

PR-PEACE RIVER CANYON SIC(2)A
PEACE RIVER CANYON AREA
WITH SCENIC VIEW
T.B. WILLIAMS
JUNE 13TH 1957

568

CONFIDENTIAL
CONFIDENTIAL
GEOLOGICAL BRANCH
ASSESSMENT REPORT

The Honorable Byron I. Johnson,
 Premier of British Columbia,
 Victoria, B. C.

00 568

Dear Sir:

I enclose herewith, in duplicate, a report entitled "Peace River Area Coal with Especial Emphasis on the Pine River Field, Summary Interim Report".

In this report the "estimated recoverable coal" has been calculated by Mr. N. D. McKechnie, the Assistant Coal Controller who has been in charge of the work for the last three years. His estimate for the three areas tributary to Pine River viz;- "Hasler Mine", "Willow Creek" and "Noman Creek", shown on the accompanying Map 2 amounts to 42,000,000 short tons.

A very preliminary estimate in 1947 placed the amount of coal, within the area marked "Gething Formation" on enclosed Map 1, and tributary to Pine River haulage systems at 158,000,000 tons. Later this was increased to 190,000,000 tons.

Subsequent stripping and drilling operations have indicated the advisability of concentrating on the areas shown on Map 2. They have been numbered from 1 to 3 in the order tested. They probably will be developed in the reverse order.

Brief mention has been made of the quality of the coal and of certain tests which have been made upon it.

The above is respectfully submitted.

Yours very truly,

T. B. Williams

T. B. Williams,
 Controller.

tbw/ved
 Encl.

PEACE RIVER AREA COAL

with special emphasis on the

PINE RIVER FIELD

Summary Interim Report, June 13th, 1951.

by T. B. Williams and N. D. McKechnie.

PEACE RIVER AREA COAL
with special emphasis on the
PINE RIVER FIELD

Summary Interim Report, June 13th, 1951.

by T. B. Williams* and M.D. McKechnie**

N.B.1. Two maps accompany this report;-

"Map 1. Peace River" showing the general
location of the coal areas.

"Map 2" showing the Pine River areas
investigated.

N.B.2. Owing to the handicap under which Western Canadian
coals are at present produced and marketed and the especial handicap
of remoteness which Peace and Pine River coals experience with regard
to sizable markets, only coal seams of a thickness of four feet or
over have been considered herein.

The tonnage calculation has been on the assumption of a 50 per
cent mining recovery.

GENERAL

The coal of the valleys of the Peace and Pine Rivers is of
lower Cretaceous age.

It has been reported from the Kobes Creek - Chinaman Lake
area, some thirty miles north of Hudson Hope on the Peace River.
It has been mined in a small way near Peace River Canyon and has
been reported in the Carbon Creek Valley some twenty-five miles west.

(See Map 1.)

* Coal Controller,

** Assistant Controller, Department of Lands and Forests.

Southerly the coal is known to occur on Koberly and Pine rivers, Johnson and Hasler creeks, the Sukanka river and as far south as Little Prairie creek, a tributary of the Wapiti river. This latter outcrop is one hundred and thirty-three miles south of Peace river. The distance from Chinaman lake to Little Prairie creek is about one hundred and sixty-three miles.

The fact that the Hasler series of seams was encountered at the Pine River well at Commotion creek indicates a width of the coal field of at least nine miles at the southern end of the area here considered. It is assumed that much of this coal lies too deep for present economic mining.

A. PEACE RIVER COALS.

(1) Coal has been known in the Peace River canyon, west of Hudson Hope, since 1792.

(2) Mining started in a small way in the east section near the canyon in 1923. In recent years three small mines have operated seasonally north of Peace River. They cater to the local market and their activities have been handicapped by a long haul to Fort St. John over a difficult road. The last reported production, that for the year 1949, was 12,364 short tons.

(3) The known surface southerly extension of the Hudson Hope field beyond Peace River is but a few miles. The Pine River No. 1 oil well proved the southern extension of this coal series near the junction of Commotion creek and Pine river.

(4) Coal in the western part of the field north of Peace river, in the Schooler Creek area, if present, apparently would occur at a considerable depth. It has not yet been reported.

(5) South of Peace river, in the west side of the field the Carbon creek coal basin was discovered in 1911.

In this area ten seams, each having a thickness exceeding four feet, are reported. 1/. To date no mining has been done.

The southern extension of this basin is described below as the Pine River field.

B. PINE RIVER COALS.

(1) The investigation of the coals of the Pine River field began as a result of the Resources Survey for the Pacific Great Eastern Railway extension in about 1929.

(2) From five hundred to six hundred tons of coal were mined on Hasler Creek by the management of the Pine River No. 1 oil well drilling operations early in 1941. This coal was used for a time for making steam for that project.

(3) The Pine River coal field is cut by the Pine River, the Hart Highway and the projected Pacific Great Eastern Railway extension at about one hundred miles west of Dawson Creek. Coal from this field therefore will be assured of good road and, it is hoped, railway transportation to the markets of both the east and west.

(4) Serious investigation of the field began as soon as the Coal Control was set up in 1946 and has been continued each year ever since. It is expected that work will be completed this year.

1/. W.H. Mathews, Geology of Coal Resources of the Carbon Creek - Mt. Bickford Map Area, B.C. Department of Mines, Bulletin No.24.

(5) The present investigation is for the purpose of stock-taking both of the quality and available quantity of the coal. The results should enable the Government to interest capital in the development of this remarkably good deposit.

"Comotion Creek".

(6) The southerly extension of the so-called Hudson Hope field coal was encountered in 1940 at the Pine River oil well at the Comotion Creek anticline at a depth of 2,420 feet and below. The thicknesses and quality of the coal correspond well with those of the more westerly part of the field in the Hasler area.

(7) The Coal Control's investigation north of Pine river showed no commercial coal between Grassier and Fisher creeks. Five diamond drill holes were sunk in this area.

"Noman Creek". Area No. 3.

(8) To the west in the Noman Creek area twenty holes were drilled. Two commercial seams known as "Seam 78" and "Seam 76" respectively were found. The former was not commercial over part of the area but had maximum thicknesses of ten feet and twelve feet with some partings.

"Seam 76" ranged in thickness from ten feet to twenty-two feet. It also contained some partings. For the Noman Creek area 10,000,000 short tons have been estimated. This does not take into account two additional seams within the area which are in part commercial.

An area suitable for surface stripping is known.

The Koman Creek area is bordered on the south by the Hart Highway.

"Willow Creek". Area No. 2.

(9) South of Pine River the "Willow Creek" area, the largest tested by the Control, lies upon the more easterly of the two western folds. Thirty-one holes have been drilled here thus far and operations are continuing in 1951.

Five seams have been disclosed all of which locally have commercial thicknesses averaging from four feet to eight feet. The estimated recoverable tonnage for this area is 24,000,000 short tons.

The projected Pacific Great Eastern Railway extension skirts the north end of this field.

(10) The coal in the southern extension of the Koman Creek area, the Beauclotte Creek valley, on examination, has been considered to be for the most part too broken to be economic. Over a small part of the area a five foot seam may be mineable.

"Johnson Creek" Area.

(11) South of Willow Creek and north of Hasler creek the Johnson Creek area extends for some five miles. The coal strata here lie for the most part too deep to be tested by the type of drills used.

Three holes were drilled. All struck excellent seams of coal. The No. 1 hole struck 16.5 feet of coal in one seam and the No. 2 hole an 8.8 foot seam. The No. 3 hole was not drilled. The No. 4 hole struck 24.9 feet of commercial coal in five seams ranging from 3.9 to 6.6 feet in thickness.

Information here has been considered insufficient to justify a tonnage estimate. The location, in the midst of so much known coal, is such that no early mining is to be expected.

The tonnage should be large.

"The Hasler Mine". Area No. 1.

(12) This is the most southerly area investigated. Its length, as examined, is about three miles.

Some 5,000 tons of coal have been mined and shipped from the Hasler prospect but no mining, except for sampling, has been done since the winter of 1945-46.

Nine holes were drilled. Commercial coal was proven in three seams. Their thicknesses range as follows:-
"Discovery" seam from nine feet to fourteen feet (exceptionally at a stripping location thirty feet). One or two shale partings of no more than 0.5 feet occur.

"Goodrich" seam from 6.6 feet to 13.5 feet with an occasional thin parting.

"Quarter" seam 3.8 feet to 13.7 feet. This seam is erratic.

The estimated recoverable coal in the Hasler mine area is 8,000,000 short tons.

All the above mentioned areas are tributary to transportation within the Pine valley or to short branches from the valley roads.

(13) The above estimates total;-

Area 3 "Loran Creek"	10,000,000 short tons.
Area 2 "Willow Creek"	24,000,000 short tons.
Area 1 "Hasler Mine"	<u>8,000,000</u> short tons.
Total:	42,000,000 short tons.

(14) The above includes no estimate for the Crassier-Fisher Creek area, any northerly extension of the Loran Creek area or the Beaudette valley. These areas, considered in earlier estimates, have been discarded as a result of more detailed work.

No estimate is included for the Johnson Creek area, about five miles in length, in which the coal, although apparently of commercial thickness, lies too deep for the drills used.

No estimates have been included for coals known to exist further north or south than the areas shown on Map No.2 although some of these could be reached by short spur roads.

G. TESTS AND QUALITY.

(1) All the coal encountered is sampled and analyzed.

Although some thin noncommercial seams of "semianthracite" exist and some "high volatile A bituminous" coal is present in upper seams most of the coals of the area are of low volatile bituminous and medium volatile bituminous ranks.

Typical results of analyses as compared with certain well known coals are here given.

	PIER RIVER			ALBERTA		U.S.A.
	Hasler (Discovery Seam)	Seam 76 (Roman Seam)	Seam 78	Drumheller (Lower Seam)	Crownest	Anthracite
Moisture	2.2	2.2	2.4	18.0	1.5	2.8
Ash	2.7	3.6	3.1	6.6	14.3	9.2
Volatile Matter	20.3	21.6	23.5	31.2	23.6	5.2
Fixed Carbon	74.8	72.6	71.0	44.2	60.6	82.8
Sulphur	0.5	0.5	0.6	0.4	0.5	
B.t.u. per lb.	14770	14590	14640	10020	12860	13250
Classification	Low Volatile Bituminous	Med. Volatile Bituminous	Med. Volatile Bituminous	Subbitu- inous B.	Med. Volatile Bituminous	Anthracite
Coking Properties	Good	Good	Good	Noncoking.		
Ash Fusion Temp.	2580° F.					

(2) Carload lots of Hasler coal have been tested by locomotives and power houses as follows:-

- The Alberta Northern Railway.
- The Canadian National Railway.
- The Canadian Pacific Railway.
- The University of British Columbia Power Plant.
- The Granby Consolidated Mining and Smelting Power Company's plant, as powdered coal.

Highly satisfactory results were obtained from every test. Vid. "Report of Tests on Hasler Creek Coal" - British Columbia Department of Railways.

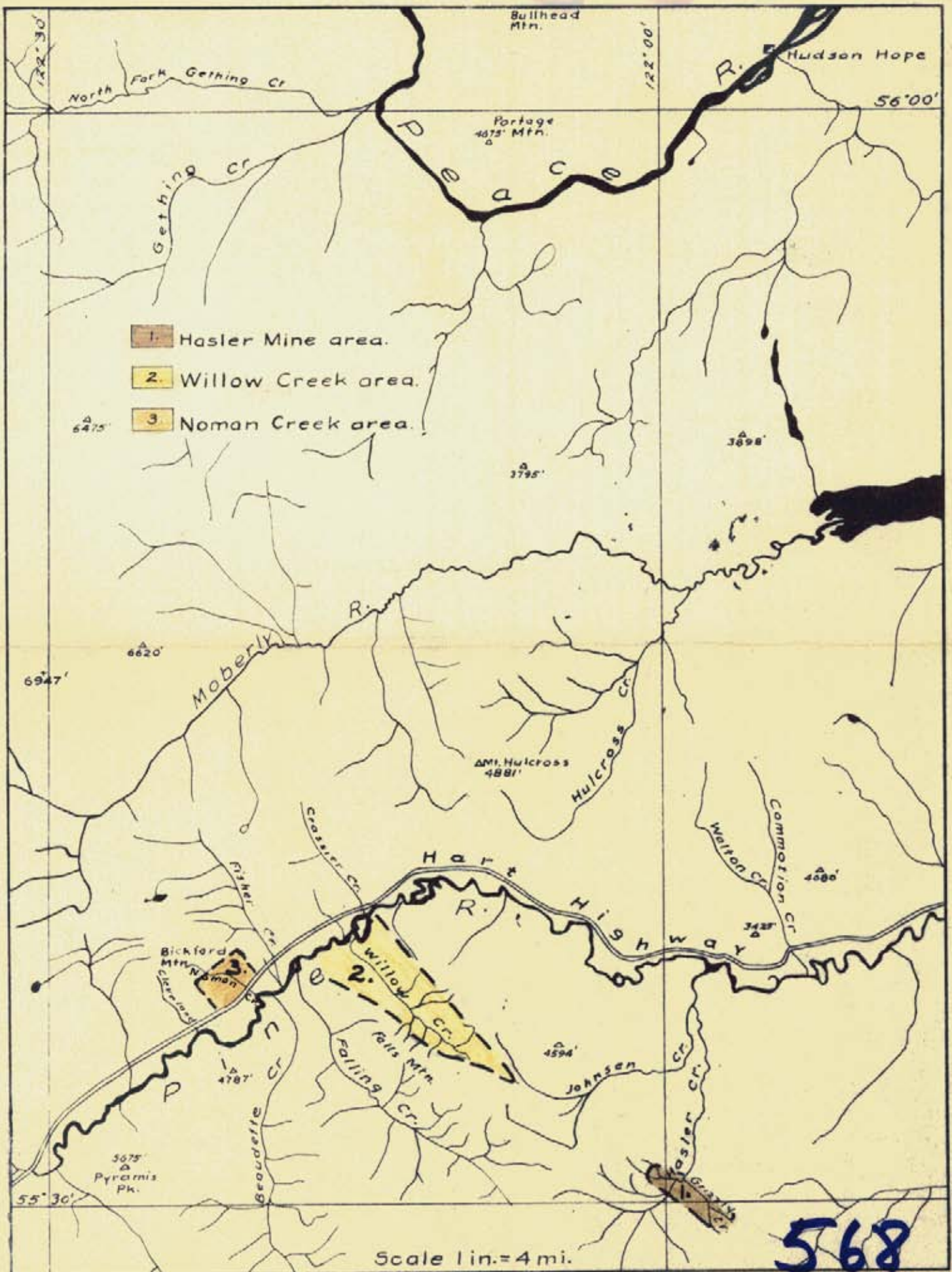
(3) Tests of Hasler coal have been made in the laboratories of:-

- The Coal Control, Department of Lands and Forests.
- The Research Council of Alberta.
- The Federal Department of Mines.
- The Canadian National Railway.

T. B. Williams

T. B. Williams,
Controller.

June 13, 1951.



568