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United States Department of the Interior

U-082996

GEOLOGICAL SURVEY

Office of the Area Mining Supervisor
Conservation Division
8426 Federal Building
125 South State Street
Salt Lake City, Utah 84138

September 17, 1976

Mr. Cleon Feight, Director
Division of Oil, Gas, & Mining
State of Utah
1588 West North Temple
Salt Lake City, Utah 84116

Dear Sir:

Please find enclosed one copy of the Mining and Reclamation Plan as submitted to this office by John L. Bell for the Trail Mountain Coal Company.

We submit this plan for your general information. Any input you may have to our Environmental Analysis will be appreciated.

This plan becomes open for public inspection at our office on September 24, 1976.

Sincerely yours,

Jackson W. Moffitt
Area Mining Supervisor

Enclosure

Brian has the Plan



TRAIL MOUNTAIN COAL CO.

Orangeville Area

Emery County, Utah



MINING AND RECLAMATION PLANS

FEDERAL LEASE U-082996



Company Name	Trail Mountain Coal Co.
Mine Name	Trail Mountain Mine
Address	P.O. Box 356
TOWN, COUNTY, STATE	Orangeville, Emery, Utah 84537
Telephone Number	(801) 748-2140
Identification Number	42-01211
Operator	John L. Bell
Operator's Title	Owner
Operator's Address	P.O. Box 356, Orangeville, Utah
Person responsible for mine operation to be sent orders & notices	Raymond R. Sitterud
Title	Mine Superintendent
Owners of Property	United States Government

PREFACE

This report describes in detail mining and subsequent reclamation plans for the Trail Mountain Mine in the Orangeville area of Central Utah in Emery County.

Since the proposed operation will include the mining of Federal lands, these plans have been prepared for submittal to the Area Mining Supervisor, U.S. Geological Survey, Salt Lake City, Utah

The Lease will be mined by Trail Mountain Coal Company which is owned and operated by John L. Bell, Orangeville, Utah

INTRODUCTION

LOCATION AND ACCESS

The existing operations and expansion of the Trail Mountain Mine is located in Emery County, approximately 10 miles northwest of Orangeville, Utah. The surface facilities are located in Cottenwood Canyon and are on fee land held by John L. Bell. The Federal land held by Mr. Bell is adjacent to his fee land and consists of 40 acres under lease U-082996.

Entry to the operation is made through Orangeville from State Highway 10, up State Highway 29 and Cottenwood Canyon.

GENERAL DESCRIPTION OF LANDS INVOLVED

The Trail Mountain Mine is located in T. 17 S., R. 6 E., sec. 25. Mr. Bells' holdings consist of 60 acres of fee and 40 acres of Federal leasehold. (The operation is located adjacent to Cottonwood Creek). The Federal land is administered through the Price, Utah office of the Manti-LaSal National Forrest.

Land use of the area covered by this report consists mainly of grazing land for deer, elk, bear, snowshoe rabbit, and many smaller animal species indigenous to the area. Recreational use consists almost entirely of deer and elk hunting. There are no established recreation facilities in the area, but there is some use of the road up Cottonwood Canyon as an entrance to Bear Mountain on the Manti-LaSal National Forrest.

REGIONAL FEATURES

The proposed area is on the west side of the North-trending valley of Cottonwood Creek. Cottonwood Creek runs north-south until it reaches the mouth of Straight Canyon, at which time it runs easterly through Orangeville. Cottonwood Creek is bordered on the west by Trail Mountain and on the east by East Mountain, both of which reach elevations of

9,500 to 9,900 feet.

CLIMATE

In Castle Valley, of which Cottonwood Canyon is a part of, the rainfall is low and the prevailing temperatures are in general moderate. The average precipitation is approximately 8.0 inches annually. The temperature ranges from highs of 95° F. to lows of -5° F. with a mean temperature of 47° F.

FLORA AND FAUNA

The vegetation is scant, and only the hardier plants common in arid regions are found. Shad scale, salt brush, scrub cedar, sagebrush, greasewood, pinon and galleta grass prevail in the lowlands and on the cliffs. In places scrub oak is abundant.

The area is inhabited by many small species of animals. They consist of the showshoe hare, cottontail rabbit, marmots, tree squirrels and ground squirrels. Some deer and elk may also be found in the area. No rare or endangered species are known to inhabit the area.

ARCHEOLOGICAL AND HISTORICAL CONSIDERATION

There are no known archeological sites on the proposed area.

The present land has been disturbed for many years, originally by the Johnson mine site and more recently by the Robertson workings. Access to the workings of the coal on Federal land will be from entries on fee land. As a result of this, any unknown archeological areas would not be disturbed. *Wuy?*

LAND STATUS AND HISTORY ACQUISITION

The acquisition of the leasehold and the fee land dates back a number of years. Earl J. Robertson initiated the present mine in 1943. By 1962, the recoverable coal reserves on fee land had diminished to such a point

that more coal reserves were needed. Robertson then filed for a competitive lease on an adjacent 40 acre tract of Federal land lease number U-082996. The lease was issued to him on July 1, 1962. The present mine was operated until 1965, but the leasehold wasn't mined. After Robertson's death in 1972, the land was probated and finally purchased by John Bell on April 23, 1974. The existing mine was then reopened by Bell in 1975.

GEOLOGY

GENERAL

The geologic formation of the Wasatch Plateau coal field, of which this property is part of, ranges in age from the lower part of the Upper Cretaceous to the lower part of the Eocene. The exposed formations include many varieties of sandstone, conglomerate, shale and limestone. Their total thickness in the Plateau and Castle Valley exceed 10,000 feet. The most prominent members are the Mancos Shale, Star Point Sandstone, Blackhawk Formation, Castlegate Sandstone and Flagstaff Limestone. The Coal beds are part of the Blackhawk Formation.

COAL BEDS

Six coal beds are present in this area. Only coal beds four feet thick and over are considered minable by the USGS ⁽¹⁾. The only bed in this area that is minable is the Hiawatha bed - - 7.5 feet thick. It is overlain by 20.5 feet of very fine-grained sandstone that should be competent. In some locations, there are two to three thin rider seams. The coal sets on 1.3 feet of siltstone which is underlain by 1.5 feet of shale. Underneath this shale is massive competent Star Point Sandstone.

(1) Wasatch Plateau Coal Field, Utah Drilling Project
U.G.M.S. 1976

COAL RESERVES AND QUALITY

Using an average thickness of 7 feet in the computation of coal reserves on the leasehold, coal in place was estimated at [REDACTED] tons and recoverable coal was estimated at [REDACTED] tons using a 50% recovery. An average coal analysis shows - 12,800 BTU/lb, 43.20% Volatiles, 7.0 % ash, 5.0% moisture, 44.8% fixed carbon and 0.6% sulfur.

PROPOSED MINING

MINE DEVELOPMENT

The mine will be developed by driving three entries south along the western boundary of the lease, bypassing the old workings of the Robertson mine. The entries will be driven from fee land.

The lease is besected by a canyon, and it is planned to mine the area south of the canyon first.

Pillar extraction will not be done immediately. Plans are now underway to acquire adjacent leases. The mining of these properties will be from the three entries that will be driven in the present lease. Pillar extractions prior to the mining of the adjoining property may endanger the recovery of the coal on the adjacent leases. Pillar extraction will be done as the final steps in the overall mining plan.

PROPOSED MINING METHODS AND EQUIPMENT

The mine will utilize "continuous miners" as the main means of extracting the coal. Conventional mining methods will also be used. Nineteen foot entries will be driven by the continuous miners, with nineteen foot crosscuts. The entries and cross-cuts will be on 75-foot centers. (see appendix A.) Nine ton shuttle cars will move the coal from the face to a conveyor belt. Roof bolting will be done where necessary.

Presently is is planned to use two continuous miners and one conventional method. Two shuttle cars will be used for each mining area. Equipment will be electric or Diesel approved by MESA.

MINE PRODUCTION

Mine production will be approximately 500 tons per day for the first six months. Production will increase to 1,000 tons per day as development continues and production of the coal begins. With increased energy demand the operation could increase to 1,000,000 tpy.

SURFACE FACILITIES

All surface facilities are on fee land. The facilities consist of an enclosed fan, a conveyor system for stock piling, a concrete block building containing the diesel powered generator, a scales and a concrete block building, now under construction to house shope area, lunchroom and bath house.

COAL TRANSPORTATION

The coal will be trasported 40 miles from the tipple to the Price, Utah area by truck and trailer. They will utilize the existing road in Cottonwood Canyon which leads to State Highway 29, through Orangeville and Castle Dale, to State Highway 10. State Highway 10 intersects Interstate 70 which leads to Price, Utah where the coal will be shipped out by rail.

POLUTION CONTROL MEASURES

Culverts have been placed in Cottonwood Creek so that the flow of the stream will not be hindered. Any flow from the hydrologic system of the mine will be channeled into a settling pond. Any of the excess mine water that can't be reused in the mine will be skimmed of any oil and drained into Cottonwood Creek,. This water will be monitored to prevent contamination of the stream, and will be by approval of EPA and Utah State discharge permits. Embankments will be placed around the coal stock piles

to prevent any fine from being washed off the pile to the stream.

No polluting refuse will be dumped into the surface water system or introduced into the ground water system. Sewerage treatment at the site will be designed to prevent any human wastes from entering the water system. Solid refuse will be disposed of on fee land at the mine site. Location and method will be approved by the State and M.E.S.A.. If for any reason the site can not meet standards set by these agencies, solid refuse will be trucked to a sanitary land fill designated by the county presently in use at Orangeville. Burning of solid refuse would not be conducted unless it could be done in a controlled fashion that would eliminate any fire danger and air pollution.

Some dust will be produced by the trucks hauling from the mine. A joint venture is planned with the county to oil the road from the mine to State Highway 29. Dust will also be produced as a result of rock-dusting in the mine. Coal dust in the mine will be retarded by the use of water sprays on the machinery and also by rock-dusting.

Some noise pollution will be present as a result of the mine workings. The generator and diesel engine have been enclosed in a concrete block building which reduces noise. Some noise is also produced by the exhaust fan.

MINE SAFETY

The mine will meet all M.E.S.A. standards. Entries will be rock-dusted to within eight feet of the working face. Fire extinguishers are placed in critical areas in the mine and in the generator house, fan house and oiling station. Rock dust is placed in the mine at key locations.

The roof will be bolted where necessary using three to six foot roof bolts.

SUBSIDENCE

Subsidence may occur as a result of the proposed mining operation.

In an area such as this where a relatively small area of coal is mined, little subsidence will probably occur. If the mine were to be substantially enlarged, some subsidence may reach the surface. Subsidence may be 30 to 70 percent of the coal seam resulting in up to 5 feet of subsidence at the surface. No pillars will be extracted where subsidence would result in the massive failure of the canyon walls.

GENERAL INFORMATION

WATER REQUIREMENTS

Trail Mountain Coal Company presently holds five shares of water in Cottonwood Creek. John Bell currently holds an additional number of shares which could be turned over to Trail Mountain Coal Company if the need arises in the future. Presently they are utilizing some of this water in the mining operation. The water for culinary use will be treated in a chlorination and filtering system prior to use, or it will be hauled from the Orangeville water system.

WATER REQUIRED

Continuous Miner*	25 gal/min.
Culinary Use	20 gal/man/day

* Includes conveyor belt watering system and roof bolter.

TOTAL WATER REQUIREMENTS (Max.)

2 Continuous Miners/shift operating two shifts (3 hours operational/shift)	18,000 gal/day
35 Men @ 20 gal/man/day	<u>700 gal/day</u>
total	18,700 gal/day

ELECTRICAL SUPPLY

The electricity is presently supplied from an 800 KW generator powered by a 1200 H.P. diesel engine. Arrangements are now underway with the Utah Power & Light Company to furnish the mine with the necessary power. Diesel generated power will be increased to 1,800 KW if the needed power

can not be delivered by the Utah Power & Light Company.

SANITARY WASTE DISPOSAL AND TREATMENT

Discussions with the state health department has indicated that they prefer waste disposal through septic tanks and dreaain fields at the mine site. Plans are now underway for the necessary system.

PERSONNEL REQUIREMENTS.

At the present time, six men are currently operating the mine. When full production is reached in 1977, approximately 35 people will be required in the two operating shifts.

Projected Mine Employment:

Supervisors	1
Mine Bosses	3
Safety Engineers	1
Miners	18
Maintenance	6
Supplies	3
Clerical	3
Total	35

SOCIAL SERVICES AND ECONOMICS

Due to the large increase in mining and power production in the adjacent area, housing may become a problem. Currently the employees live in Orangeville and Castle Dale. We expect to fill our employment requirements from the people presently residing in the surrounding area. As a result of this, there should be little effect on the current housing situation.

When the mine is in full production, the anticipated annual payroll will be about \$410,000. This figure is for 35 employees, both salary and labor personnel.

The added income produced by this operation will generate much needed tax dollars in this area.

The school system in the area has increased its capacity in expectation of the increase in population due to expanded mining operations. Police and fire protection is adequate at the moment, but will have to be increased in the future.

SOCIO-ECONOMIC DATA CARBON AND EMERY COUNTIES

	<u>Carbon County</u>	<u>Emery County</u>
Population 1973 (est)	17,000	6,800
Density/square mile	11.6	1.5
<u>EMPLOYMENT STATUS</u>		
Total Civilian Work Force	6,020	3,090
Total Employment	5,810	2,720
Mining	1,030	640
Construction	150	710
Agriculture	110	230
Manufacturing	250	50
Wholesale & Retail	1,160	245
<u>COUNTY FINANCES</u>		
Assessed Valuation in M	35.1	23.1
Tax Rate Mills/Hundred	66.51	52.597
Bond Indebtedness 1-1-74	\$525,000	\$217,000

ABANDONMENT

REMOVAL OF SURFACE FACILITIES

With the acquisition of more Federal coal, the existing mine will be in operation for an estimated 40 years. It is our plan to remove the surface facilities at the time of abandonment. State regulations will be followed concerning this abandonment.

SEALING OF MINE OPENINGS

During the operations, all openings not needed in the regular course of work will be fenced to prohibit the entry of animals and unauthorized persons.

Upon temporary abandonment, the openings will be fenced and posted.

Upon permanent abandonment, the openings will be sealed with block or poured concrete and backfilled.

All sealings will be done in accordance with Onshore Mining Program Series, Part 623 - Operations - Inspection, Chapter 6 - Abandonment, U.S. G.S. Conservation Division Manual.

RECLAMATION PLAN

GENERAL

The surrounding area has no commercial value except for some possible future coal mining. It does have some non-commercial value as a wildlife area. The surface facilities cover an area of approximately six acres. This area has been previously disturbed by past mining operations, so the present mine plan will not disturb any virgin land.

RECLAMATION SCHEDULE

Once mining has terminated permanently, the planned reclamation will proceed in an orderly manner.

The surface facilities will be removed from the location for resale, or disposed of in an approved land fill.

Grading will begin upon removal of the surface structures. The surface will be graded to the approximate original contour. The topsoil in the area is sparse and very rocky. Little topsoil is available due to previous work on the surface facilities. Any topsoil that can be recovered, will be replaced.

Seeding of the topsoil will follow. The surface will be mulched to prevent erosion.

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RECLAIMED LAND FORMS

The purpose of the reclamation is to reform the land to the original appearance as near as possible. Exact duplication of land forms may not be possible, but all local aesthetic elements would be present.

CONCLUSION

The goal of the operation at the Trail Mountain Mine is to attain the greatest, most economical coal recovery with the least possible impact upon the surrounding environment. The production of coal will be of considerable importance to the national energy policy of self-sufficiency.

The work will be done in as safe and orderly manner as possible. The personnel will be trained and educated in the safety aspects of mining. Well maintained mine machinery will be used to increase safety and production.

The mines' surface facilities are all on fee land.

All work done on Federal land will be done in close cooperation with the Area Mining Supervisor's office (U.S.G.S.) and the U.S. Forest Service.

All mine entries will be sealed upon abandonment to insure the safety of any unauthorized persons and the Federal coal reserves.