

RR Misc MR 195-9

MINING TRIBUTARY TO THE ALASKA RAILROAD
FISCAL YEAR ENDING JUNE 30, 1925.

Coal Mining:

Production of coal from the Matanuska and Nenana fields for the fiscal year ending June 30, 1925, amounted to a total of 92,270 tons, which is an increase of approximately 5,000 tons over that of the preceding fiscal year. Of the total tonnage, 70 percent was produced in the Matanuska field, and 30 percent in the Nenana field. Of the coal produced in the Matanuska field, approximately 200 tons was semi-bituminous coking coal, mined at Coal Creek in the Chickaloon section. The balance, which is high grade sub-bituminous coal, came from the Eska-Jonesville and Moose Creek sections. The former section produced 49,274 tons, all of which came from the ¹²⁴⁸⁵⁻¹⁷¹ Evan Jones mine at Jonesville, and the latter produced 15,049 tons, which came from the Premier, Baxter-Bedell, and Rawson properties. With the exception of about 500 tons mined during the winter at the Roth property on upper Healy River, all coal mined in the Nenana field was produced at the Suntrana mine of the Healy River Coal Corporation at Henly.

Prospecting for and development of coal seams in the Matanuska field proceeded during the year with the result that the proven available tonnage of commercial coal is very materi-

ally increased over the preceding year. The most significant new developments of the year were the cutting of the coal seams of the North limb of the Eska syncline by the crosscut tunnel driven from the bottom level of the Evan Jones mine; and the demonstration of probably important additional reserves of mineable coal on each of the units of the Moose Creek section, particularly the Howard-Jesson permit area. ^{K+ 65-168} The tonnage exposed on the Howard-Jesson ground is sufficient to warrant the construction of an extension of the Moose Creek spur to the property, and preliminary work in preparation for the building of this spur has been commenced. Renewed interest was manifested in the deposits of anthracite coal at Anthracite ridge, east of Chickaloon, to which section several trips were made by interested parties. It was found that prospecting work sufficient to demonstrate the probable tonnage of anthracite coal in the deposits that would be available for mining at a reasonable cost is probably justified, and steps are being taken to secure capital for that purpose.

^{K+ 67-69} Important underground development at the Suntrana mine in the Healy River section of the Nenana field consisted in extensive work on the sixth seam of the coal series, that has served to prove the commercial value of that bed and the existence of a very large additional tonnage of cheaply mineable coal. Additional knowledge of the large seams of coal known to exist

in the easterly portion of the Healy River section was gained by prospecting and development work conducted during the winter months on the Roth permit area, which lies several miles up Healy River from the Suntrana mine. Under favorable conditions this area could probably produce an enormous tonnage of coal of satisfactory grade, some of which is cannel coal.

Placer Mining:

Tributary to the Alaska Railroad are about twenty placer mining districts, within which active operations were conducted in 1924, and in connection with which operations approximately 1,500 men were employed. In a general way these tributary placer regions may be grouped as follows: Fairbanks; Upper Yukon, including the Chandalar, Circle, Eagle-Seventy-Mile, and Forty-Mile districts; Central Yukon, including the Tolovana, Hot Springs and Rampart districts; Lower Yukon, including the Ruby, Marshall, Iditarod-Innoko, and Koyukuk districts; the Yentna region; and the Kenai Peninsula region. In addition to the above main regions, placer mining operations were conducted on a small scale in the Kantishna, Bonnifield, and Valdez Creek districts.

While definite figures are not yet at hand as to the production of gold from the various placer regions, it is known that the value of the output in 1924 exceeded that of 1923 by about \$250,000. Operations on the Upper Yukon were hampered

by an unusually dry season and consequent shortage of water, but other districts experienced favorable water conditions and many of them showed an increased output over the preceding year.

Important developments in the placer mining situation in the Fairbanks region became known during the year that give promise of greatly increased activity in that region over a period of many years to come. It has long been known that throughout the Fairbanks region there are large reserves of low grade gravels that cannot be profitably mined by methods heretofore employed. The mining of these gravels on a large scale by means of dredging, following improved thawing methods of comparatively recent development and greatly improved transportation facilities and fuel supply afforded by the Alaska Railroad, seems now assured. By the close of the fiscal year approximately 300 men were employed by the Fairbanks Exploration Company in preliminary development work and construction. During the past winter an extensive program of drilling was carried on by this and other companies by which was determined the gold content of large areas in the several sections of the Fairbanks region. The results were apparently satisfactory. Aside from this work of exploration and development there were 55 productive summer placer operations in the Fairbanks region, employing approximately 300 men, and 18 winter drift mines, employing about 100 men. The value of the gold output of the region was greater than in 1923. The

summer operations included three dredges, one of which was operated for the first time in 1924.

Most of the operations in the upper Yukon region are conducted by small groups of miners or single individuals who are scattered over wide areas. In 1924 there were about 230 placer miners employed in the region. The season was unusually dry and therefore unfavorable for successful placer operations, and the value of the gold produced was less than for the preceding year. The Berry dredge ^{K+ 50-6} was operated as usual on Mammoth Creek in the Circle district.

The Hot Springs and Tolovana districts of the Central Yukon region had unusually good supplies of water in 1924 and as a consequence made an increased production of gold over 1923. The Rampart district was very quiet and only about 20 men were employed during the season of 1924.

About 30 placer operations were conducted in the Iditarod district, that gave employment to 135 men. Two dredges, employing 39 men, were operated on Otter Creek. A good supply of water was available in most sections of the district. A shortage of labor was experienced after the middle of July. The gold output of the district for 1924 was about \$175,000. The gold produced in the Innoko district was somewhat less than in 1923. Two dredges, one hydraulic plant, and eight ground-slucing plants, were operated in the district during the year.

Very little activity is reported from the Ruby district, and likewise from the Marshall district on the lower Yukon. While the production of gold from the Koyukuk district was comparatively small, very encouraging results were obtained from the extensive prospecting that was carried on.

Placer mining operations in the Yentna region gave employment to about 100 men in 1924, and included one dredge, 14 hydraulic plants, and 6 ground-sluicing outfits. The season was favorable insofar as water conditions are concerned, and the normal output of gold was maintained.

In the Hope, Sunrise, and Girdwood districts of the Kenai Peninsula region five hydraulic plants and a number of ground-sluicing outfits were active during the year. The total gold output of the region for 1924 is estimated to be about \$32,000.

Activities in the Kantishna, Bonnifield and Valdez Creek districts were on a small scale and the production of gold from them was not of importance.

Lode Mining:

The extent and importance of mineral resources in the form of lode deposits in regions tributary to the Alaska Railroad are very imperfectly known. Lode mining has been very slow in developing, and at the present time is confined wholly to free-milling gold ores, which, being treated at the localities

where mined, provide no important tonnage to the Railroad. Prospecting for lodes in the interior of Alaska has been subordinated to the more alluring search for placer gold. The scarcity of bedrock outcrops in large sections of the Interior regions has also prevented the discovery of lode deposits that may exist. Owing to lack of trails and difficulty of access, areas in the Alaska Range, the Talkeetna Mountains and the Chugach Range that are known to contain ores of metals other than gold have been but imperfectly examined, and little is known of their potential importance to the Railroad as sources of tonnage.

The yield of gold from the numerous small but relatively high grade lodes of the Fairbanks district was slightly less in 1924 than in 1923. The reduced cost of operation brought about by the completion of the Alaska Railroad to Fairbanks, will probably result, however, in the reopening of many small quartz properties that have been idle for years, and a more intensive search for new veins.

The Willow Creek district in the Talkeetna Mountains, is the most important lode gold area yet discovered tributary to the Railroad. The production of gold from this district in 1924 amounted to about \$200,000, and development work done during the year indicates a materially increased production

for the year 1925. A very encouraging feature of the past year's development work in the Willow Creek district is the success attending the search for ore at much lower levels than have heretofore been opened in the district.

As a result of improved transportation provided by roads being constructed by the Bureau of Public Roads, a notable increase in prospecting for gold lodes on Kenai Peninsula was evident during the year.

Work was continued at the Liberty Bell property near Ferry in the Bonnifield district, where a gold lode has been under development for the past three years with a crew of about fifteen men engaged.

kt 1/6 11 Additional development work was also done on a promising ruby silver lode prospect on Portage Creek near Ohulitna station.

Analyses of Various Coals Mined
Tributary to the Alaska Railroad.

Fiscal Year Ending June 30, 1925.

Matanuska Field:

Evan Jones Coal Company.

The mine of the Evan Jones Coal Company is situated at Jonesville, one mile west of Eska. The analysis given is of the average of samples taken of the coal delivered to the Alaska Railroad during the month of February, 1925. The coal was mined from the south limb of the Eska syncline, and was washed at the coal washery at the mine. The plant is served by a standard-gauge spur of the Alaska Railroad.

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture.....	7.22	2.85	
Volatile matter.....	38.28	40.08	41.26
Fixed Carbon.....	45.42	47.07	48.19
Ash.....	13.52	14.16	14.57
British thermal units..	11,373	11,909	12,258
Sulphur.....	.32	.33	.35

Ross Heckey Property.

The coal mined at the Ross Heckey property is a semi-bituminous coking coal, suitable for use as blacksmith coal. The coal is secured from the westerly extension of the seams developed by the Navy Alaska Coal Commission at Coal Creek, 2 miles from the junction of the Chickaloon and Matanuska Rivers, and is mined during the winter and sledged to the railroad across the ice. This coal is used by the Alaska Railroad in making coke for foundry use, and is found to be equal to eastern coking coals for this purpose.

Ross Heckey Property (continued).

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture.....	2.39	.40	
Volatile Matter.....	21.68	22.13	22.21
Fixed Carbon.....	67.85	69.23	69.51
Ash	8.08	8.25	8.28
British thermal units..	13,973	14,258	14,315
Sulphur .....	.61	.62	.63

Premier Coal Mining Company.

The Premier Coal Mining Company operates under the lease of Bruno Agostino on Unit No.1 in the Moose Creek section. The coal is hoisted through a slope from the main gangway level, which is at a depth of approximately 250 feet below the surface. The mine is adjacent to the tracks of the Moose Creek narrow gauge spur of the Alaska Railroad. The analysis is of samples of ^{the} coal delivered to the Alaska Railroad in April 1925.

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	5.46	2.54	
Volatile Matter	37.69	38.86	39.87
Fixed Carbon	44.53	45.90	47.10
Ash	12.32	12.70	13.03
British thermal units..	11,772	12,136	12,452
Sulphur .....	.20	.21	.22

Phillips Coal Company.

The Phillips Coal Company operates under the permit of the Rawson Coal Company, whose property is situated on the line of the proposed extension of the Moose Creek spur, and about 2½ miles above the present terminus of the spur. The analysis is of samples of a car of coal delivered to the Alaska Railroad in April, 1925.

Phillips Coal Company (continued).

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	5.60	1.85	
Volatile Matter	37.82	39.32	40.06
Fixed Carbon	44.55	46.32	47.19
Ash	12.03	12.51	12.75
British thermal units..	11,756	12,220	12,453
Sulphur .....	.19	.20	.31

Alaska Bituminous Coal Company.

The Alaska Bituminous Coal Company operates the property that has formerly been known as the Baxter, or Baxter-Bedell mine, which is situated at the present terminus of the Moose Creek narrow gauge spur of the Alaska Railroad. The analysis given is of a face sample taken from a seam recently developed on the property, and is therefore not representative of the average of the coal that has been delivered from the property.

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	5.47	2.55	
Volatile Matter.....	39.14	40.35	41.40
Fixed Carbon	46.74	48.18	49.45
Ash	8.65	8.92	9.15
British thermal units ..	12,383	12,768	13,100
Sulphur .....	.50	.52	.53

The following is the analysis of the average of samples of 7500 tons of run-of-mine coal delivered to the Alaska Railroad in 1923:

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	4.74		
Volatile Matter	38.38	38.19	46.32
Fixed Carbon	42.16	44.26	53.68
Ash	16.72	17.55	-----
British thermal unite..	11,231	11,790	14,300
Sulphur .....	.31	.33	.39

Alaska Matanuska Coal Company.

The Alaska Matanuska Coal Company, otherwise known as the Jesson-Howard interests, hold under permit an area extending for about four miles along Moose Creek. The lower end of the property lies adjacent to the Agostino lease premises and the property of the Alaska Bituminous Coal Company. The principal development work has been done at a point about a half mile above the workings of the Rawson Coal Company and about three miles above the mine of the Alaska Bituminous Coal Company. The extension of the narrow guage spur of the Alaska Railroad will reach the upper end of the property. Commercial production has not yet been attempted, but surface and underground development work has demonstrated the existence of a large tonnage of coal on the ground. The analysis given is that of a face sample taken from No.3 bed where it was penetrated by the main crosscut adit.

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	5.74	3.32	
Volatile Matter	39.76	41.20	42.18
Fixed Carbon	45.42	47.07	48.19
Ash	9.08	9.41	9.63
British thermal units....	11,951	12,384	12,679
Sulphur .....	.27	.28	.28

Nenana Field:

Healy River Coal Corporation.
(Suntrana Mine)

The Suntrana mine of the Healy River Coal Corporation is served by a standard guage spur of the Alaska Railroad extending approximately four miles up Healy River from the town of Healy. The coal mined, while possessing the lignitic characteristic of slaking on exposure to air, has been pronounced a sub-

Healy River Coal Corporation (continued).

bituminous coal. The analysis is that of a composite of the samples taken of the coal delivered to the Alaska Railroad during the month of February 1925.

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	21.16	14.31	
Volatile Matter.....	39.72	43.22	50.38
Fixed Carbon	31.29	34.06	39.69
Ash	7.83	8.52	9.93
British thermal units..	8,883	9,666	11,267
Sulphur .....	.19	.21	.24
	666 -----		

Roth Property

The R.F.Roth property, which is held under permit, is situated about 8 miles above Suntrana on Healy River. Coal is mined only during the winter months, when it may be sledded down Healy River on the ice to the railroad spurt at Suntrana. The analysis is that of a composite of samples taken of 16 cars of coal shipped during March, April and May 1925.

	<u>As Rec'd</u>	<u>Air Dried</u>	<u>Dry Coal</u>
Moisture	16.80	8.07	
Volatile Matter.....	42.34	46.78	50.89
Fixed Carbon	37.52	41.46	45.10
Ash	3.34	3.69	4.01
British thermal units..	10,621	11,736	12,767
Sulphur.....	.10	.11	.12
