of Trail Mountain.

VEGETATION:

Vegetation in the exploration area consists of Aspen, Conifer, Pinyon and Juniper trees, and various grasses and mountain shrubs. No threatened or endangered plant species have been identified in the exploration area.

SOILS:

Soils in the exploration area are mainly derived from

the North Horn formation and have a high clay content. By limiting the size of drill sites and retaining topsoil for reclamation purposes, revegetation should not be a problem in this area.

WILDLIFE:

Trail Mountain is a deer and elk winter range. Other animals in the area include cougar, bobcat, rabbit, squirrel, mice and other rodents, reptiles and amphibians. The proposed exploration program will be scheduled to avoid conflicts with the deer and elk on winter range.

THREATENED OR ENDANGERED SPECIES:

No threatened or endangered plant or animal species have been identified within the proposed exploration area.

LAND USE:

The present land use of the proposed exploration area consists of domestic grazing, wildlife habitat, watershed, timber lands, recreational lands, and intensive big game hunting. Beaver Creek is presently mining coal underground in a lease area adjacent to the proposed exploration area.

CULTURAL RESOURCES:

As specified in 43 CFR II Subpart 3482 (a)(3)(viii), Beaver Creek will conduct a cultural resource survey of the proposed drilling locations and access roads. This study will be conducted as soon as ground conditions permit access to the proposed locations. After archaeological studies are concluded, results will immediately be reported to the appropriate regulatory agencies. (See Attachment 1 for previous cultural resource surveys of nearby areas). There are no known structures or sites eligible for listing on the National Register of Historic Places within the proposed exploration area.

PROPOSED ACCESS ROUTES:

U.S. Forest Service roads #50040 and #50034 will be the main access routes to the proposed exploration area. There are also approximately six miles of non-system roads in the proposed exploration area. These roads are used for watershed and range management projects, as well as for ranching and recreation. The proposed drill sites have been located as near to existing roads as possible. Several temporary roads, to be constructed and reclaimed as they are used, will be needed for access to some of the drill sites

(see Figure 4 and Table 3). Special-Use and Road-Use permits will be obtained from the U.S. Forest Service prior to any drilling activities.

3482.1(a)(3)(iv) - Construction, Exploration, and Reclamation Methods:

PRE-DRILLING ACTIVITIES:

Prior to any construction or drilling activities, an on-site inspection of all proposed drill sites and access routes will be conducted with representatives from all appropriate regulatory agencies present, to discuss site-specific concerns.

Proper Road-Use and Special-Use permits will be obtained prior to use of U.S. Forest Service Roads.

U.S. Forest Service, Bureau of Land Management, and State regulatory personnel will be notified at least 48 hours before any construction or drilling equipment is moved into the project area. All construction and drilling activities will be supervised by an authorized representative of the Applicant. A copy of the Exploration License and all pertinent permit documents will be available for inspection on site at all times.

Campsites and staging areas to be used by the drilling contractor will be reviewed with and approved by the U.S. Forest Service prior to use.

Any proposed changes in the Exploration Plan after the approval of this License will be reviewed with the appropriate regulatory agencies before the changes take effect.

ROAD CONSTRUCTION:

Existing roads and trails will be used whenever possible, and movement of equipment across undisturbed land will be kept to a minimum. When necessary, brush will be cleared for a 12' wide path to the drill site. Trees over 8" in diameter will be cut down and skidded to a site designated by the Forest Service. New or additional roads will be constructed only when necessary and only as the drilling program progresses. Any top soil removed during road construction will be stockpiled and redistributed when the roads are reclaimed. Erosion control structures such as water bars will be installed in newly constructed roads as required by the U.S. Forest Service. Rehabilitation of existing trails and reclamation of constructed roads will be done in accordance with U.S. Forest Service and State

regulations and stipulations.

DRILLING SITES:

All drill sites have been located close to existing roads. (see Figure 4). Each drill site will be approximately 100'x150' in size, or the minimum size necessary for efficient drilling operations. Top soil that is present will be stripped from the drill sites and stockpiled to prevent contamination. A mud pit or pits will be dug at each site to contain drill cuttings and drilling fluids. Water for drilling operations will be obtained at a site determined in cooperation with the U.S. Forest Service and the Cottonwood Creek Irrigation Co. The average depth of the holes to be drilled is about 2,000 feet (see Table 2).

METHODS AND EQUIPMENT FOR DRILLING:

Site preparation will be done with one D-7 sized bulldozer or equivalent and one backhoe. Brush and/or trees will be cleared from the site, then the top soil will be pushed aside before pad construction is begun. Each drill site will be approximately 100' x 150' to allow sufficient space for all necessary drilling equipment.

Rotary Drilling and coring will be done by a rubber-tired truck-mounted drilling rig at 9 locations on Trail Mountain. Drill sites are shown on Figure 4. Support equipment will consist of one or two water trucks, one rig-up or support truck, and 4x4 pickups for the crews and company representatives. Stationary equipment for each site will consist of a pipe truck or trailer, one or more truck-mounted air compressors or boosters and a doghouse/supply trailer. One truck mounted geophysical logging unit will be used on each hole location.

Each hole will be rotary drilled to a point approximately 50' above the top of the Hiawatha Seam. Casing will be installed in the hole as necessary to keep the hole open and to prevent drilling and circulation problems if possible. Cuttings will be sampled and logged every 10 feet when circulation is present. After the core is retrieved from the hole, the hole will be logged with a standard suite of geophysical coal logs. As much casing as possible will be retrieved from the hole. The hole will then be plugged according to the standards set forth in 43 CFR II 3484.1(a).

The initial diameter of each drill hole will be approximately 10 inches. The core retrieved from the hole will be 2.4 inches or 3 inches in diameter. The primary drilling medium will be compressed air with mist/foam injection to aid in the circulation of cuttings to the surface. If air and foam prove to be an insufficient drilling medium, drilling mud and lost circulation materials

will be used.

Care will be taken to ensure that the the prevailing hydrologic balance will not be adversely affected by the drilling methods used in this program. Biodegradable drilling soap is the only chemical anticipated for use during drilling, and any other potentially toxic materials used will be handled and disposed of in accordance with State and Federal regulations.

PROPOSED DRILL HOLE PLUGGING METHODS:

The hole plugging method described in 43 CFR II 3484.1(a) will be used for all holes. The hole will be plugged with cement from bottom to 50 feet above the uppermost thick coal seam and from 50 feet below to 50 feet above any aquifers encountered in the hole (see Figure 3). The rest of the hole will be filled either with an approved completion mud or gel or cement to within 5 feet of the surface. A 5 foot cement surface plug will be set, and an appropriately labeled monument marker will be cemented into the surface plug. Surface casing will be cut off at or below the level of the soil surface.

ESTIMATED SIZE AND DEPTH OF HOLES:

Below the surface casing (approximately 12 inches in diameter), each hole will be started with a 9 or 10 inch rotary bit. This larger diameter hole will be drilled as far as possible to allow 8 inch diameter casing to be set through the North Horn and upper Price River formations, both of which are known for poor drilling conditions. Below this casing, a smaller (6 1/2 inch) diameter rotary hole will be drilled to core point (50 feet above the Hiawatha seam) The 6 1/2 inch rotary hole will be cased if necessary. The outer diameter of the cored portion of the hole will be 4 inches or less. The average depth of the holes will be about 2,000 feet. A complete listing of the locations and depths of the proposed drill holes appears on Table 2.

MODIFICATION OF DRILL HOLES TO SURVEILLANCE OR WATER WELLS:

If significant aquifers are encountered in any of the proposed drill holes, regulatory officials will be notified. They may direct Beaver Creek to complete such a hole as a water monitoring well. Since Beaver Creek does not anticipate penetrating any significant aquifers in any of the holes, no plans are being made for water well completions.

RECLAMATION PLAN:

Reclamation activities will follow as closely as

possible the drilling of each location.

1. Upon completion of drilling activities at a given site, all debris, trash, and drilling related equipment will be removed from the site.
2. When the mud pit is sufficiently dry, it will be filled with stored soil material and compacted to minimize later settling.
3. A backhoe and a bulldozer will redistribute material on and around the drill pad to achieve as closely as is practicable the original contour of the site.
4. Stored top soil will be distributed as evenly as possible over the disturbed pad area.
5. The entire drill pad area will be re-seeded using a U.S. Forest Service approved seed mix at the rate specified.
6. The access road will be restored as closely as possible to the original contour and re-seeded as above.
7. The drill pad and access road reclamation procedure outlined above will apply only to those areas newly disturbed for this proposed exploration. Existing roads will be left in a condition equal to or better than that observed on Beaver Creek's entry into the area.

3482.1(a)(3)(v) - Estimated Timetable for Construction, Drilling, and Reclamation Activities:

Because access to the proposed exploration area is dependent on the weather and ground conditions, the estimated startup date for construction and drilling activities will be on or around July 1, 1988.

At this time, Beaver Creek intends to drill 4 to 6 of the 9 proposed holes during the 1988 drilling season and still leave sufficient time for reclamation activities to be completed by October 31, 1988. The remaining holes are presently scheduled to be drilled during the 1989 drilling season, during the second year of the term of the Exploration License.

3482.1(a)(3)(vi) - Amount of Coal to be Removed:

Coal to be removed during this exploration will be in the form of 2 to 3 inch diameter cores. Using a total coal thickness of 12 feet in each hole and a core diameter of 3", total weight of coal to be removed will be less than 350 pounds. This coal will be tested for a wide range of quality

parameters by a qualified laboratory.

3482.1(a)(3)(vii) - Measures to be Used to Comply with Performance Standards for Exploration (43 CFR II 3484.1(a), 30 CFR 815.15, and Utah State Permanent Program Rules):

3484.1(a)(1) - (Operator shall comply with applicable requirements of surface management agency, 30 CFR 815.15, or approved State program)

All applicable parts of the Federal and State Performance Standards for Coal Exploration have been covered in the preceding exploration and reclamation plans. Beaver Creek has reviewed, and will comply with, all applicable requirements of 30 CFR 815.15 and the Utah Mining Code as stated in UMC 815.15.

3484.1(a)(2) - (Installation of casing and blowout preventers in drillholes in known oil, gas, and geothermal areas)

No known oil, gas, or geothermal resources are known or anticipated in the proposed exploration area, therefore, blowout preventers will not be used. Casing will be set in each hole as necessary to maintain circulation of cuttings to the surface.

3484.1(a)(3) - (Drillhole plugging requirements)

Each drillhole will be plugged according to the requirements outlined in this section: The hole will be plugged with cement from 50 feet below to 50 feet above any coal bed over 4 feet thick and any aquifer.

The remainder of the hole will be filled with a completion mud (bentonite gel) and drill cuttings or cement to within 5 feet of the surface. A cement surface plug will be set, capped with an appropriately marked brass or aluminum monument, at or below ground level.

3484.1(a)(4) - (Retention of drill and geophysical logs by applicant)

Beaver Creek will retain in its files all drill and geophysical logs for at least 1 year, and will make them available for inspection by any authorized officer. All un-analyzed drill cores will be kept in Beaver Creek's possession for at least 1 year if requested, and will be available for inspection by any authorized officer.

3484.1(a)(5) - (Utilizing drill holes as water monitoring wells)

Beaver Creek does not anticipate encountering any significant aquifers during this drilling program. Beaver Creek does not intend to complete any of these holes as water monitoring wells.

3482.1(a)(3)(viii) - Map of Exploration Area:

A map of the proposed exploration area at a scale of 1:12,000 (1" = 1,000'), showing all drill hole locations, existing roads and access roads to be constructed is included as Figure 4 of this plan.

3482.1(a)(3)(ix) - Surface Owners and Subsurface Owners of Record:

SURFACE OWNERS:

U.S. Department of Agriculture
U.S. Forest Service
Manti-LaSal National Forest
Ferron District Office
Ferron, Utah 84532

State of Utah
Division of State Lands
Department of Natural Resources
105 State Capital Building
Salt Lake City, Utah 84114

SUBSURFACE OWNER:

U.S. Department of the Interior
Bureau of Land Management
Utah State Office
324 S. State Street Suite 301
Salt Lake City, Utah 84111-2303

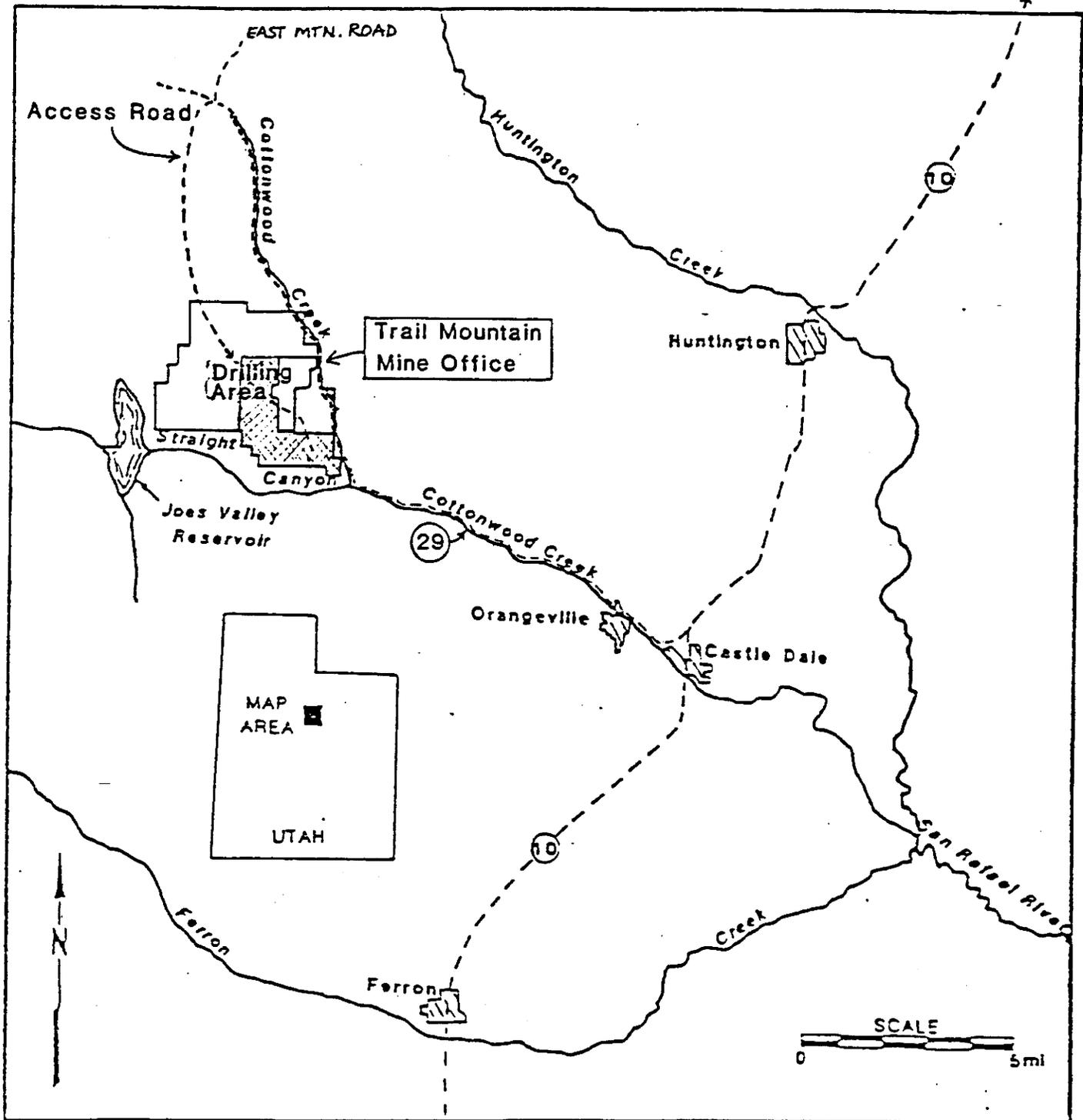


Figure 1. Location of Proposed Exploration Area.

System	Group	Formation		Thickness (feet)	Description	
Tertiary	Wasatch	Flagstaff Limestone		100-1,000	Light gray to cream limestone; thin and even bedded; dense; fossiliferous; ledge- and cliff-forming.	
		North Horn Formation		900-2,000	Mostly red-, brown-, and salmon-colored shales; varying thicknesses of sandstone, freshwater limestone and conglomerate; slope-forming.	
Cretaceous	Mesaverde	Price River Fm.	Upper Price River Member	400-800	Mostly tan and gray, medium- to coarse-grained sandstone; some gray shale and conglomeratic sandstone; ledge- and slope-forming.	
			Castlegate Sandstone Member	150-500	Light gray, yellowish brown, and white, medium- to coarse-grained sandstone and conglomeratic sandstone; cliff-forming.	
		Disconformity				
		Blackhawk Formation		400-1,100	Light to medium gray sandstones; gray to black shales; gray siltstones; important coal beds in lower half; sandstones weather tan, brown, yellowish brown; ledge- and slope-forming.	
	Star Point Sandstone		200-1,000	Tan, light gray, and white massive sandstones separated by one or more shale tongues; cliff-forming.		
	Mancos Shale	Masuk Shale		300-1,300	Light gray to blue gray sandy marine shale; thins to west and south; slope-forming.	

Figure 2. Generalized stratigraphic column of rock units exposed in the Wasatch Plateau Coal Field (Davis and Doelling, 1977).

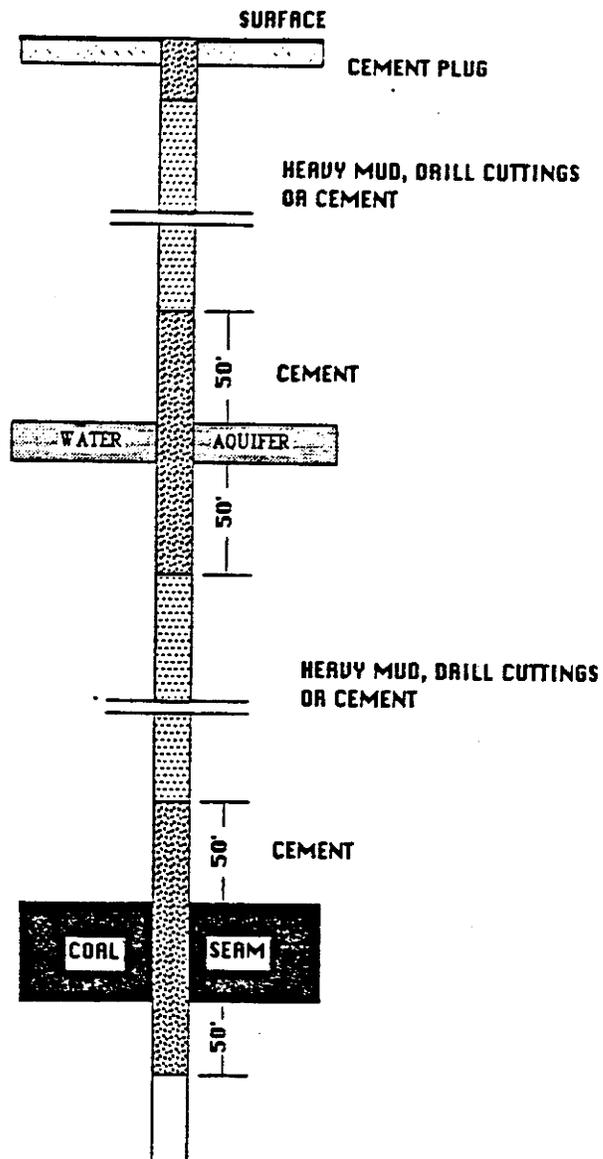


Figure 3. Drill hole plugging method.

TABLE 2.

LOCATIONS AND DEPTHS OF PROPOSED DRILLHOLES:

HOLE NO.	LOCATION	EST. ELEV.	EST. TOTAL DEPTH*
TMX-1	NE1/4NE1/4 SEC. 1 T18S R6E	8600'	1530'
TMX-2	NW1/4SW1/4 SEC.26 T17S R6E	9160'	2370'
TMX-3	NE1/4NW1/4 SEC.35 T17S R6E	9020'	2250'
TMX-4	SW1/4SE1/4 SEC.35 T17S R6E	8920'	2175'
TMX-5	SW1/4NE1/4 SEC.34 T17S R6E	8410'	2010'
TMX-6	SE1/4SW1/4 SEC.27 T17S R6E	8970'	2425'
TMX-7	SE1/4SW1/4 SEC.34 T17S R6E	8040'	1595'
TMX-8	NW1/4NE1/4 SEC. 2 T18S R6E	8440'	1770'
TMX-9	SE1/4NW1/4 SEC. 1 T18S R6E	8280'	1390'

* Hole depths include a 30' "rat hole" at the bottom of the hole to ensure complete geophysical logging.

TABLE 3.

AREAS OF DISTURBANCE ASSOCIATED WITH ACCESS ROAD
AND DRILL SITE CONSTRUCTION:

Hole No.	Constructed Road Length	Acres of Road Disturbance	Total Disturbance (Road + 100'x150' Pad)
TMX-1	3800'	1.04	1.48 ACRES
TMX-2	200'	.06	.40
TMX-3	1800'	.50	.84
TMX-4	400'	.11	.45
TMX-5	200'	.06	.40
TMX-6	3400'	.94	1.28
TMX-7	5200'	1.43	1.77
TMX-8	5500'	1.52	1.86
TMX-9	1600'	.44	.78
TOTAL	22,100'	6.10	9.26 ACRES

(Assume 12' disturbed width associated with road construction and 100'x150' disturbed area for drill pads.)