

## C O A L

DONNELLY COAL FIELD ("BIG DELTA" COAL FIELD)  
December 9, 1943  
Introduction

This coal field is described in the U. S. Geological Survey Bulletin 926-B, page 145.<sup>1</sup>

The deposit is located about 4 miles east of the Richardson Highway near Donnelly.

Donnelly is an abandoned camp of the Alaska Road Commission.

The coal beds are easily accessible from Jarvis Creek Valley, but a climb of 1500 feet in a distance of 4 miles is required to reach the seams from the Richardson Highway 5 miles north of Rapids Roadhouse.

These coal deposits are promising.

During the last few winters there has, due to increased demands for coal and due to a severely cold winter, been created a need for an increased production of coal.

A few beds than described in U. S. Geological Survey Bulletin 926-B have been discovered at the base of this section. One of the seams, 30 feet in thickness, has created quite an increased interest in this field. Another newly formed (found) seam about 12 feet thick is also said to exist above the 30 foot bed.

On November 5, 1943, the Army Coal Procurement Service requested the writer to examine and take samples of the 30 foot coal bed.

The opinion of the writer is that this is a promising coal field which should be properly prospected by mapping, trenching and sampling. After the deposit has been connected with the Richardson Highway by a 4-5 mile road, the question of core drilling this deposit will probably have to be considered.

## Location

The Donnelly Coal Prospect is located between the Delta River, Jarvis Creek, Ruby Creek and Ober Creek (See Map). The coal beds are easily accessible from the Jarvis Creek side of the ridge, the highest of which is about 4000 feet above sea level. A climb of about 1400 feet is required to reach the coal from the Richardson Highway. About 3 miles south of Donnelly on the Richardson Highway is a small cabin (Dr. Craip's cabin) on the east side of the road. From this cabin it is in good weather about 4 hours walk to the coal. The first

<sup>1</sup> Moffit, Fred H., Geology of the Gerstle River District, Alaska

half of the climb is steep through the forests. The top of the ridge is quite barren except for a few brushes, grass and niggerheads which make walking difficult. It is possible to drive in a truck over the mountains in the summertime, almost to the coal, following the trail from Richardson Highway up Jarvis Creek.

The Donnelly camp of the Alaska Road Commission has telephone connection.

Otherwise there are no other roads or mean of communication and no houses except at Donnelly and the little cabin just mentioned.

The property is situated fairly advantageously. A comparatively short road of 4 miles length will connect the prospect with the Richardson Highway. The ground is generally well drained and the logical route for a fairly easy grade.

#### Climate

Winter conditions are not the very best as strong south winds blow almost continually except when there are extreme low temperatures. The wind does have that advantage that it tends to keep the snow from off the high ridges.

As to relief and drainage, timber, vegetation, etc., reference is made to U. S. Geological Survey Bulletin No. 926-B, page 109-117. The geology of this field is described in the same Bulletin, pages 127-131.

#### Labor

There is no labor to be found in the district and all workmen must be hired at Fairbanks or other points outside of this district. As to living conditions a camp will have to be built near the coal. The owners are intending to bring in two wanigans during the winter 1943-44, and they have under serious consideration to build a dozer road in the early spring.

#### Ownership

On October 20, 1943, V. Maurice Smith applied at the U. S. Land Office in Fairbanks for a permit to prospect for coal on unsurveyed land embraced by the following descriptions and located in the Jarvis Creek-Big Delta River area some 140 miles south of Fairbanks, Alaska: (see accompanying sketch)

Beginning at the corner post on Ruby Creek, tributary of Big Delta River, approximately where the creek breaks from the mountain side (approximate longitude 146 degrees and 10 minutes, latitude 63 degrees and 38 minutes) and continuing up the stream bed of Ruby Creek in an easterly direction two and one quarter miles, thence north one mile, thence north 45 degrees east one mile, thence north 45 degrees west one mile, thence south 45 degrees west one mile, thence west one mile, thence south one mile to point of beginning.

V. Maurice Smith in whose name the application has been made lives in Fairbanks. Mr. Smith has two partners namely Mr. Sam Cotten, and Mr. Joe Perrin, Nordale Hotel, both in Fairbanks, Alaska.

### Sampling

During the inspection it was, due to bad weather conditions and the late part of the year, only possible to take two samples from the 30 foot coal bed, on the north side of Ruby Creek.

The strike of the coal bed is N65°E and the dip is 30-35° NW.

Six feet of bottom-coal is boney coal, thinly laminated and very hard. A sample of this bottom-coal was taken. A sample of the upper 6 to 8 feet of the bed was also taken. The cutting from the drill holes appeared to be very good coal. Two 6-foot holes were drilled and samples obtained.

Proximate analysis of the two samples shows the following results:

Workable coal (6 ft. sample): Sample Can No. 3179:

Air-dry loss	6.5%
Moisture	7.2%
Vol. Matter	44.9%
Fixed Carbon	38.8%
Ash	9.1%

This is a subbituminous coal in an expected workable thickness of 20 to 24 feet.

Bottom coal sample, 6 feet thick (Sample Can No. 2685)

Air-dry loss	9.5%
Moisture	3.6%
Vol. Matter	36.3%
Fixed Carbon	26.6%
Ash	33.5%

The reserves will be determined by prospecting to be undertaken by the U. S. Bureau of Mines, in the spring and summer of 1944, and possibly core drilling later.

Below are listed some distances from this coal prospect to possible markets.

		<u>Estimated Yearly Needs</u>	
To:	Fairbanks	143 miles	
	Big Delta Air Field	33 miles	15,000 tons
	Gulkana		5,000 tons
	Tanana Cross Field	125 miles	5,000 tons
	Midway		5,000 tons
	Northway Field	200 miles	
	Dry Creek Field	136 miles	
	Valdez	245 miles	
Approximately			30,000 tons

Tanana cross and Northway Air Fields could be serviced by empty trucks returning from Fairbanks to Whitehorse.

Dry Creek Air Field and other intermediate points could be serviced on the back haul, empty from Fairbanks to Valdez.

The Army Air Fields are using oil-heating at present, but the Air Field at Big Delta has stored some Healy River Coal which had to be hauled by rail to Fairbanks and thereafter by truck 110 miles to Big Delta. The question is whether the Army Air Fields will change over from oil to coal in case coal at a competitive price can be made available from this coal field.

All coal coming into Fairbanks is being hauled by rail at least from Healy Station or Colorado Station. Coal brought from Fairbanks to the Big Delta district and the other points mentioned will in addition to rail haulage have to be hauled an additional 100 miles as compared with coal coming from Donnelly.

The coal prospect here under discussion may therefore be an added source of coal, helping to relieve any shortage of fuel in and around Fairbanks. In addition, production from this field might in case of need be stepped up to help an acute coal shortage in Fairbanks.

The possibility of opening up a strip mine on this 30 foot bed exists, but this will have to (be) closer investigated during the prospecting work in the summer of 1944.