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BUREAU OF MINES
DEPARTMENT OF MINES AND RESOURCES, OTTAWA, CANADA

Memorandum Series October 1942 Number 82

PEAT MOSS DEPOSITS IN WESTERN CANADA

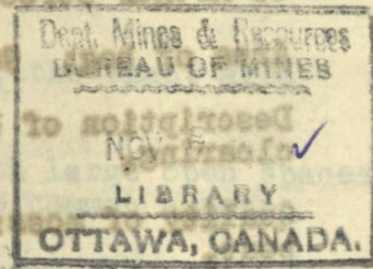
Preliminary Report

Investigations in 1942

by

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A survey of peat moss deposits in Canada offering industrial possibilities was started in 1939. Three reports have been published in mimeograph form, in memorandum Series Nos. 76, 80, and 81. They deal with the deposits in the Maritime Provinces, Quebec, and Ontario east of Georgian Bay. In 1942 the investigation was extended to Western Ontario, the Prairie Provinces, and British Columbia. As the territory covered was large, the investigation had to be of a cursory nature and detailed work or mapping of new deposits discovered was impossible within the time allotted for the summer's field work, nor was it possible to visit all areas where peat moss was known to occur. The object of the summer's field work was to select from the deposits visited those warranting further investigatory work.

Opinions on the quality of the moss from the bogs described in this report are based on cursory examination in the field at the time the samples were collected. A second report, now in preparation, which will include analyses and physical tests of these samples, will be issued as soon as the chemist's report is available.

During the field season two large and two smaller bogs, not previously recorded in the literature of peat moss, were examined. Of the larger bogs one is in Carpenter township, Rainy River district, and the other one mile north of No. 1 Highway in the Lac au Bonnet district. The two smaller deposits are situated in Blue township and Shenston township, also in the Rainy River district.

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A brief description of the bogs investigated follows:

WESTERN ONTARIO

Thunder Bay District

Arthur Bog

Locality: 9 miles west of Fort William on the road continuing west of Arthur Street.

Area of bog: 900 acres.

Description of bog: heavily wooded; would entail appreciable expense clearing.

Quality of moss: partly humified, neither a good moss nor good fuel peat.

Development: none.

Twin Cities bog

Locality: almost within the city limits of Fort William.

Area of bog: 100 acres.

Description of bog: sparsely wooded with small spruce and tamarack, with some open spaces; can be easily cleared of surface growth. It has a cover of moss to a depth of 3 to 3½ feet.

Quality of the moss: apparently good moss of light brown colour.

Development: none.

Several deposits visited in the Port Arthur-Fort William area proved of little or no value, being unusually heavily wooded, and the peat of inferior quality; generally fairly well humified.

Timber cruisers of a large Fort William lumber company report large undeveloped peat moss deposits west of Fort William along the Canadian National Railway and on St. Ignace Island.

Rainy River District

Arctic Bog

Locality: 9 miles west of Fort Frances; accessible by good road.

Area of bog: one square mile.

Description of bog: good, dry surface mostly cleared of top growth and trees.

Development of bog: well drained by canal and lateral ditches.

Equipment: transportation on the bog by field tractors and trailers; baling plant of 4 presses.

Operated by: Arctic Peat Moss Corporation, Ltd., Winnipeg, Manitoba.

Polar Bear Bog

Locality: Pattullo township, sections 19 and 30 Nelles township, sections 24 and 25.

Area: covering a large part of the four sections; the exact area bearing peat moss has not been determined.

Description of bog: free from surface growth, with large open spaces; bog grows sphagnum moss, Labrador tea, and the more common aquatic plants. The moss has an average depth of 4 feet.

Quality of the moss: from all appearances a good moss of light brown colour.

Development of bog: 200 acres of the bog has been drained, a main drain following the road, and lateral ditches. The surface is dry and traversable.

Equipment: tractor with trailers, baling plant with one press.

Operated by: Polar Bear Peat Moss Products Reg'd., Fort Frances, Ont.

Carpenter Township Bog

Locality: range V, between Kenora highway and the road leading from Emo to Barnhart, 5 miles north of Emo.

Area: large bog, area not determined.

Description of bog: has large open spaces, wooded at the edges of the bog. Several drill holes showed a depth of moss near the Kenora highway of 5 feet, of which 3 feet is moss and 2 feet a mixture of moss and humified peat. On the Emo-Barnhart road the total depth is 15 feet with 6 feet of moss.

Quality of the moss: appears good, fairly light brown in colour but becomes darker in depth below 3 feet along the Kenora highway, and below 6 feet along the Emo-Barnhart road.

Drainage: can be had to the west into a creek running northwest of the deposit.

Development: none, virgin bog.

This bog would appear a good prospect for the production of peat moss on a large scale.

Blue Township

Locality: sections 38 and 39, Blue township.

Area: fairly large bog, the area undetermined.

Quality of the moss: Samples were collected along the Spohn road, running north and south. The depth of moss is only about 2 feet but it appears to be of good quality.

This bog may merit further investigatory work.

Development: none, virgin bog.

Shenston Township

Locality: sections 24 and 25, Shenston township.

Area: 160 acres.

Description of bog: open space, high moor type bog with sphagnum grove wooded at the edges of the bog. The depth of moss on a line running parallel with the road and crossing the centre of the bog is 6 feet.

Quality of the moss: good, of light brown colour, only slightly humified.

Drainage: can be had into a creek running in a southwesterly direction. Partial drainage has already been made by ditches running along the road emptying into the creek.

Development: none, virgin bog.

This bog would appear a good prospect for a medium sized production of peat moss.

Grass Bog

Locality: Curran township, sections 10; 11, 12
 Worthington " " 7; 8
 Blue " " 17; 18
 Wildland " " 45, 46, 47,

Description of bog: very large bog, part of which has been drained for agriculture and pasture. The peat is fairly well humified, and is unsuitable for litter.

Mather Township

Locality: ranges II, and III, lot 10, 1 mile east and 2½ miles north of Chapple.

Description of bog: large bog; area not determined. It contains fuel peat of good quality but carries only a very light stratum of moss.

Development: none, virgin bog.

MANITOBA

Julius Bog

Locality: extends both sides of the C. P. R. track running from Winnipeg to Kenora, between stations Julius and Whitemouth.

Area: covers a very large area, of which 600-700 acres is workable for peat moss.

Description of bog: peat moss forms a single block of high moor type bog. The depth at the centre is 15 feet, of which 10 feet is good moss, gradually thinning toward the edges, where it runs into darker moss and roots.

Quality of the moss: very good quality, light in weight, in fact, lighter than the mosses at present produced in Eastern Canada. It is of light yellow colour and resilient.

North Part:

Development: bog has been cleared of bush and trees and the northern part is well drained by an 8,000-foot canal running east and west and laterals north and south.

Equipment: north end of the bog is operated by 4 tractors with trailers and with stacks with covered sides loaded by portable conveyors. A conveyor belt brings the sods from the stacks to the baling plant equipped with shredder, shaking screen, and baling press.

Operated by: The Winnipeg Supply & Fuel Company, Ltd., Winnipeg, Man.

South Part:

The south end of the bog is similar to that of the north part and so is the method of operation.

Drainage: is had eastward toward Shelley where the baling factory has been erected.

Operated by: The McCabe Bros. Grain Company, Ltd., Winnipeg, Man.

Lac du Bonnet

Locality: 2 miles west of Lac du Bonnet station on a road running parallel with railway track and a half mile south.

Area: fairly large bog, of which 40 acres contain moss.

Quality of the moss: appears good.

Development: drainage of deposit, and small baling plant.

Operated by: F. C. McMillan, Lac du Bonnet, Manitoba.

Bog near No. 1 Highway

Locality: section 9, township 13, range X. The bog area lies one mile north of Highway No. 1, Winnipeg to Kenora. It may be reached from the highway via a road running northward, between sections 2 and 3, one mile to a gravel pit, thence west across country for about half a mile.

Area: deposit consists of a chain of three bogs, running northwest and southeast, the southern part 160 acres, the centre part 320 acres and the northwestern part 80 acres.

Description of the deposit: heavy surface growth of sphagnum moss. The southern part is open and has a depth of 5 feet of peat, somewhat humified, which becomes less humified as it approaches the centre bog. The latter is covered with spruce about 8 to 10 feet high. Several holes were drilled in this part and depths of 15 feet were recorded, with good moss to the $9\frac{1}{2}$ -foot level, below which it becomes somewhat darker in colour although fairly good for another 3 feet.

The northern lobe is somewhat spotty in quality but good moss is obtainable above the 7-foot level, similar in quality to that of the centre lobe.

Quality of the moss: light yellowish brown, light in weight, and should yield a good grade of commercial moss.

Drainage: In spite of heavy rainfalls just prior to the visit, the summer having been generally wet, the bogs were traversable dry shod, indicating natural drainage. Further drainage is possible for the southern and centre lobes to a creek running in an easterly direction to Winnipeg River, and from the north lobe to a creek on section line running east into Winnipeg River.

Development: none, virgin bog.

This bog appears to be a good prospect for a fair-sized production of moss. The moss apparently is of good quality and the growth of trees on the bog not particularly dense and they are comparatively small. Clearing of the centre and north western lobes need not entail a large expense.

Pine Falls Bog

Locality: bog begins $2\frac{1}{2}$ miles southwest of the Canadian National Railway station at Pine Falls. The railway runs through the middle of the bog.

Area: very large, extending about 7 miles east and west and 10 miles

north and south.

Description of bog: flat surface mainly covered with grass and reed, some small birch, tamarack, and spruce. Several rock islands emerge through the deposit. No growing sphagnum moss was noted. Samples collected parallel with the track revealed depths of 3 to 6 feet, the upper stratum of 2 feet is only slightly humified. Underlying this is a bed of fairly well humified peat, the upper part of which is somewhat granular and intermixed with fibrous peat.

Quality of the moss: upper 2-foot stratum consists of only slightly humified, light brown, resilient peat moss. Whether it would yield a marketable product will depend on its quality in regard to absorbtive value and ash content, data in regard to which are not yet available.

Drainage: near the railway track the bog is partly drained by ditches connected with streams, one running north at mile-post 12 and the other at mile-post 17, both emptying into Winnipeg River.

Transportation: favourable, the Canadian National Railway crossing the bog with a long siding at mile post 12.

Notwithstanding the shallow depth of the unhumified peat stratum it is possible that, providing analysis proves it to be of good grade, the bog could be worked for peat litter and horticultural peat, because the deposit is very large, easily drained, and transportation facilities are favourable.

Development: none, virgin bog.

Investigation of several deposits in the districts of Lac du Bonnet and south of Portage la Prairie yielded no practical results, some bogs being very small, some were peat fuel bogs, and several, especially south of Portage, had been deeply burnt during the long drought preceding 1939.

The province of Manitoba, in accordance with information received from forest cruisers and other sources considered as fairly reliable, has several large areas likely to contain peat moss, such as the bogs along the Mafeking--The Pas highway, at Novra and Swan River. Forest rangers and lumber company officials who have visited these districts speak of very extensive areas of peat moss. Other districts considered worth an investigation are the bogs of Marchand and Greater Winnipeg district, the vicinity of Whirlpool lake, Riding Mountain Park, and in the vicinity of Camp Shilo near Sewell, southwest of Portage la Prairie.

SASKATCHEWAN

No peat moss deposits in Saskatchewan have as yet been investigated by this Department.

From a cruiser of a lumber company at Melfort as well as

from owners of peat bogs in other parts of the province, information was obtained regarding large peat moss deposits of an appreciable depth of moss, on the Melfort-Carrot River branch line of the C.N.R. of bogs of large area and depth at the end of rail, extending a distance of 20 miles, and in the Prince Albert district.

ALBERTA

The Province of Alberta has a producing peat moss bog situated 5 miles west of Edmonton on the Jasper highway, operated by Moss-Tex Limited, of Edmonton. A plant erected on the property has for some years produced horticultural moss, poultry litter, insulating boards and, lately, moss pads. The deposit is nearing depletion and the operator is trying to find new deposits of moss. Adjacent bogs, at one time looked upon as reserves for future use, have become too dry during the long period of drought, and the fibrous peat is destroyed.

BRITISH COLUMBIA

Penticton

Two bogs in the Penticton district were investigated. They were both small in area, only a few acres, the peat fairly well humified and of no commercial value.

Kelowna

A large bog 4 miles west of Kelowna reported to contain peat moss was investigated. Part of this bog has been reclaimed for agriculture and on it are raised large crops of vegetables, mainly celery. The bog is well drained. The other part of the bog contains mostly sedge peat of not very good grade. It might find some local use as a soil conditioner and for compost but is unsuitable for the export trade.

Two other deposits in the same vicinity were small and similar to those of Penticton and of no particular commercial value.

In the southern part of the province near New Westminster, large deposits of high grade moss are being worked on a big scale. Information in regard to these bogs, the quality of the moss, production, method of manufacture, etc., cannot at present be published.

In British Columbia, large deposits of peat moss have been reported on Graham Island of Queen Charlotte Islands, between Massett Landing and Skidegate. Considerable interest has been shown in these deposits by the Provincial Government as well as by private parties, as, in view of the large production of peat moss in the Fraser Valley, the producers may, within the not too distant future, have to look for their raw material elsewhere.