

COAL IN ALASKA

Coal is mined commercially in Alaska in a few places and is available locally in surface outcrops in many areas. Surface outcrops of usable coal are more widespread than shown on the accompanying map, especially in northern Alaska. A number of little-known coal fields are shown on the map but are not mentioned below.

Island Regions of Northwestern Alaska.

Thick beds of lignitic to sub-bituminous coal are common in the entire area of Cretaceous rocks of northwestern Alaska. (Plate 1, Geological Survey Professional Paper 192.)

Wainright Inlet.

Sub-bituminous coal beds up to three feet thick lie under relatively thin cover in the vicinity of Wainright Inlet about 100 miles southwest of Point Barrow. Navigation is closed here for about 10 months of a year and there are no good harbors.

Cape Lisburne-Corwin.

In this area high grade lignite in beds one foot to 14 feet thick underlies at least 215 square miles. The fuel ratio is probably about 1.2 to 1.6 and the coal has approximately 5 percent of ash, 10 percent of moisture, and 0.5 percent of sulphur. The coal is considerably crushed but does not slack on exposure, the beds dip steeply. Some coal has been mined here for use on Seward Peninsula and by whaling ships. This coal is on the coast but, as in the rest of northern Alaska, navigation is closed most of the year.

Seward Peninsula.

About 130 miles northeast of Nome, in the vicinity of Chicago Creek, a thick body of lignite underlies a few square miles. This material is used locally.

Nulato

At Nulato is good bituminous coking coal in beds up to 3 feet thick. The known ash range is from 6 to 22 percent.

Ra Rampart District (Drew Mine)

This area is about 80 miles northwest of Fairbanks. The coal is black lignite in beds from 1 foot to 7 feet thick and occurs near the river.

Nation River.

Bituminous coal crops out near the confluence of Nation and Yukon Rivers near the International Boundary. It occurs in pockets up to 8 feet thick and 13 feet long.

Big Delta.

Big Delta is about 80 miles southeast of Fairbanks on the Tanana River. Near the Richardson Highway are black and brown lignite in beds up to 10 feet thick. The lignite is shattered and faulted.

Chicken Area.

About 170 miles N.S.E. of Fairbanks lignite beds up to 6 feet thick underlie a small area and are being opened for local use by placer operators.

Nenana.

At Nenana 80 miles S.W. of Fairbanks a good grade of lignite in beds up to 35 feet thick in fairly-well consolidated sediments probably underlies several hundred square miles. The coal is somewhat faulted but dips rarely exceed 15 degrees. The Nenana field is served by the Alaska Railroad. The Nealy River Coal Corporation is equipped with modern machinery to mine 400 tons to 500 tons per day.

Alaska Peninsula.

Bituminous coal of good steaming quality and lignite occur at Nerendeen Bay and lignite is known on Chignik and Unga Islands. Beds 2 feet to 5 feet thick at Herendeen Bay are somewhat folded and faulted. The coal-bearing formations are fairly flat at other localities. The coal ~~underlies~~ underlies a total of at least 150 square miles. The coal is mined for local use but the total output does not exceed 20,000 tons. Herendeen Bay is shallow at its entrance and on the north side of the peninsula but a tramline or truck could be constructed to Balboa or Chichagof Bays which are located favorably for coaling stations. Anchorages might require improvement.

Chulitna River-Mt. McKinley National Park area.

Lignitic coal is present in many scattered localities along both flanks of the Alaska Range northeastward from the Yentna River. It has been mined for local use. The locality near the west fork of the Chulitna River close to the Alaska Railroad is advantageously located near the highest point of the pass through the Alaska Range.

Bering River-Controller Bay.

Semi-bituminous to anthracite coals 3 feet to 25 feet thick underlie at least 46 square miles in the Bering River-Controller Bay area. Some is good coking coal and contains 7% to 9% of ash; 1% of sulphur, and very little phosphorous. The beds are intensively folded and faulted but only part of the field is unworkable although much of the coal is badly crushed at the surface. The area is one of considerable relief and much of the coal is minable by horizontal tunnels above drainage level. There is gas in some tunnels. This field was formerly connected with tidewater by a short railroad now out of repair. Harbor facilities are poor in the immediate vicinity.

Southeastern Alaska.

Low-grade lignite beds up to 3 feet thick and containing about 28% ash are known on the southern part of Admiralty Island about 80 miles south of Juneau. The coal is crushed and granular and slacks rapidly upon exposure. The beds are complexly folded and faulted. The area is on tidewater and a good harbor is available.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

AIR MAIL

WASHINGTON 25

December 6, 1943.

MEMORANDUM for Mr. B. D. Stewart, Juneau, Alaska.

I received your letter of November 23 inclosing a copy of Sanford's letter to you dated November 22, requesting information on production and potential production of coal in Alaska, after which I read Sanford's letter to Dr. Dean of the Bureau of Mines, who advised that the information requested evidently got changed materially after leaving him as the request, according to his recollection was for a report on the exploratory work necessary to increase the yearly production of Alaska coal to 400,000 tons. He also advised that there may have been some supplemental request that he did not see or recall.

The information on production should have been obtained by Sanford from the Minerals Year Book; otherwise, the figures may not agree in full with the published figures and result in some confusion and require an explanation of the discrepancy.

Exchange of information should be freely given by both bureaus, as we are units of the Interior Department working under the direction of the Secretary. Gardner has been furnishing the Alaskan Branch monthly reports on the Bureau's work in Alaska since September 10, 1942, and recently I requested that he send me reports on the coal exploratory work in Alaska, which he has agreed to do. Possibly you can get Sanford to send copies of the Bureau's coal exploratory reports direct to you, including copies of all logs, reports of exploratory work, analyses of coal samples from prospects, and reports of any coal they mine for Government use, such as has been proposed in the Point Barrow region.

I enclose a copy in duplicate of a report submitted by Director Wrather to Director Sayers and an abstract of monthly reports submitted to the Alaskan Branch by the Bureau of Mines.

To answer your specific question on how far you should go in furnishing data to the Bureau of Mines; that is largely for your decision. If the Bureau furnishes you information on its exploratory work, it is only normal that should reciprocate in furnishing information of value to them.

Enclosure 456.

HIS:mjg

H. I. Smith,
Chief, Mining Division.

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October 12, 1943.

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MEMORANDUM for Dr. R. R. Sayers,
Director, Bureau of Mines.

The accompanying statement on coal in Alaska has been prepared hurriedly by the Alaskan Branch of the Geological Survey in response to your request of October 8 to me. Information has been accumulated during the past several decades in which the Alaskan Branch has been concerned with coal and other mineral resources of Alaska. The statement is very brief for so large a subject. Much more information is available, of course, in the numerous Survey publications which deal wholly or in part with coal, and more data are collected and correlated from time to time as the Survey's investigations progress. Because of the great haste necessary in its preparation, the attached statement may be somewhat incomplete and the space given to the various coal fields poorly proportioned. If additional information is required, please notify me.

(Sgd) W. E. Wrather,
Director.

EXCERPTS FROM BUREAU OF MINES MONTHLY REPORTS

September 10, 1942.

Project No. 805. Moose Creek near Anchorage. Negotiating contract. Bureau men now on the ground spotting drill hole locations, etc.

September 30, 1942.

Project No. 805. Moose Creek, near Anchorage. Contract completed; equipment being moved in; expect to start drilling by mid-October.

October 15, 1942.

Project 805., Moose Creek, near Anchorage. Contract for drilling awarded to Lynch Brothers of Seattle; Seldovia drill and crew are on way to Moose Creek; one other drill being shipped from Juneau. Gideon A. Apell, Engineer in charge, left Juneau October 9th by plane. Drilling should be under way soon.

November 15, 1942.

Project No. 805. Moose Creek, near Anchorage. Burton surveys made of diamond drill sites; transit surveys being made underground. Surface prospect trenching started while awaiting delivery of drill.

December 15, 1942.

Project No. 805. Moose Creek near Anchorage. Surface Hole No. 1 down 470 feet with good core recovery for entire distance. On thin bed of clean coal cut at 133 feet; several beds of dirty coal at other levels.

Some surface trenching and sampling done during the course of which one unidentified coal bed was uncovered.

January, 1943.

Project No. 805. Moose Creek, near Anchorage. Gideon A. Apell, Engineer in charge.

"Diamond drill hole No. 1 was completed to a depth of 618 feet. Several beds of coal were intersected but none of them were of commercial importance.

"Diamond drill hole No. 2 is located approximately halfway between hole No. 1 and the inclined shaft. This hole had reached a depth of 608 feet on the date of our report, namely January 9, 1943.

"Four beds of coal have been intersected. A bed of coal, 8 feet thick was cut at a depth of 120 feet.

"Sampling of the several coal beds at the Buffalo Mine has been completed. The samples were sent to Anchorage for proximate analysis.

"The inclined shaft at the Buffalo Mine has been pumped out by the owners. Mr. Apell reports that No. 2 bed ^{is} 7 feet thick at a depth of 59 feet."

February 6, 1943.

Project No. 805, Moose Creek near Anchorage.
Gideon A. Apell, Engineer.

"Another storm of nearly gale intensity has blocked the road to the project with drifting snow. Some time was lost before the drifts could be cleared away.

"Drill Hole No. 2 has been completed to a depth of 567 feet. Mr. Apell has not, as yet, forwarded a log of the coal beds intersected. An average progress of 8.86 feet per shift was made. The time study shows that only 3.22 per cent of the drilling time was lost because of cold weather. 23.75 per cent was due to mechanical failures, some of which may be attributed to the extreme cold.

"Diamond drill Hole No. 3, at approximate coordinates of 12465 and 21825, has been started. The bearing of the hole is No. 49° W. and the dip minus 45°, elevation 1020 feet.

"After plotting the survey of the Premier Mine workings now in use, it was found that additional old workings will have to be resurveyed as there are serious discrepancies in correlating the Bureau map with the existing old maps."

March, 1943.

B. M. Project No. 805, Moose Creek near Anchorage.
Gideon A. Apell, Engineer.

"Drill hole No. 3 encountering trouble after having entered black shale at a depth of 60 feet. Drill hole No. 4 started.

Operators of the Buffalo Mine have carried an incline 102 feet below No. 2 gangway.

April 16 to May 15, 1943.

B. M. Project No. 805. Moose Creek near Anchorage.
G. A. Apell, engineer.

"Diamond drilling and topographic mapping is being continued. Drilling ... had to be recessed over a nine day period due to impassable roads." On May 1 Hole No. 4 was at 226 feet and Hole No. 5 at 482 feet.

OIL SHALE AND COAL

"Norman Ebbley has completed the final reports on the Kantishna anti-mony district. He will leave Juneau on the first available plane for Fairbanks, enroute to Christian Village and Trout Creek, at which places he will make preliminary examinations of oil shale and coal deposits.

May, 1943.

B. M. Project 805. Moose Creek near Anchorage.
Gideon A. Apell, engineer.

The bureau of Mines is continuing drilling and is trying to work out the geology of the property.

Mr. Thomas Bevers of the Buffalo Mining Co., Moose Creek, was in Rolla (about May 3) on his way to Washington, D. C. Mr. Bevers reported that the Buffalo Mining Co. was working on a 9 foot seam of coal.

June 15, 1943.

B. M. Project. Moose Creek near Palmer.
Gideon A. Apell, Engineer.

Drilling for coal between the Buffalo and Premier mines on Moose Creek is nearing completion (the eighth and last hole was being drilled on June 15). The project is expected to prove more than half a million tons of coal.

Work has begun on the Dunkle coal deposit at Colorado Station, located half way between Anchorage and McKinley Park Section, in cooperation with the Army and the Territorial government. It is hoped that stripping operations will be completed during the summer so that coal may be mined during the winter.

The Bureau of Mines has made a preliminary investigation on the coal deposits in the Point Barrow region with recommendations for exploratory work. Recommendations include stripping known coal beds and exploring undeveloped outcrops. Work will begin shortly after July 1 if funds are appropriated.

June 16 to July 15, 1943.

B. M. Project 805, Moose Creek near Palmer
Gideon A. Apell, Engineer.

Hole 6 probably has been deflected. Hole 7 was stopped at 411.5 feet because of caving and is waiting on casing. All cores have been logged. Hole 8 was started June 24. A two-foot coal bed was cut at 33.2 feet, a 4-6 inch seam at 60 feet, a 4-6 inch seam at 78 feet, and an 18 inch bed of clean coal at 178.5 feet. Hole 8 on June 28 was at 193.5 feet. Two Geological Survey men mapping in the immediate vicinity of the project, are aiding the Bureau of Mines.

At the last of May the Bureau of Mines tentatively estimated that 600,000 tons of coal could be mined in the Moose Creek area.

B.M. Project 808, Dunkle Coal mine near Colorado Station.
Franklin A. Rutledge, Engineer.

Plans have been made for the immediate exploration, development, and mining of coal. Requests for bids on diamond drilling have been sent out. Rutledge is in Anchorage assembling equipment and personnel and completing plans for the project. An application for a R. F. C. loan of \$262,000, approved by the Alaskan office of R. F. C., and the Army, has been submitted to Washington.

June 16 to July 15, 1943.

Diamond coal mine near Healy
R. L. Thorne, Engineer.

The possibility of obtaining 61,000 tons of coal by stripping operations has been indicated by five test trenches. The ground is frozen but natural thawing will probably permit stripping. A contract with Lytle and Green Construction Company to complete three trenches across the coal outcrop has been signed. No core drilling will be done. Samples from the outcrops have been shipped to Anchorage for analysis. The cost of these operations is to be met with Army appropriations.

Point Barrow region

A project, using Bureau of Indian Affairs funds, has been approved. Equipment and supplies will not arrive until September. The Bureau of Mines will furnish an engineer to supervise initial mining operations. Leon Vincent, Principal of the Barrow School, and a crew of Eskimos will be trained as miners.

August 30, 1943.

B. M. Project 805. Moose Creek, near Palmer.
Gideon A. Apell, Engineer.

Work completed.

B. M. Project 808, Dunkle Coal mine near Colorado Station
Franklin A. Rutledge, Engineer.

Drill used at Moose Creek being moved in.

Diamond and Roth Coal Mines near Healy
Henning J. K. Marstrander, engineer.

Stripping operations under way. Bureau of Mines doing sampling; army paying for work.