

THE HUDSON BAY ROUTE

- BY -

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PLAN OF WORK.

- SECTION ONE - The Hudson Bay Route prior to 1888.
- (1) Early Discoveries and Explorations.
 - (2) The Fur Trade.
 - (3) Colonization.
 - (4) Trade Routes.
 - (5) Development of Transportation.
- SECTION TWO - A Survey of Legislative and Political Action.
- SECTION THREE - The Route Proper.
- (1) By Land
 - (a) Construction.
 - (b) Points of Interest.
 - (2) By Water
 - (a) The Bay.
 - (b) The Straits.
- SECTION FOUR - The Question of Terminals.
- (1) Nelson.
 - (2) Churchill.
- SECTION FIVE - Possibilities in Northern Development.
- SECTION SIX - Economic Phases of the Route.
- SECTION SEVEN - Conclusion.
- SECTION EIGHT - Bibliography.

SECTION ONE.The Hudson Bay Route prior to 1888.(1). Early Discoveries and Explorations.

The Hudson Bay Route! From the early dawn of Western History this body of water has fired the imagination of men and has been the scene of many daring adventures. The search for the North-West passage during the sixteenth and seventeenth centuries led to the discovery of Hudson Strait and Hudson Bay. To those dauntless voyagers it was to be the means of linking the then Western civilization with the rich Eastern markets of the Orient. To the lords of the Fur Trade in the eighteenth and nineteenth centuries the route was a means of conveying the rich cargoes of mink and beaver to the ready markets of Europe, and to the modern wizards of trade and commerce of the twentieth century, it will be the connecting link between a prosperous New Western civilization and the hungry home lands of those early adventurers.

Who first discovered the entrance to, or gazed upon the wide expanse of the waters of Hudson Bay is not known. The records of an expedition made in 1517 by Sebastian Cabot under Sir Thomas Pert, Vice-Admiral of England, according to Sir Humphrey Gilbert, show that during the voyage Cabot actually entered Hudson Bay.⁽¹⁾ Sebastian Cabot writing to Ramusio, declared he had found an inland sea penetrating the continent - "without any manner of impediment", by which it might be possible to sail "to Cathay".⁽²⁾ He also said that it was from the consideration of the structure of the globe that he

(1) P.28. History of the North-West. Alex Begg.

(2) The Adventurers of Hudson's Bay. T.G.Marquis.

formed the design of sailing to the Indies by a north-west course.(1) Between 1558 and 1567 Portuguese sailors may have entered the Bay, for the entrance is marked on Ortelius's map of 1570. John Davis of Dartmouth in three voyages, 1585 - 6 - 7, having discovered Davis's Strait, reported favorably on the possibility of a North-West passage. George Weymouth, under the Muscovy Company in 1602, recorded in his log-book that he had penetrated the straits at least one hundred leagues.(2)

To Henry Hudson is given the honor of having discovered the Bay which bears his name. It is authentically known that he did sail up its waters, explore its western coast, trade with its natives and winter upon its shores.(3) Hudson, employed by the Muscovy Company, in 1607 - 08 had made two voyages in an attempt to reach Cathay by a north-east passage along the north coast of Europe. In 1610, firmly convinced that a north-west passage would lead him to the goal of all seamen - the rich lands of the East - he interested three British merchants in the enterprise,- Sir John Wolstenholme, Sir Dudley Digges and Sir Thomas Smith. This voyage marks the beginning of Hudson Bay exploration and trade for Hudson to make friends with a native who visited him, gave him a knife, a mirror and some buttons. The Indian returned the peace offering with two beaver skins and traded two deer skins for a hatchet.(4) If Weymouth "did light Hudson into his straits", Hudson did light the torch of trade which has burned brightly from that day to this between the men of Europe and the men of the North-West. "No mystery lies wrapped in

(1) P.28.)
 (2) P.35,36)
 (3) P.66.)

History of the North-West. Alex. Begg.

(4) The Adventurers of Hudson's Bay. T.G.Marquis. P.153.

deeper shadow than that which hangs over the fate of Hudson", (1) who abandoned by his mutinous crew, was set adrift with seven others upon that vast inland sea he had discovered.

His patrons, not discouraged despite the tragedy which had befallen their leader, formed "The Company of Merchants of London, Discoverers of the North-West Passage", and fitted out another expedition with Thomas Button in command of the "Resolution" and Hudson's ship the "Discovery", provisioned for eighteen months. Button not only received full particulars of procedure, but also carried a letter of credence from his sovereign, King James, to the Emperor of Japan or China or any other Eastern potentate he might visit. He set sail in April, 1612, named the islands at the entrance in honor of his ship the "Resolution", skirted the south shore of the strait, sighted Coates Island and Southampton land, followed due west until he struck the main land. "Hope's Checkt" he called the bay he anchored in, for the land extended far to the north and to the south. Leaving "Hope's Checkt", he reached the mouth of the Nelson River and wintered at a spot called Port Nelson in honor of his sailing master. In the spring the "Discovery" took the remnant northward with the hope of finding a passage opening to the north-west. They explored part of Southampton Island, entered Roe's Welcome and went on to Wager Bay. But finding no run in the desired direction, they returned to England in the fall of 1613. (2)

(1) Sir W.F. Butler.

(2) P.67-68. History of the North-West. Alex. Begg.

(P. 155 - 6. The Adventurers of Hudson Bay. T.F.Marquis.
P.67 Manitoba Milestones. M.McWilliams.

4.

In 1615 the Discovery was again fitted out. Bylot, who had served under the three explorers, Hudson, Button and Gibbon, set sail with William Baffin. They passed through Hudson Strait and went up Fox Channel. Baffin concluded that there was no north-west passage by way of Hudson Bay but believed one might be found through Davis Strait. In 1616 these two navigators explored what is now called Baffin Bay and discovered Lancaster Sound and Jones' Sound. (1)

Jens Munk of Denmark, with a party of sixty-four, spent the winter of 1619 - 20 at Churchill, but in the spring Munk writes, "The bodies of the dead lie uncovered, because none of us has strength to bury them."

We read of Captain Luke Fox "itching" to carry out his dream of finding the north-west passage to China. He was given by the "Merchants of London" a detailed map of the discoveries of the former explorers, explicit instructions, and a letter of official introduction from his king to any "Asiatic" sovereign whose lands he might visit. Fox explored Port Nelson, sailed to the south-east corner of Hudson Bay, then north-west; he discovered Sir Thomas Roe's "Welcome", then followed Fox Channel to the Arctic circle, convinced by the action of the tides that there was a passage through, but failed to find it. At the same time, 1631, Captain James set sail from Bristol, met Fox off Nelson and then proceeded to Charlton Island, where he remained from November 1631 to July 1632. That summer he searched for the elusive north-west passage. His report of the hardships endured and of his conviction that no passage existed, curtailed

(1) P.68. History of the North-West. Alex.Begg.

further efforts of north-west exploration by Englishmen for a number of years. (1)

Almost every year some daring voyager had entered Hudson Bay. Their ships were slow, cumbersome and heavy with the canvasses, yet the elements had not taken one. To these dauntless sailors the Bay route was but a blind alley in their quest for a north-west passage. Had their search been rewarded with success, the whole history of the world would have been changed. Northern Canada would have been along the trade route of two great continents, but as it was, their failure to find the passage resulted in a thorough exploration of the Bay, a reliable chart of the route and the establishment of a trade whose capital and profit outran the wildest dreams of riches.

(2). The Fur Trade.

The Fur Trade, incidentally started by Henry Hudson, became an established fact with the formation of "The Company of Adventurers of England, Trading Into Hudson's Bay" in 1670, but it was not until the Hudson's Bay Co. built forts (Port Nelson, 1682; Fort Charles, Albany River, 1683; New Severn, and Fort Prince of Wales, 1733) along its shores, that the route was put to any commercial use. Then the Company's ships, entering the Bay to carry the valuable cargoes of furs to far-off Garraway Coffee House in London, began a Hudson Bay transportation system which has never ceased. From the days of the "Non-such" to the present day of the "Nascopic", cargoes of food and supplies have

- (1) P.71. History of the North-West. Alex. Begg
P.7.8. Manitoba Milestones. M. McWilliams.

NASCOPIC
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come into port to be exchanged for bales of furs.

For seventy years the Hudson's Bay Company enjoyed a prosperous trade on the shores of the Bay, but La Verendrye's trips over land from Montreal to Red River, 1731 - 1735, stimulated an interest in the exploration of Hudson Bay district and a period of enterprising activity followed. The aggressive policy of the North-West Company made it necessary for The Company of Adventurers trading into Hudson's Bay to push inland to recapture the Indian trade which was being diverted to Montreal.

With what ease their traders entered the great west can be readily understood when the geographic features of the Hudson Bay district are taken into consideration. Of the four great basins by which Canada is drained, Hudson Bay is the largest. (1) Practically the whole central plain of the Dominion is drained by river systems emptying into the waters of Hudson Bay,- the Churchill River system, the Saskatchewan - Nelson River system, and the Hayes, and Coppermine River systems. Following the Nelson, or, more frequently the Hayes river (with a portage across, to the foot of Lake Winnipeg) the voyagers then pushed up the Saskatchewan one thousand miles (2) or more into the foothills of the Rockies.

Henry Kelsey had been sent inland previously, 1683-90-91, "to bring to a commerce" the natives of the interior, but now the Company learned that they must go to the Indian. Accordingly

Anthony Hendry with canoes and men, followed the rivers even as

(1) Basin	Area.	
Hudson	1,486,000	Sq. miles
Arctic	1,290,000	do.
Atlantic	554,000	do.
Pacific	387,300	do.

(Canada Year Book, 1919)

(2) River Length.	
Nelson	400 miles
Saskatchewan	1200 M.

(P.565. Standard Dictionary of Facts.)

far west as Edmonton, returning with heavy fur cargoes.⁽¹⁾ 7.
Samuel Hearne went north-west (1771 -) into the Coppermine River country. By the end of the century the Hudson's Bay Co. had established a number of trading posts inland,- Cumberland House, 1774; Brandon House, 1794; one on the Assiniboine in 1796, and another on the Red, 1799; Edmonton on the Saskatchewan 1795 and one near Lake Athabasca, 1791. When the two companies amalgamated in 1821, the Hudson's Bay had thirty-six posts in the interior and the North-West Company had ninety-seven.⁽²⁾
The union brought about increased activity via Hudson Bay as the Company was anxious to avoid the long, cumbersome route by Kam-inistiquia River eastward to Montreal.

(3). Colonization.

By Hudson Bay came the beginning of permanent settlement in the West. There was already, it is true, a floating population other than Indians, made up of the French traders, their native wives and half-breed children, to the extent at one time of over two thousand.⁽³⁾ But the hardy Red River pioneers, the nucleus of all western colonization, entered the country by the Hudson Bay route. Between 1811 and 1815 four parties of them arrived and others came at much later dates by this route. After many vicissitudes which are a history in themselves, the settlers and their families began to enjoy a quiet prosperity. In time, a demand for access to and egress from the country was made heard.

(1) P. 28 Manitoba Milestones. M. McWilliams.

(2) P. 8.9. Winnipeg Country Geo. Bryce.

(3) P. 162. History of the North-West. Alex Begg.

But until the end of the rule of the Company over the destinies of the Colony, the settlement was isolated from the rest of the continent by the fur-trade interest, the monopoly of which was most zealously safeguarded. Throughout the evidence given before the Select Committee of the House of Commons investigating conditions of Hudson's Bay Company's territory, this isolation and seclusion is very apparent. "Repression", says Professor Martin, "rather than oppression was the sin of the Company". (1) - in keeping Red River Settlement "an island" colony. The general character of the management of the Hudson's Bay Company of these territories - -

"Upon the whole I think it is unfavorable to the development of the resources of the country and also to the enlightenment and progress in civilization of the inhabitants.....it is an obstruction to the colonization spirit of these settlers who are in the territory.....they have thrown obstacles.....in the way of an export trade in tallow and hides.....(2).

"I would like to see a trade opened up there in the Hudson's Bay country.....There is every opposition thrown by the company in the way of our traders.....north of 49° there is no settlement; south of 49° in Minnesota there are now 180,000 settlers. That district had a population four years ago of 6,000 people; it has now 180,000. Red River had as large a population twenty years ago as it has now. (3)

"It is complained that the Hudson's Bay Company occupy that territory and present extension of settlement and civilization in that part of the continent of America.....There should be either a railway constructed from the West end of Lake Superior to the Red River Settlement or a good broad open road cut out and made..... in that way the Red River Settlement could be

- (1) P. 51 - 57 The Red River Settlement. C.B.Martin.
 (2) P. 137. Report of Select Committee --- 1857 -
 evidence of Mr. A. Isbister.
 (3) P. 108. Evidence of Mr. Wm. Kernaghan (Chicago) Report
of Select Committee --- 1857

connected with our present line of communication." (1)

Sir Geo. Simpson attempts to smooth and soothe the inquisitive demands for knowledge about this country thus,

"I do not think that any part of the Hudson Bay Company's territory is well adapted for settlement. The crops are very uncertain -- I mean it to apply to Rupert Land - "

and that one of the causes which rendered Red River unsuitable for settlement was the prevalence of great floods there. (2)

But in the petition sent to the Legislative Assembly in the Province of Canada, by Roderick Kennedy and five hundred and seventy-four others, Red River Agricultural prospects are not so badly painted.

"Our lands are fertile and easily cultivated but the exclusive system of Hudson's Bay Company effectually prohibits the tiller of the soil.... from devoting his energies to those labours.....

Further chafing at the tight reign of H. B. Co's. administration is felt -

"Our country is bordering on Minnesota territory. A trade for some years has been carried on between us. We are there met by very high duties on all articles which we import into the territory, the benefits of the Reciprocity treaty not being extended to us. On our annual commercial journeys into Minnesota, we have been pursued like felons by armed constables who searched our property, even breaking open our trunks; all furs found were confiscated. (3)

(1) P. 2.3. Evidence of Mr. J. Ross.

(2) P. 45. 107 Report of Select Committee --- 1857.

(3) Appendix No. 15 to Report of the Select Committee --- 1857.

(4) Trade Routes.

There were three routes by which access and egress to Red River might be attained. Communication with the outside world during the early years of the colony was through Hudson Bay, by the Company's ship which came yearly to York Factory with supplies for the Hudson's Bay Company and for any individual who had ordered them the year before. From York the Freight was brought in York boats to the posts and settlement. The route to the colony followed the Hayes River, with portage across to Norway House on Playgreen Lake, up the eastern shore of Lake Winnipeg to Red River.

In their fight for free trade, however, merchants found themselves handicapped by a restriction to the use of Company's ships. The attempts at private exportation were nipped in the bud. By a proclamation issued in 1844 by the Governor of Assiniboia, all business letters from importers of merchandise to their agents in England were to be sent unsealed to Fort Garry where their context would be censored.⁽¹⁾ James Sinclair sent a quantity of tallow to York Factory to be shipped by Company's boat to England. It was never lifted at York. A number of Red River men wrote to Governor Christie asking for a reduction in freight rates on such goods so that the tallow industry might prosper. The plea was not answered.⁽²⁾ In 1845 Mr. Sinclair received the following letter which practic-

(1) P.265 - Select Committee on H.B.Co. --- 1857---

Evidence of Mr. J. McLaughlin.

(2) P.257-8. P.303. History of the North-West. Alex Begg.

ally stopped his business for that year.

"Sir- I beg to state that in a private letter from Mr. Secretary Smith, dated 18th April last and received on the 25th instant, I am requested to acquaint you that no goods will be shipped in your name on board the Hudson's Bay Company's ship for York Factory.

I am, sir,
Your most obedient servant,
Alexander Christie" (1)

By such means did the Company block the use of this natural exit, the Hudson Bay Route, to the merchants at Red River.

A second route lay between Red River Settlement and Montreal. This was by far the most arduous route; and had not been used to any great extent after the amalgamation of the two companies in 1821. (2) Goods entering the west by this way followed the Ottawa River Route as far as the head of Lake Superior borne/in heavy canoes manned by eight to ten men. From that point lighter canoes managed by four or five men brought the goods by way of Lake Nipigon and the northern chain of lakes and rivers to the Lake of the Woods, hence by Winnipeg River, Lake Winnipeg and Red River to Fort Garry. (3) That it was a route the course of which was in defiance of all geographical features may be judged from the following excerpts.....

At the end of the lake (Two Mountains) the water contracts into the Utawas River which after a course of fifteen miles is interrupted by a secession of rapids and cascades for upward of ten miles.....The voyageurs are frequently obliged to unload their canoes and carry the goods upon their backs or rather suspended in

- (1)P. 205. History of Manitoba. Gunn & Tuttle.
(2)P. 387. Report of the Select Committee -- 1857.
(3)P. 543. General Economic History, 1763 - 1841. Adam Smith.

slings from their heads.....There are some places where the ground will not permit of their carrying the whole; they then make two trips....Hence to Grand Calumet. This is the longest carrying place in this river and is about 2035 paces. It is a high hill or mountain..... In several parts there are guts or channels where the water flows with great velocity, which are not more than twice the breadth of a canoe.....From St. Mary's to Grand Portage is 160 leagues coastwise. At Grand Portage which is nearly nine miles over, each man has to carry 8 packages of goods and provisions, etc., etc. (1).

The difficulties of the Portage (Grand) may be gathered from the fact that it took him, (Alex. Henry) seven days of severe and dangerous exertion to carry his canoes and goods to Pigeon River above the rapids.(2)

Each canoe rowed by 18 men was under a master and required 8 men to carry it. All the merchandise and provisions which formed the cargo of a canoe were put in bales weighing from 80 to 90 pounds. From LaChine to Lake Huron they were obliged to make at least twenty-six portages. This will give you an idea of the fatigues and difficulties which the voyage offered. (3)

Colonel Wolseley's expedition to Manitoba encountered almost the same difficulties as those early voyageurs. He and his men had 1150 miles to make from Montreal to Fort Garry which was done by the following stages,-

94 miles from Toronto to Collingwood by rail,

534 miles from Collingwood to Fort William by steamer,

48 miles from Ft. William to Shebandawan Lake by the

Dawson road. The remaining distance by way of numerous lakes and

(1) Pp. 21. 105. Voyages from Montreal through the Continent of North America. Alex. MacKenzie.

(2) British Fur Lords in the Great West. L.J. Burpee.

(3) The First Canadian Woman in the North-West.

M. L'Abbee G. Dugant.

rivers and over forty-seven portages to Red River.(1)

(5). Development of Transportation.

The Hudson's Bay Company's attitude toward trade blocked the use of the Hudson Bay route; nature had set up a barrier against extensive commerce by way of the Kaministiquia route.

But with the expansion of American colonization, a new trade route was opened between the Settlement and the end of steel at St. Paul. This route became very popular. Until 1853 mail was received but twice a year in the Colony; in summer via York Factory by Hudson's Bay Company ship; and the other, overland in winter from Canada. But at this date a monthly mail service was established between Red River and Fort Ripley, U.S.A; by 1862 a weekly mail service was organized between the Colony and Pembina. In 1859 the Hudson's Bay Company brought a large consignment of goods overland from St. Paul to Fort Garry which resulted in increased transportation by this route. By 1861 the steamer "Anson Northup" was carrying Hudson's Bay Company's goods from Fort Abercrombie, Minnesota, to Fort Garry, the merchandise being transported from St. Paul to the point of loading by ox-cart. (2) Until 1872, however, there were no facilities by which a traveller might leave or enter Red River Settlement except he use the irregular H. B. Co. freight steamer on the Red or ox-cart. At last, in 1872, J. J. Hill, in competition with the H. B. Co., launched the steamer "Selkirk" which made regular trips. By 1878

(1) Pp. 440 - 458. History of Manitoba. Gunn and Tuttle.

(2) Pp. 298 - 9 - 324. History of the North-West. Alex Begg.

there were fifteen steamers plying the waters of the Red; besides a daily stage coach service was established between Winnipeg and Abercrombie; and a tri-weekly stage to Portage-la-Prairie. (1) The Dawson-route continued in use until 1876. Each year had seen a marked decrease both in passenger and freight service. A mail service along this route failed after two years' trial. This road had cost \$220,000. per year on the average since its opening in 1871. (2)

It was in 1878 that the Colony at Red River was first linked by railway to the outside world. In that year the government railway between Fort Garry and the American line, at Pembina, began in 1874, was completed. The Federal House had deemed it advisable to delay the building of this line until the St. Paul and Pacific Railway Company had reached the boundary. This company had suffered financial reverses during the American slump in the '70's, and it was only by the perseverance and financial skill of such men as J. J. Hill, Donald A. Smith, N. W. Kittson and Geo. Stephen, that negotiations with the bondholders resulted in the extension of the line to St. Vincent. (3) Great was the excitement, then, after years of delay when the first train pulled into St. Boniface on December 9, 1878. (4)

Consequently there was a growing tendency for the West to look South. Trade interests were very much in that direction. The American Government was anxious for settlers and was not above canvassing would-be immigrants among the passengers going to

- (1) P.115. Manitoba Milestones. M. McWilliams.
- (2) P. 86. History of the Canadian Pacific Railway. H. Innis.
- (3) Pp.110 - 111. Political History of Manitoba, 1870 - 1912.
- (4) P.7. Vol.19. Canada and Its Provinces. D.M.Duncan.

or from Red River. The Federal Government began to realize that if they were to keep Manitoba as part of the new Confederation easier access to the West must be made by a Canadian route.

As early as 1829 a route to the Pacific by the use of the lakes and rivers was suggested, while in 1849 Carmichael Smyth set forth the idea of building a railway from the Atlantic to the Pacific by means of convict labor. Howe, in a prophetic mood in 1851, declared that within a generation trains would run between Halifax and the Pacific in five or six days. In 1858, the Canadian Government incorporated The North-West Transportation, Navigation and Railway Company with power to construct "links of roads, tramways and railways between navigable lakes and rivers and to provide facilities for transportation from the shores of Lake Superior to Fraser's river". Again, in 1862 it was suggested by the colonies that a wagon express road, and telegraph line from Canada to the Pacific, be constructed as a means of opening up the North West. (1)

In 1881 the Canadian Pacific Railway Company and the Dominion of Canada came to an agreement re the building of a transcontinental line of railway. The terms of the contract put Manitoba again on the defensive. By the terms, the railway company was to receive \$25,000,000., 25,000,000 acres of arable land, the existing railways valued at over \$3,700,000. and a monopoly of railway building in southern Manitoba.

(1)
P.419 - 421. National Highways over Land. S.J. McLean.

For 20 years from the date thereof no line of railway shall be authorized by the Dominion Government to be constructed south of the Canadian Pacific Railway from any point at or near the Canadian Pacific Railway except such a line as shall run south-west or to the westward of south, nor to within 15 miles of latitude 49^o.(1)

This provision was necessary to aid the undertaking of such gigantic proportions in that it protected the Canadian Pacific Company from an infringement of their rights by the entrance into the West of American lines which would tap their conveying business. It also gave the Company effective control of its freight rates, e.g: in the prairie sections, for in the East other railway companies were in competition, while from Thunder Bay, eastward, during open navigation, much freight went by boat. (2) Thus it was that now, traffic south through the United States was hampered and discouraged and the powers of the monopoly clause were guarded most rigidly.

Manitoba saw in this policy the hand of oppression and protested accordingly. Through an objection registered against the C. P. R. Company for building branch lines without permission, of the Canadian Parliament, Manitoba was told that the House of Commons had no power over Manitoba in that respect and that that province might grant charters to any railway company to build from Winnipeg to the boundary, that section 15, V. 44, was to prevent American railway companies from carrying off trade from

(1) 44 Vict. Chap. 1, Sec. 15, 1881.

(2) P.173. History of the C.P.R. H. Innis.

the prairie section of the Canadian West. Therefore the Manitoba Government issued charters to three railways for lines running south⁽¹⁾ and for railways to the shores of Hudson Bay. The C. P. R. Company, in turn, protested to the Dominion Government with the consequence that the Federal House disallowed, one after the other, the charters to railway companies pushing south.

There was much bitterness of opinion between the new-formed province and the Dominion over their fight for "better terms". One cause of dispute, among many, was this one of "Disallowance". The Dominion Government had refused Manitoba permission to grant charters to railway companies for construction of lines within her own boundaries⁽²⁾ ----- as it was,-

"very desirable that all railway legislation should originate here.....that no charter for a line exclusively within the Province of Manitoba should be granted by its legislature."

This had been the policy of the Federal House since 1879. "The protest against such an interference with Provincial rights" was brought to a head when the charter of the Manitoba South-Eastern Railway was disallowed by the governor general in council.⁽³⁾ The Farmers Union (1884) advocated in no uncertain manner

- (1) Sessional papers No.586, (1) Winnipeg South-Eastern Railway, 1888. (2) The Manitoba Tramway Company, (3) The Emerson and Northwestern Railway Company.
- (2) Pp.60-98. History of the North-West. Alex Begg.
- (3) P.111. Political History of Manitoba. C.B. Martin.

the right of the Provincial Government to charter railways, to have absolute control of public lands and to build a railway to Hudson Bay. The province could not be reconciled to the absence of railway facilities during the life of the monopoly clause, so disallowed charters were re-enacted and in defiance to Federal oppression The Red River Valley Railway to West Lynne was undertaken as a Government work. The Canadian Pacific Railway Company were furious and threatened to remove their workshop from Winnipeg. Only when Manitoba and the North West Territories refused to struggle any longer against "the burden that is crushing the country to death", threatened secession, did the Dominion Government withdraw their right of "Disallowance" in 1888 by cancelling the monopoly clause of the Canadian Pacific Railway Company. (1)

SECTION TWO.A Survey of Legislative and Political Action.

The year 1880 saw legislation for the development of northern transportation. An act to incorporate the Nelson Valley Railway and Transportation Company was assented to May 7, part of the preamble to which ran as follows:

".....the opening of a route for the transportation by railway or other means of freight, passengers and mail between Manitoba and the North-West Territories and Europe and other points of the world by way of Hudson Bay affording an independent route for immigrants from Europe and further facilities for the colonization of Manitoba and the North West Territories, would be for the general advantage of Canada. (1)

Messrs. Duncan, McArthur and Thomas Ryan, the promoters of this company, were given the power and authority

".....to lay out and construct and complete a railway.....between the point on the north shore of Lake Winnipeg or on the navigable waters of any river flowing northward from the said lake and a point near the Churchill river....near the shore of Hudson Bay.

It was to be commenced within two years of the passing of the Act and completed within six years.

On the same day, likewise, was passed an Act for the incorporation of a rival - The Winnipeg and Hudson's Bay Railway and Steamship Company. This Act empowered the promoters of the enterprise, Messrs. William Bannerman, J.C. Shultz and Hugh Sutherland, to build a railway from Winnipeg to Port Nelson either by direct route or by use of the navigable rivers.(2)

(1) 43 V. Chap.57, 1880.

(2) 43 V. Chap.59, 1880.

But neither company proved able to finance its undertaking and in 1883 the two were united by an Act of Parliament under the name of The Winnipeg and Hudson's Bay Railway and Steamship Company.⁽¹⁾ Further, to encourage and aid the construction of a railway to Hudson Bay, the Dominion Government, through the Governor-in-Council in 1884, authorizes a free grant of not more than 6400 acres of land for each mile built in Manitoba and not more than 12,800 acres per mile in the North-West Territories.⁽²⁾ This policy of granting land for railway construction was followed until the passing of the Oliver Land bill of 1908.⁽³⁾

In 1885 the Province of Manitoba by an act introduced by Premier Norquay, pledged aid to the building of the Hudson Bay Railway, which seemed its only chance of escaping from the monopoly clause of the C. P. R. It promised a bonus of one million dollars at 4% per annum, provided that the construction was commenced within two years, a time limit which was later extended to three years.⁽⁴⁾ The promoters failed to float the loan on the English market so in 1886 sought and finally obtained⁽⁵⁾ from the Provincial government a more liberal bonus in the form of a guarantee of the interest on the bonds of the company to the extent of one hundred and eighty thousand dollars a year for twenty-five years from the completion of the Railway; by the Act of 1887 the Province confirmed the earlier legislation,

(1) 46 V. Chap. 69. 1883.

(2) 47 V. Chap. 25. 1884.

(3) 7-8, Ed.VII. Chap. 20, 1908. See Section 2. P. 24-25.

(4) 48 V. Chap. 55, 1885. & 49 V. Chap. 27, 1886.

(5) P. 6321 Vol. 4, 1907-'08. Official Report House of Commons.

guaranteeing the interest at the rate of $4\frac{1}{2}\%$ per annum on the bond issue of four million, five hundred thousand dollars. (1) An American Syndicate of capitalists represented by Messrs. Onderdonk and Ross took up the proposition and began operations on a stretch of railway between Winnipeg and Gladstone. Although certain aid was given in 1888 to the builders of this road, the Province of Manitoba was experiencing a growing dissatisfaction with the promoters of the Winnipeg and Hudson's Bay Railway Company (2) (as it was now called); was beginning to be aware that the undertaking was far more than a Provincial enterprise for such a railway would benefit not only Manitoba but the Northwest Territories and, indeed, called for national support; and felt besides, after the cancellation of the monopoly clause of the C.P.R. (3) that there was not the same necessity for the northern outlet. The Legislation of 1887 was repealed. (4) Nevertheless, when the company was, in 1888, refused the land grant for the forty miles of road completed, because the Dominion Government would not accept the work as satisfactory, the Manitoba Government was authorized by the Legislature to pay the Company \$35,000. so that it might complete the work to the satisfaction of the Federal House. (5) In 1890 the Provincial Government agreed to pay a cash bonus of not more than \$3,000. per mile for two hundred and fifty miles within the province when the road was

(1) 50 V. Chap. 40, 1887.

(2) 50-51 V. Chap. 81, 1887-88.

(3) p.182 History of the C.P.R. H. Innis.

(4) 52 V. Chap. 39, 1889.

(5) 51 V. Chap. 40, 1888.

completed or \$1500. per mile as construction advanced.(1)
 Again in 1891 the government agreed to pay the Winnipeg and
 Hudson's Bay Railway Company \$1,500,000. provided the first
 one hundred miles were completed by the close of 1892, and
 that May 31, 1896, would see the completion of the whole
 line.(3) And at last in 1891 the Dominion Government author-
 ized a cash subsidy of \$80,000. per year to be paid on the
 construction of the line being built from Gladstone to the
 Saskatchewan River.(4)

None of these schemes or legislative enactments had
 the desired effect of spurring this company on to finish the
 road. But many other companies anxious to share in the rich
 land grant and subsidies, applied for charters.

The McKenzie and Mann interests incorporated in 1889
 as the Lake Manitoba and Canal Company absorbed the Winnipeg
 and Hudson's Bay Railway Company in 1894 when the name was
 changed to The Winnipeg Great Northern Railway Company.(5)
 This Company built many lines, chiefly westward through new
 territory, so as to receive for each mile built the land
 grant and subsidies (6) carried in the original Hudson's Bay
 Railway charter.

When Saskatchewan and Alberta were made provinces, the

- (1) 53 V. Chap. 41, 1890.
- (3) 54 V. Chap. 22, 1891.
- (4) 54 V. Chap. 22, 1891.
- (5) 57 - 58 V. Chap. 94, 1894.
- (5) P.2, The Story of the Hudson Bay Railway.

On-to-the-Bay Association.

- (6) 57-58, V. Chap.94, 1894.

Hudson Bay Railway project became a subject of most serious moment. Both Conservative and Liberal Conventions in the new provinces made the immediate construction of the railway a foremost plank in the programme. The Conservatives advocated the construction as a purely Western interest in ownership, control and operation; the Liberal Party pushed the project as a Federal undertaking to be operated when finished by an independent commission.⁽¹⁾

Interest in this northern outlet ran high. The existing railways had not kept pace with the rapid development of Western Canada. The people of the Prairie Provinces looked to the Hudson Bay Railway as a means of shipping out their grain and cattle. The prolific harvest of 1906⁽²⁾ had been followed by a winter of heavy snow, causing an acute grain congestion in the West; the carrying facilities of the transportation system were tasked beyond their capacity and much dissatisfaction at the inadequacy of the railway companies in handling the western crop was expressed.⁽³⁾ By the end of 1906 the Dominion Government had issued charters to eight companies desirous of extending their lines northward. The Canadian National Railway Company at this time commenced the line running from what is now Hudson's Bay junction to The Pas.

(1) Pp. 73, 94. The Hudson Bay Road. A. de Tremaudan.

(2) In Saskatchewan alone of the 1906 yield of 24,758,000 bushels of wheat -
 8,549,000 bushels were shipped by railways,
 5,956,000 bushels were in the elevators,
 6,972,000 bushels were in the farmers' hand.

(3) Pp. 6291, 6325, Vol.4, '07-08, Official Report of House of Commons.

On February 7, 1907, the Honorable D. Ferguson in a thorough and most interesting manner introduced the subject of the Hudson Bay Railway before the Senate, while on the 22 of February, Mr. W. E. Knowles brought the question before the House of Commons, pointing out the necessity, feasibility and national importance of such a route. The Honorable Mr. Davis in the Senate on March 10, 1908, moved

"That in the opinion of the Senate the government should, on account of the rapid development of Western Canada and the continued inadequacy of existing transportation facilities, take early action toward the construction of a railway to Churchill on Hudson's Bay." (1)

The political campaign of this year, 1908, brought the project even more definitely before the mind of the public and crystallized the platform promises into an actual beginning. In the ensuing session the question of financing the building of the Hudson Bay Railway evolved the famous Oliver Land Bill.(2) Hitherto railway construction had been assisted by land grants with the consequence by 1908 between thirty-one and thirty-two million acres had been earned by railway companies.⁽³⁾ To build the Hudson Bay Railway some five hundred miles, by the same method, would take at least sixty-five million acres of land. The alienation of such a vast amount could not be justified in view of the rapid development of the West. The government changed its policy. Henceforward, the land grants of the 1884 Act were to be replaced by aid drawn from a new source of revenue.

(1) P. 455, Vol. 1, '08. Debates of the Senate.

(2) 7-8, Ed. 7, Chap.20, 1908.

(3) P.11126, Vol.6'08, Official Report of House of Commons.

The bill proposed to revive the pre-emption privilege of allowing a homesteader to buy an adjoining quarter-section at the fixed price of three dollars per acre under settlement conditions, and to allow a settler who had already "proved" a homestead to take up another quarter-section for a fixed price with settlement duties. There were the two classes to deal with,- the new settler who would be entitled to one free homestead and to pay for an adjoining pre-emption, and the old settler who had a free homestead and was allowed to take up a purchased homestead. (1)

"The 1908 Bill provides only for dealing with lands confined by certain limits laid down in the bill, and which practically includes only the great central area in which the railway companies have not seen fit to take any land grants.....Within that area (extending from west of Moose Jaw to east of Calgary, from the 49 parallel to the 44 township) we ask that the pre-emption provision and the purchased homestead provision shall apply.....By restricting the application(of the above provision) to this area, we will create a new source of revenue which will provide sufficient money to ensure the construction of the Hudson Bay Railway.(2)

Within the area mentioned there are some twenty-eight million acres of land. Placing five thousand of these acres as pre-emption lands, sold at three dollars an acre, would provide a good working basis for the construction of the five hundred odd miles of the Hudson Bay Railway.

The first actual construction, other than the surveys of 1908 - 09, on the Hudson Bay Railway took place in the fall of 1910 when the Honorable George Graham, Minister of Railways,

(1) Pp. 11126 - Vol. 6, 1908, Official Report of House of Commons
 (2) Pp. 11139-11150, Vol. 6, '08, Official Rpt. of House of Commons.

turned the sod at The Pas for the construction of the bridge across the Saskatchewan river. (1)

The change of government suspended operations for further investigation but the Borden government in the autumn of 1912 recommended construction. During the war years, work proceeded until steel was within ninety-two miles of Nelson. At the close of 1917 operations on the railway stopped, the Honorable Mr. Reid, Minister of Railways, advancing the following reasons for the closing down of the work:

- (a) the financial conditions owing to the war warranted a curtailment of expenses
- (b) The demands of the West for the branch lines which could be financed by the money saved on Hudson Bay Railway expenditure.
- (c) The bi-monthly train in operation on a portion of the Hudson Bay line was operated at a great loss. There was also a shortage of labor and a loss of railway outfit by fire, besides a marked desire on the part of many of the Federal members for the closing down of operations. By 1918 work on the terminal was closed down also. (2)

Up to this time, February 28, 1918, \$20,161,000. had been expended on the project. Of this \$13,814,000. was spent on the railway and \$6,347,000. on the harbor. (3)

Motions and resolutions for the re-commencement and completion of the road were laid before the House, debated upon, then shelved from 1919 to 1924.

- (1) See Section 3, The Route Proper.
- (2) P. 986, Vol.1, 1921. Official Report of House of Commons.
- (3) P.2167, Vol.1918, Official Report of House of Commons.

Delegations and resolutions were sent to Ottawa expressing the sentiment of the West in regard to the completion of the project, from

The Manitoba Legislative,
 The Saskatchewan Government,
 The Grain Growers Guide,
 The Winnipeg Board of Trade,
 The Saskatchewan Board of Trade,
 etc. (1)

The on-to-the-Bay Association took up the work of the Associated Boards of Trade of Manitoba and Saskatchewan. It has kept the question of and interest in the route before the mind of the people through its propaganda of pamphlets and lectures; besides it has carried on an extensive correspondence with European countries in regard to transportation facilities between these countries and the Bay terminal. (2) It hopes to remain an active organization until all questions of transportation and of insurance rates are settled to the best interest of the prairie people.

In 1922, \$40,000. was voted to cover the expense of taking care of the "goods and chattels" of the government but nothing was granted for any new construction on the road.

By 1923 the Press was quite strong in broadcasting the opinion, especially of the Western people, in regard to the tie-up of the Bay line. To quote two Eastern papers:

The Toronto Star of February, 1923, carried these paragraphs,-

"What the Western Grain Growers see in this Hudson Bay Railway is that in shipping their grain to Europe they can cut the long haul from Fort William to Montreal and place their farms as near tide-water as the farms of their competitors in Australia,

(1) P.978, Vol.1, 1919. Official Report of the House of Commons.
 (2) Yorkton Enterprise, Feb. 5, 1929.

Argentine and Russia.

Isn't it too splendid a possibility, when so nearly complete, to leave untried and abandoned? The West is growing insistent about this enterprise and Eastern Canada must consider it seriously."

An extract from the Port Arthur News Chronicle reads:

"It is not surprising that the West looks with suspicion and fear upon the attitude the Government has adopted toward the Hudson Bay Railway. Give them what they want. It will not break Canada and it will do more to remove Western suspicion of Eastern motives than anything else would."

The Report of the Royal Commission appointed by the government at this time did not brighten the prospect of the railway. Their recommendation that it

"Should not be recommenced till more urgent needs have been met and money is more easily procurable. If begun again it should be done in the most economical manner possible and only up to the standard of a local line."(1)

encouraged rather bold remarks from members in Eastern Canada, Mr. Baxter declaring,

"Eastern Canada is absolutely opposed to this railway.....absolutely and definitely on record against the flagrant misuse of Canada in building a railway that can not serve either the farmer or any other interest adequately.(2)

In 1924, estimates for the Port of Montreal, Vancouver Harbor, Welland Canal and Toronto Viaduct, were passed with very little discussion, but on the Hudson Bay Railway supply,

- (1) P.4682, Vol.II 1923, Official Report of House of Commons.
 (2) P.4684, " 1923, Official Report of House of Commons.

a full night's debate took place. (1) The House divided on the amendment which was negatived on a seventy to twenty division.

Mr. Knox, in 1925, moved,

"That, in the opinion of the House, it is expedient that more effective consideration and recognition be given the resolution adopted by Parliament on March 12, 1923 (2) recognizing the priority of the Hudson Bay Railway with reference to other transportation projects started subsequently. (3)

In 1924, of monies voted to the Hudson Bay Railway project,

\$40,000. had been for the Nelson Terminal,
350,000. for repairs on the railway,

while on the Welland Canal project alone,

\$11,800,000. had been voted in 1923,
11,000,000. in 1924. (4)

The year 1926 saw the beginning of the end of the struggle for supplies; about \$350,000. was voted for re-conditioning the road and \$40,000. for work at Port Nelson. Reports on the condition at Nelson and the fear that all was not as good as it might be there, led the Minister of Railways to have a further investigation as to the harbor question. (5)

(1) Pp. 4629 - 4682, Vol. 5, 1924, Offic. Rept. of House of Commons.

(2) Motion of Mar. 12, 1923, moved by Mr. Knox, seconded by Mr. Bird - That the Government give further consideration to the report of the Senate Committee on the Hudson Bay Railway with a view of safe-guarding the investments of the public monies made on the construction of the portion of the road completed to-date, and that the government recognize the priority of this undertaking with reference to other projects started subsequently to the Hudson Bay Railway.

(3) P.2779, Vol.3 '25)

(4) P.2781, Vol.3, '25. { Official Rpt. of House of Commons.

(5) P.56, Vol. 1, 1926. }

During 1927 the services of Mr. F. Palmer, President of the British Engineering Institute, were obtained to investigate the harbor facilities of the two possible ports. His report returned late that summer ~~and~~ recommended the port of Churchill.

Money was voted freely during this year, resulting in a most favorable progress in railway building. The sum of \$850,000. was voted to provide for the establishment of a patrol service, both aerial and marine, to investigate the conditions of navigation on Hudson Strait. (1)

The 1928 vote was \$6,500,000. Of this \$3,500,000. was spent on the road and the balance, \$3,000,000. on port development at Churchill. (2) The winter's work, '28 - '29, progressed so well that steel reached Churchill early in the spring.

(1) P.2272, Vol.1, 1927. Official Report of House of Commons.

(2) P.3728, 1928, Official Report of House of Commons.

SECTION THREEThe Route Proper .(1) By Land - (a) Construction.

The Hudson Bay route consists of two parts, that part which is traversed by rail to the shores of Hudson Bay and that part which must be linked by ocean-going craft to the ports of the outside world. The land route has given very little difficulty as far as actual construction is concerned, but it has suffered many delays.

Geographically, the country cut by the Hudson Bay Railway is quite low, about four hundred feet above the sea level, broken here and there by low hills. The highest point crossed by the railway is at mile 62 where the elevation is 912 feet. There is a general gradual slope to the east north-east. The many lakes and streams make this country a bewildering network of water. Two river systems drain the land adjacent to the railway. There is the Churchill and its tributaries and the mighty Nelson, fed by unnumbered feeders draining the prairies, even from the foothills of the Rocky Mountains.

Geologically the district is divided into three belts,
(a) The Ordovician Belt,- a tract some sixty miles wide, draining southward to the Saskatchewan River; of limestone formation, covered by shallow layers of soil, yet quite often lying exposed.
(b) The Laurentian Plateau,- about two hundred and fifty miles wide, where it is crossed by the railway. It is covered with a depth of clay soil, but to the north-west it becomes more rugged;

here the pre-Cambrian crystalline characteristics of this belt are found in the rich mineralized beds at Flin-Flon and Mandy mines.

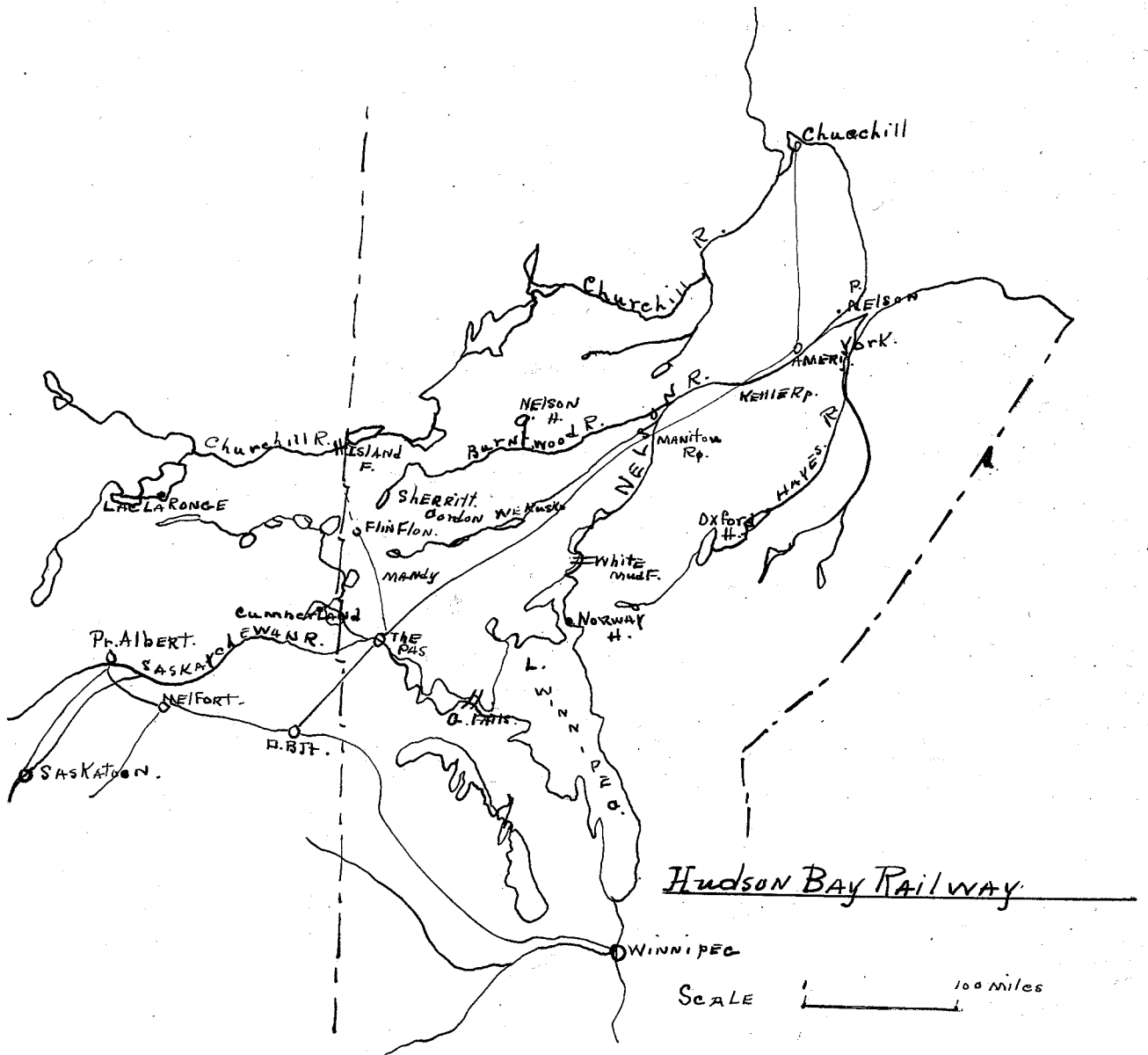
(c) The Arch-Hudsonian Swamp,- extends north of the Laurentian Plateau to the Bay. These frozen bogs or "barrens" are covered with mosses and lichens; the substratas are clay and gravel. About eighteen inches of the surface in this region thaw during the short, warm summer. (1)

The accompanying map will give a general impression as to the location and direction of the Hudson Bay Railway. From The Pas, Manitoba, the railway runs northeasterly to Mile 356, Amery, then practically due north to Churchill, 510. It crosses five watersheds - One, mile 1, Saskatchewan River - two, mile 242, Manitou Rapids - three, mile 332, Kettle Rapids, Nelson River - four, mile 350, Limestone River - five, mile 373, 411, the Weir and Owl Rivers. (2)

On September 14, 1908, the first party of surveyors commenced work on the Hudson Bay line at Frog Lake. By the end of the month the work was fully organized and the survey to Churchill was expected to be completed by March 15, 1909.

In his report, Chief Engineer Armstrong divided the country to be surveyed for the railway into four sections,-
One, the one hundred and eight odd miles from The Pas to Thicket Portage, through the limestone section, quite level, had easy grades. 70% of the grading is in clay, the remainder in gravel, swamp and false muskeg.

- (1) The Natural Resources of Northern Manitoba and Hudson Bay.
 compiled by Dept. of Interior, Ottawa.
- (2) Pp. 7,8. The Hudson Bay Route, No.2, 1929.
 On-to-the-Bay Association.



Two, from Thicket Portage to Split Lake, the granite country necessitated some rock cutting.

Three, the route to Nelson passes over much clay loam, with little rock cutting needed, the grade being one-tenth of one percent.

Four, the line to Churchill crosses 70 miles of tundra and "barren" lands, where perpetual frost is met. The grade here is a little heavier. (1)

The first actual construction on the proposed Hudson Bay Railway took place in the fall of 1910, when the sub-structure of the bridge over the Saskatchewan River at The Pas was commenced, the contract being awarded to McKenzie and Mann, railroad contractors. The Canadian Iron Foundry Company had the contract for the super-structure. (2)

When in December 1912, the Port of Nelson was decided upon as the terminus of the Hudson Bay Railway (3) the distance between The Pas and Nelson was divided into three sections,-

From The Pas to Thicket Portage,
From Thicket Portage to Split Lake,
From Split Lake to Nelson.

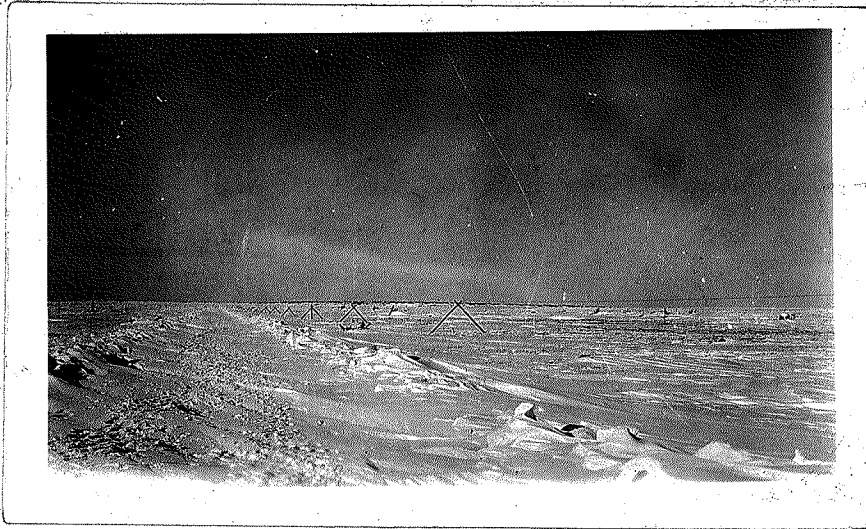
The contract was let to the J. D. McArthur interests. On the first and second sections the time limit for completion was extended to December 1, 1914. (4) At the close of 1914 the road ~~had~~ was completed and fully ballasted to mile 56 and from there to mile 175 it was partially ballasted. Steel was laid

(1) Pp. 7 - 11. Sessional Paper 20, 1910.

(2) P. 661, Vol.1, '10 - '11. Official Rpt.of House of Commons.

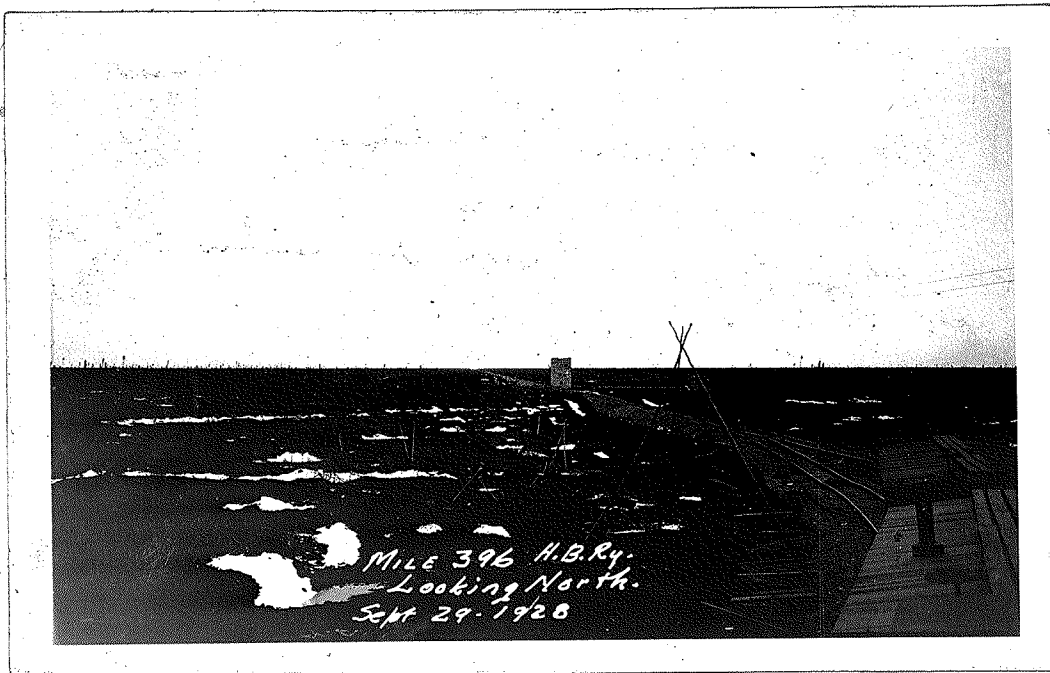
(3) P.623, Vol.1, '12-'13. Official Rpt.of House of Commons.

(4) Pp. 924 - 25, Vol. 1, 1914 - Official Rpt. of Hse.of Commons.



RIGHT OF WAY MILE 508.

Note how the telegraph poles have been propped up after being heaved out of the ground by the frost.



RIGHT OF WAY MILE 396.

as far as mile 214. (1)

During the war, work was carried on, though often behind schedule because of the lack of laborers and the difficulty in securing material and supplies, but monies were not withheld. (2) In 1918, when work closed down, steel had been laid to mile 332 and the Kettle Rapid Bridge over the Nelson completed. The cost up to this time on the railway alone amounted to \$13,890,387.87. (3)

Between the years 1918 and 1926, the railway project was practically abandoned. The existing stock was left to "disuse, deterioration and decay". Rust and rot worked havoc with the rails and ties. A bi-monthly train crawled along, in daylight hours, between The Pas and mile 214.

In 1922 the order to lift the rails for use elsewhere raised such opposition and indignation in the West that the idea was discarded. \$350,000. was voted in 1923 to repair about one hundred and fourteen miles of the road, but this money was not used then, as the season was too far advanced. (4) About one-third of it was spent on building a wye at mile 81, and an engine house at The Pas and a few thousand ties were renewed. (5)

It was not until May, 1927, that work along the line was in full swing again. Three steam shovels giving employment to six hundred men were put to work. Thousands upon thousands of ties were placed along the line, ready for the

- (1) Pp. 436, Vol.1, 1915)
 (2) P.2205, Vol.3, 1917)
 (3) P.975, Vol. 1, 1921)
 (4) Pp.163,164, Vol.1, '23)
 (5) P. 466, Vol.1, 1924)

Official Rpt. of Hse. of Commons.

gangs to replace the rotted native spruce ones. Material for the completion of the Limestone River bridge was delivered. During the summer the old line was rebuilt from The Pas to Kettle Rapids, making the road ready for operation to the end of steel at mile 350. Over thirteen hundred men were employed during the summer. (1)

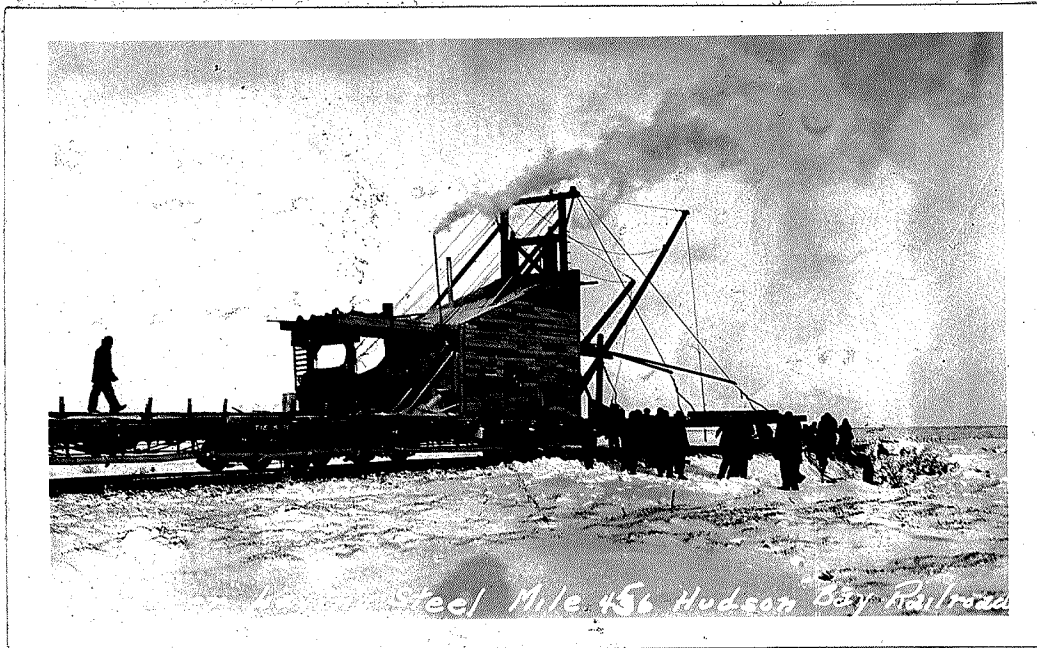
When Churchill was decided upon as the terminus of the Hudson Bay Railway late in 1927, the old grade beyond Amery was abandoned. Amery is at mile 356 just across the Limestone River, about one hundred and fifty miles south of Churchill. The new grade to Churchill turns north at this point.

In the spring of 1928 work began on the new line, under the direction of the Canadian National Railways and proceeded very rapidly, so that by January 12, 1929, the steel was within forty miles of the terminus. (2) During this winter, the ties were laid directly on the frozen muskeg. This was a new departure in railway construction and was done to rush supplies into Churchill before the frost came out of the ground in the spring. Ballasting and conditioning the road for heavy traffic was done during the summer and fall of 1929.

Although steel reached tidewater in March, 1929, the Port of Churchill was kept closed to other than official visitors and workmen, as Mr. Dunning explained, there was not the accommodation for transients or tourists, and until such time, it was much better to have no one there unless on government business.

(1) Free Press, April 6, 1927.

(2) Article by Hon. F. Oliver, Edmonton Journal, Feb. 9, 1929.



WINTER STEEL LAYING HUDSON BAY RAILWAY.



NOON TIME FOR THE STEEL LAYING GANG.

Those, who of necessity had to travel to Churchill, were obliged to obtain a special permit to proceed by rail beyond a certain point. These regulations were cancelled in April, 1930.

The Hudson Bay road is of great interest to Western Canadians. Commencing at The Pas, it runs in a north-easterly direction with few short curves and many long stretches of straight rail to mile 356. Here the line takes a decided turn northward to end at Churchill, mile 510.5. The road is considered one of the best of its kind in Canada. The steel used is the eighty pound kind and the grades are very good. The greatest curvature is seven degrees. The longest tangent is a straight run of eighteen miles, while ten miles would be the average of the other long tangents and a five mile average would take care of the less than twenty shorter ones.

The north-bound maximum grade is four-tenths of one percent, and the south-bound grade, six-tenths of one percent. There is a rise of sixty-one feet between The Pas (851) and mile 62 (912 ft.). This is the highest rise between The Pas and Amery. Amery is 286 ft. above the sea. The highest point between here and Churchill is 650 ft. making an adverse rise of 364 feet. (1)

To the end of the fiscal year, March 31, 1928, the total cost of the railway and port combined was \$28,333,711.72. It was estimated that \$7,543,000. was needed to complete the rail-

(1) Article on Bay Line, by Frank Oliver in Edmonton Journal, Oct. 6, 1928.

way and \$8,450,000. to complete the harbor, about \$16,000,000 in round figures to finish both the railroad and the port, and to provide for a million bushel capacity elevator at the docks. (1)

The West feels that it has paid for the railway out of the sale of its purchased homesteads and pre-emptions. Although the monies accruing from the sale of these lands were put in the Consolidated Fund and were not especially earmarked for the building of the railway, it was intended, when the Oliver Land Bill was passed, that the monies realized on the sale of these specially designated quarters, should be used for the building of the Hudson Bay Railway. In fact

"From 1909 - 1918, from year to year, the work on the Hudson Bay Railway went on concurrently with the receipt of monies from the sale of these lands that were to be levied on for that purpose. (2)

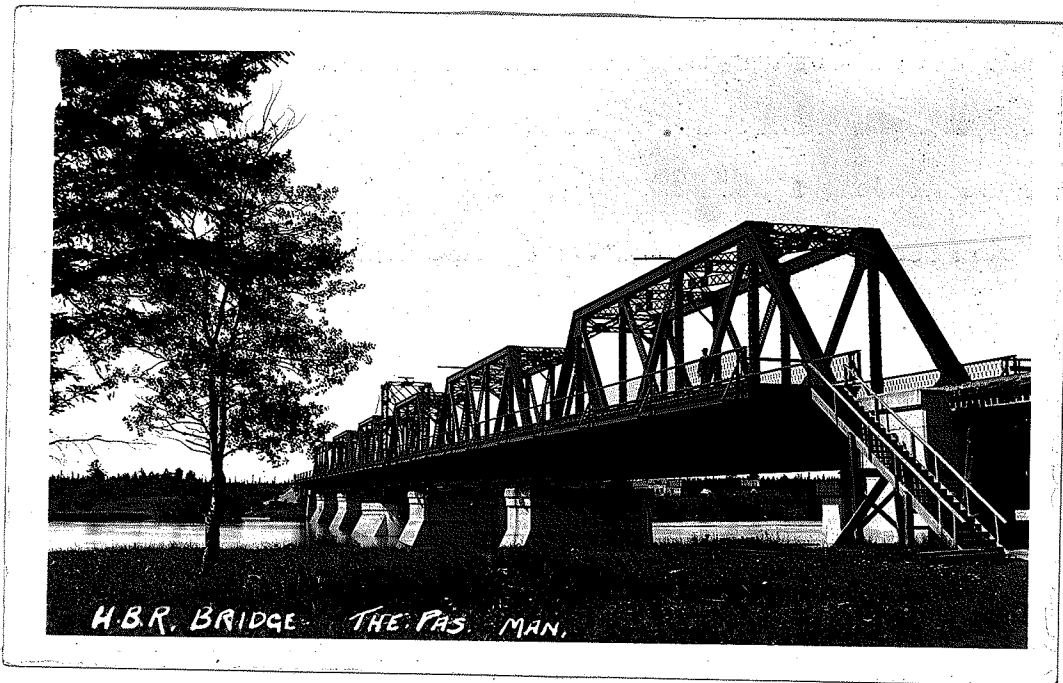
(b) Points of Interest.

The four steel and concrete bridges found between The Pas and Amery are worthy of mention.

The Pas Bridge, built in 1911 by McKenzie and Mann, is used both as a train and traffic bridge across the Saskatchewan river at The Pas. It is some eight hundred and fifty feet long, consisting of four spans of one hundred and fifty feet and a draw span of two hundred and fifty feet. It was

(1) P.2781, Vol.3, 1928. Official Rpt. of Hse. of Commons.

(2) P.57. Vol.1, 1926. Senate Debates. The Hon.Mr. Dandurand.



It was here actual construction on the Hudson Bay Railway was started, when the Hon. Geo. Graham turned the first sod for this bridge in the fall of 1910.

opened for traffic in July, 1913.

The Hudson Bay Railway crosses the Nelson river for the first time at mile 240, where the Manitou Rapids bridge, built in 1914 by the Canada Bridge Company, spans the river. It is six hundred and eight feet long. It rests upon two abutments and three piers. The centre span is three hundred feet in length. This is the highest of the big bridges, being some ninety feet above the water.

At Kettle Rapids, mile 334, a second crossing of the Nelson is made possible by a bridge of the same name. Two abutments and two piers support the spans; the other ones measure three hundred feet and the centre span four hundred feet in length. The Kettle Rapids Bridge was built in 1916 by the Canada Bridge Company.

The Limestone River Bridge, some twenty-six miles west of Amery, was built by the Canadian National Railways in 1917. It is the shortest of these bridges, measuring four hundred and forty-one feet in length. There are five spans rising forty feet above the waters of the Limestone River.

Besides these bridges, there are nearly ten thousand feet of smaller ones between The Pas and Churchill.⁽¹⁾

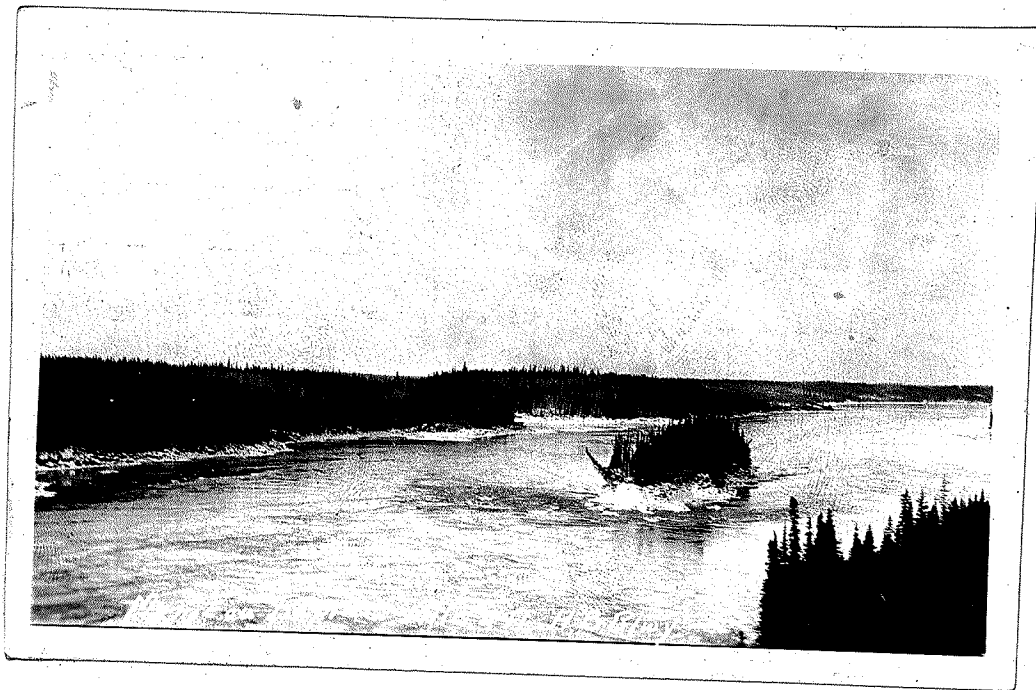
The place names along the route are rather interesting. Most of them have a special significance. Not only have the names of the men of today, whose interest in the project has

(1) Article by Hon. Frank Oliver, Edmonton Journal, Oct. 16, 1928.



Kettle Rapids, Mile 350, H.B.Ry. Nelson River

RAPIDS - NELSON RIVER



MANITOU RAPIDS.

been paramount, been used, but there is also a tinge of romantic history revived in such names as -

Button, (mile 114.61) recalling early Hudson Strait exploration.

Medard, (mile 142.15) Groseillers who with Radisson explored the Bay regions.

Lyddal, (mile 158.62) one time Hudson's Bay Company Governor of Rupert's Land, 1670.

La Perouse, (mile 171 -) the dauntless French admiral who captured the forts on the Bay.

Garraway, (mile 259). The first sale of Hudson Bay Company's furs took place at Garraway Coffee House, London, 1671. This point is about half way distant between The Pas and Churchill.

Munck, (mile 269) in honor of the Danish captain who wintered at Churchill 1619 - 20.

Nonsuch, (mile 296) commemorates the first Hudson's Bay Company's ship to trade in the Bay.

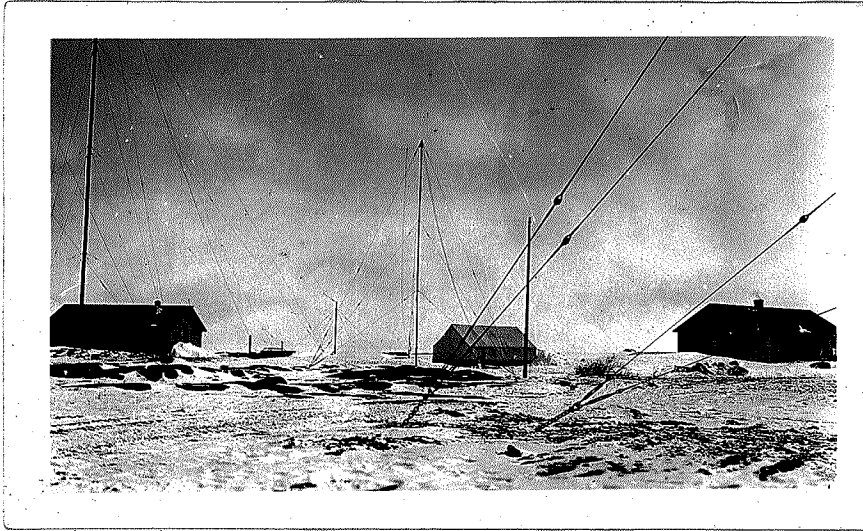
Willbeach, (mile 311.) William Beach, now deceased, homesteaded the present site of Churchill. (1)

At the beginning of the line is the thriving town of The Pas built on the south side of the Saskatchewan River. Here the Canadian National Railways new \$75,000. station was officially opened in January, 1928. (2)

At the end of steel is Churchill. Here an experiment is to be tried out. The title to all the lands in the township of Churchill has been ceded to the province of Manitoba by the Dominion Government. The Federal authorities are holding only

(1) Manitoba Free Press, Jan. 31st, 1927.

(2) Manitoba Free Press, Jan. 19, 1928.



CHURCHILL, WIRELESS STATION.



FIRST BANK LOCATED AT CHURCHILL.

such lands as are needed for dock facilities and public buildings. There is to be no private ownership of land. The provincial government proposes to keep the title to the lands in the township. Industrial, commercial, denominational and residential interests will hold the land on long term leases. This is a new idea in Canada, although very old in Europe. (1)

Churchill, the most modern of Canadian ports in administration and planning, has a very old historic background. The site, marked as "Port de Munck" appears first on a map made by the Frenchman Sanson in 1650, (now in the collection of the Geographic Board of Canada). It is here Captain Munck wintered in 1619 - 20. King Christian the Fourth of Denmark had sent his naval officer, Jens Ericksen Munk, with two ships, the Unicorn, carrying forty-six men besides a surgeon and their chaplain, Rasmus Rhus, and the second ship, the Lamphrey, with a crew of sixteen men, to discover the short route to China. Jeremie, the Canadian who spent twenty years on the Bay, published at Amsterdam in 1720 an account of the tragedy which befell them at Churchill,-

".....ultimately they reached the main land at a river which has been named Danish river, but which the natives call Omantev-Sibi, which means "Strangers' River".....In the end they suffered so much misery that, when sickness broke out among them, they all died during the winter, without a single native being aware of what had

(1) Edmonton Journal, Editorial, Mar. 11, 1929.

happened.....Next summer, when the natives reached the place, they were much astonished to see so many dead bodies, the more so as they had never seen men of that kind before."

Janet Munro in "Churchill: The River of the Strangers"(1) goes on to say that Munk and two others survived the rigors of that winter and in spring brought back their strength in a small degree by drinking the warm blood of the ptarmigan and boiling green grasses for vegetables. Sinking the Unicorn in the harbor, they provisioned the Lamphrey, then the three brave souls set off on July 16, 1620, for Denmark, which they ultimately reached on September 20, 1620. A tablet was recently unveiled to the memory of Munk's men at St. Paul's Mission, Churchill. Rasmus Rhus was the first Christian minister to hold divine service and to administer the sacrament at Churchill.

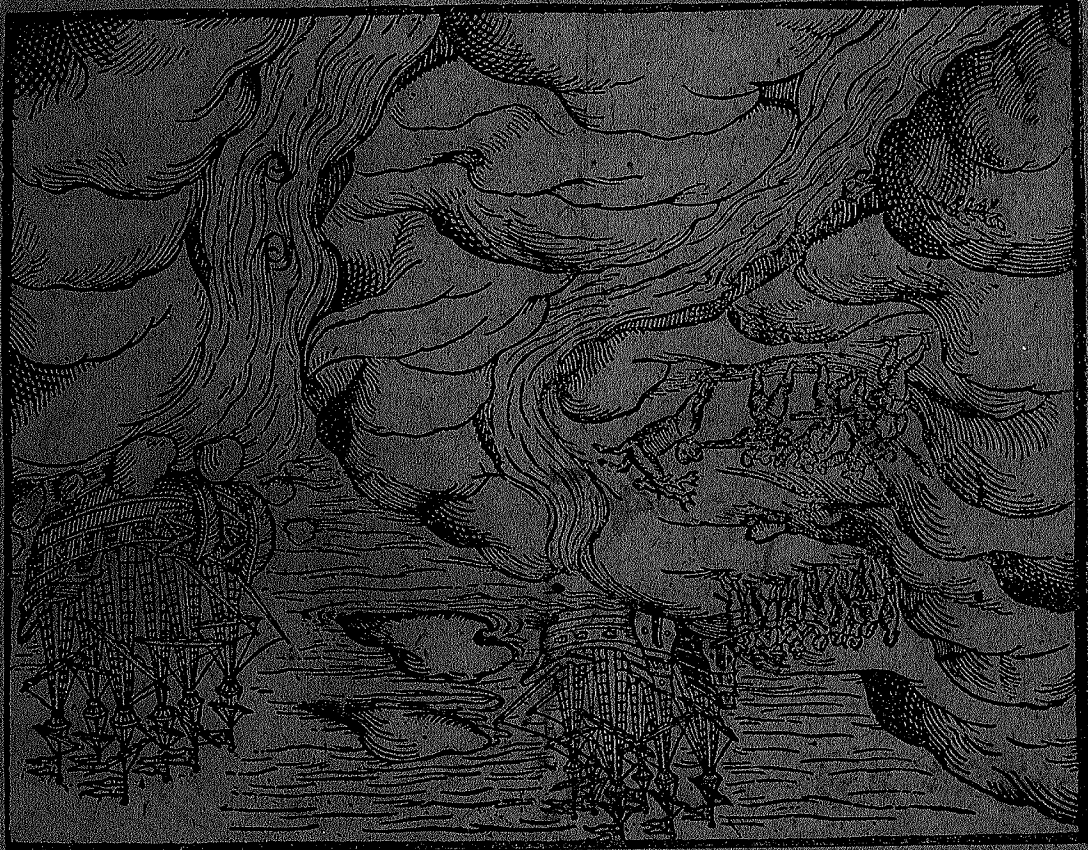
Captain Luke Foxe's map of 1635 applies one of Button's names "Houbart's Hope" to Churchill Bay. Sir Thomas Button had entered Hudson Bay and had sailed down the coast seven years before the landing of Munk. The York Factory Journal of 1774 records the oldest Indian name for it "Mississippi" or "Big River". In 1775 Joseph Frobisher, from Montreal, intercepting some Indian traders on this river bound for Churchill - - the "English" post, called the river English River. Captain John Abraham in 1686 established a fort for the Hudson's Bay Company

(1) Country Guide, August 1928.

With Churchill soon to take its place among the great salt-water harbors of Canada, interest attaches to the above old wood cut, reproduced from the North-Battleford News, which depicts incidents in the voyage that led to the discovery on September 7, 1619, of what is now Churchill. Having been commissioned by Christian IV, King of Denmark and Norway, to search for a northwest passage to the Indies, Captain Jens Munk set sail with two vessels, the Enghjortmann and the Lampreen.

In the illustration, which is a composite view, the right-hand section shows the boats as they made their way through the icebergs that guarded Hudson Strait, while the left-hand portion depicts the vessels anchored near Savage Islands on the north side of the strait as some members of the crew fraternize with the Eskimos and others shoot a deer. Munk made his way into Hudson bay and explored the region around Churchill, which he named Nova Dania (New Denmark). The expedition spent a terrible winter there, of dying. When spring came only Munk and two comrades remained. Nothing gained, however, they set sail on July 16, 1620, and with only three for a crew navigated through the ice-floes and bergs, finally reaching Norway on September 21.

Churchill, New Sea Port, Dates Back to 1619



Churchill, New Sea Port, Dates Back to 1619

and named both fort and river, Churchill, in honor of the governor of the Company, John, Lord Churchill, Duke of Marlborough. Fire destroyed this fort in 1689. It was not until 1717 that the company visited the site again, as wars with France had continued until 1713. In 1721 Fort Churchill was rebuilt.

Across from the present site of the port of Churchill lie the ruins of the old Prince of Wales fort started in 1733 and completed in 1747. It was built of dressed cut stone in the form of a square, 312 feet long. The walls were thirty-four feet thick and sixteen feet high; forty cannon mounted its walls. La Perouse in 1782 captured the fort and partly destroyed it. Samuel Hearne was in charge of it then.⁽¹⁾ On the moss-covered boulders in this section are found names of early adventurers and their ships. Among these, one can still decipher these inscriptions.

(1) Churchill: The River of Strangers, Janet Munro.

The History of Churchill, The Winnipeg Tribune, Jul.9, 1929.

S. H. Heame
July 11/51

(1)

N^o
FURNACE
&
DISCOVERY
JJAJ

(2)

(1) Copied from snapshots in the writer's possession.
(2)

SECTION THREEThe Route Proper.(2) By Water - (a) The Bay.

Hudson Bay ranks third in size of the large seas of the world. (1) It is some eight hundred miles in length and about five hundred miles in breadth, with a coast of some two thousand miles. It carries inland to the Canadian West three hundred and fifty-five thousand square miles of the Atlantic and its harbors are as near Liverpool as is the port of Montreal or even that of New York. (2)

The report of Mr. Robert Bell, 1877, gives the information that the Bay is remarkably free from rocks and shoals. Deep water is found near the inlands and a deep channel runs down the centre of James Bay. The depth is quite uniform, averaging about seventy fathoms and deepening to one hundred as it enters the Straits. (3)

The current of the Bay itself, although greatly affected by the rise and fall of the tides and the currents of the larger rivers entering it, is southwest along the west coast, easterly across the entrance of James Bay, then northerly along the east coast into the Strait. (4)

The compass is not constant when crossing the Bay, in fact the magnetic condition is poor. (5) The needle changes very quick-

(1) Mediterranean 977,000 sq.mi.; Baltic 580,000 sq.mi.; Hudson Bay, 355,000 sq.miles.

(2) From Churchill to Liverpool 2926 miles,
From Montreal to Liverpool 3007 miles,
From New York to Liverpool 3040 miles.

(3) Pp.191-4, '06-'07. Debates of the Senate.

(4) P.37, Report of the Special Committee, etc., 1920.

(5) Pp.16,20. Report of the Special Committee, 1920,
Evidence of N.E.Freakley. ↘

ly and is most unreliable. Seventy miles off Churchill a magnetic area is crossed, but soundings taken there by Captain Anderson registered sixty-eight fathoms of water on a gravel bottom, so that the dangers to ships are not great. The improved standard compass varies much less than the older types and is proving very satisfactory in these latitudes.

Hudson Bay does not freeze over, but the harbors and inlets freeze from ten to thirty miles beyond the shore. This causes what Captain J. E. Bernier calls "raft" ice. It breaks away from the shore and drifts with the current, often forming pans of ice. This ice, however, does not hinder modern steam vessels.

Storms in the Bay and Strait are frequent. Snow flurries or hail storms are experienced at any time, even in the summer.(1) Fogs rise when large bodies of ice are close. The prevailing summer winds are east, north-east. Fine weather conditions are reported thus:

"I have never found the water so warm in any part of the Gulf of St. Lawrence or in the Baie de Chaleur as we found it on the east main coast in the end of August."(2)

Mr. R. Bell in his report to the Senate 1877 (3) says:

"I took the temperature of the air upwards of twenty times during our voyage, which extended over the greatest part of July, August and September and found it to average 53° F. I also noted the temperature

(1) Pp. 17,29,39, Report of the Special Committee.....1920.

(2) P.191, Vol.1, '07. Debates of the Senate

Reports of Mr. Sullivan and Mr. Bell.

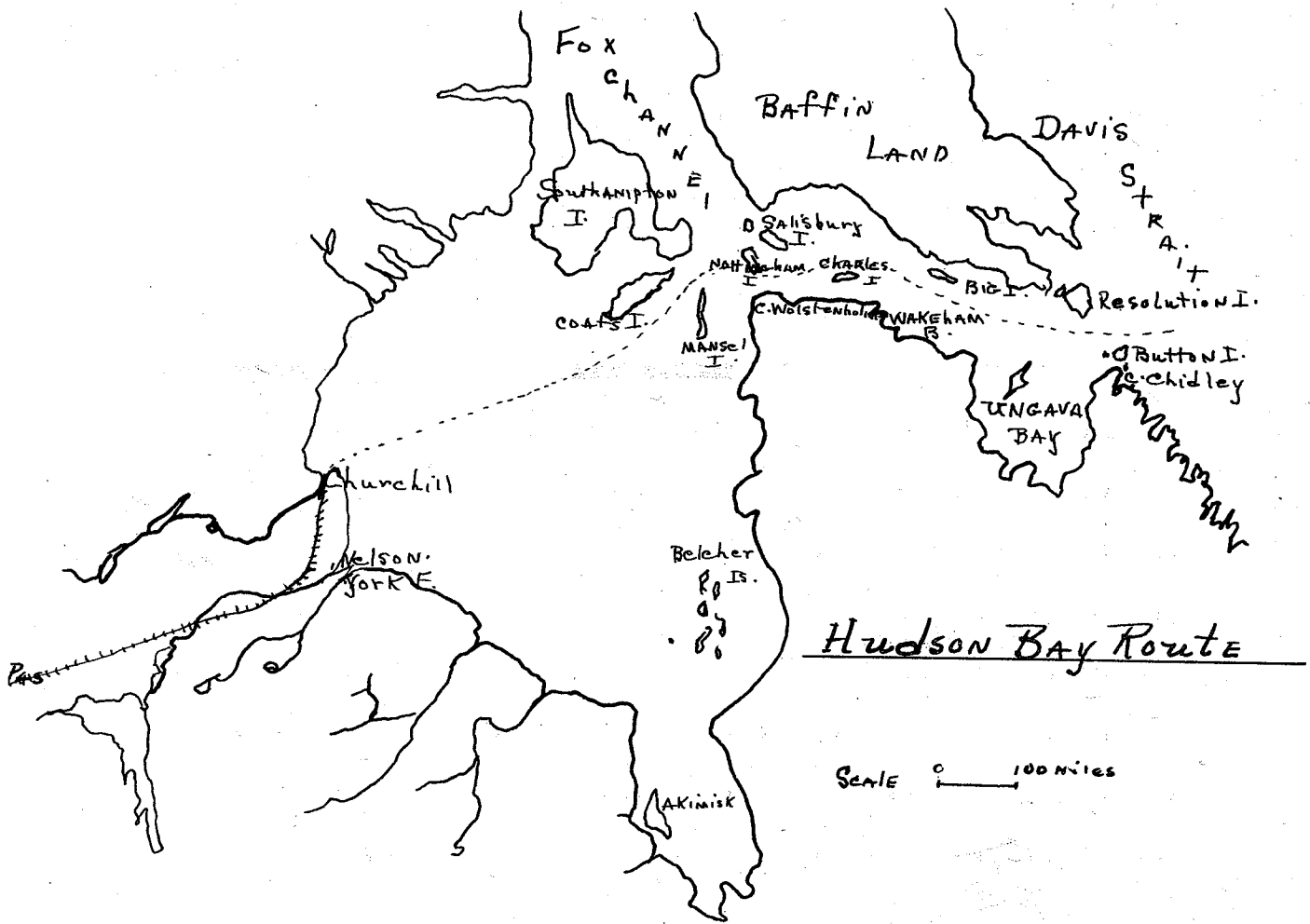
of the rivers visited and found that the average of five of them to be 61° F. We bathed in the salt water almost daily and found the temperature agreeable. The average temperature of the air between the eleventh of July and the twenty-first of September appears to be 62.5° F.

The Hudson Bay itself presents no difficulties of any marked moment. The possible dangers to navigation are found in that narrow channel which ships must pass before they reach the open sea.

(b) The Straits.

Connecting the waters of Hudson Bay with the North-Atlantic Ocean is the Hudson Strait, upon the navigability of which the feasibility of the whole project hangs. The Strait is some five hundred miles in length and varies in width from thirty to one hundred miles. The capes and cliffs are high and rugged. Cape Wolstenholme about two thousand feet in height, stands sentinel on the west and a ship sailing out of the Bay passes on its way through the Strait, Coates, Nottingham, Digges, Charles and Big Island, all large islands. The east entrance is guarded by Resolution Island, Cape Chidley and the Button Island group. Along the centre channel, the water runs deep, one hundred and fifty to three hundred fathoms. Good anchorage can be had near both shores in stiff clay. (1) The map shows the general geographic features of the Bay and Straits.

(1) P.194, Vol.1, '07. Debates of the Senate.



As currents and tides play such a great part in the ice conditions of this region, they shall be considered first.

There are two main currents in the strait. The outgoing current joined by the current from Fox Channel, flows eastward to Big Island, then follows the south shore, running at the very fast rate of seven knots at ebb tide between Chidley and Button Islands; the in-going current, fed by the Arctic stream from Davis strait, flows westward along the north shore to Big Island, where it joins the east-bound flow. Down the centre of Hudson Strait, the current is very slight, running one knot per hour. (1)

The Strait is subject to heavy tides. (2) At Port Burwell the tide runs fifteen feet; off Sugluk harbor, a six foot ~~feet~~ tide is registered and at Ash Inlet and Big Island, tides run as high as thirty feet.

Weather affects to a very great extent the progress or hindrance of any project which depends on navigation. Reports of the climatic conditions in the Bay and Strait differ as one season differs from another.

The ice-menace and visibility are two factors which must be considered in trying to decide whether the Strait is navigable for any appreciable length of time and whether the risk to commerce is warranted.

Visibility is affected by fogs and storms. Fog in the

(1) P.38. Report of Special Committee - - 1920.

Captain Freakley.

(2) Pp.18,19. Report of Special Committee - 1920.

Strait is described as a

"wool sheathing.....not really fog -
it is steam caused by reason of the
water being warmer than the air, and
a kind of vapor rises higher than your mast."⁽¹⁾

When we compare the fogs in this strait with those encountered around the Strait of Belle Isle, we find no reason to be discouraged. During that part of the year when weather has the greatest influence upon navigation, i.e.- in this vicinity, the months from July to October, we find these facts regarding the

Fog Menace.

On a cruise of the "Diana" from June 22 to October 30, 1897, on four round trips through Hudson Strait, fog was met twenty-nine out of one hundred and forty-seven days. For the years 1872 - 1883, the average number of days' fog at Belle Isle Strait was fifty-eight out of one hundred and forty-seven days. The number of days of fog at Churchill during September and October, 1885, and from the first of July to August fourteenth, 1886, was nine. In July, August and September, 1915, 15% of the time was foggy.⁽²⁾

For the month of August fog recorded

<u>At Belle Isle Strait</u>		<u>At Hudson Strait</u>		<u>At Chidley</u>
No. of days	13	-	9	-
No. of hours	220		102	

- (1) P.42, Report of Special Committee --- 1920.
Captain J. E. Bernier.
- (2) P.29, Report of Special Committee --- 1920.
Captain Pence.

For the month of September fog recorded

<u>At Belle Isle Strait</u>	<u>At Hudson Strait</u>	<u>At Chidley</u>
No. of hours 82	-	34
No. of days (snow) 3		8 (1)

In the Report of the Hudson Strait Expedition, 1927 - 28, it is reported that between July 28 and November 11, 1927 - 107 days - there were, 33 days of fog, which did not completely hinder navigation; the fog varied in density, compelling the S.S. observer "Stanley" to run now at half speed, now dead slow, or on two or three occasions to stop completely.

Between July 3 and November 8, 1928 - 128 days - light fog was met 39 days,
heavy fog, 14 days,
fog of any kind, 47 days.

The fog during these days varied from one hour to one day and once only did it last 24 hours. (2)

Fog conditions do not stop navigation through the Strait of Belle Isle and there is therefore no reason why they should through Hudson Strait, where they at least compare favorably with those at Belle Isle. Vessels should be subjected to very little delay on account of fogs, especially if such aids to navigation as Direction Finding Stations are built along the

(1) P. 553, Vol.1, '08, Debates of the Senate.

(2) P.25, The Hudson Bay Route, No.2.

Strait. (1)

On the question of storms, Captain N. E. Freakley says -

"We are liable to have snow storms or hailstorms at all seasons. But they do not interfere, more than they do with navigation around the (2) Nova Scotia coast during the winter.

Summer snow squalls will blow for hours in the Strait; they often come up quickly and as suddenly disappear, leaving clear weather.

Mean duration of snow in hours for the months of July, August, September and October, 1884 - 56 -

<u>At Belle Isle</u>	-	<u>At Chidley</u>	-	<u>At Stupart's Bay</u>	<u>Hudson Strait</u>
107 hrs.		125 hrs.		161 hrs.	.....
1886 from the report of Ss. Alert	-				38 hrs.
1897 from the report of Ss. Diana	-				86 hrs. (3)

Ice Conditions.

Local ice does not form in the Strait, except in the protected bays and inlets owing to the heavy tidal current, but there is always ice in the Strait, drifting field ice, continually on the move unless locked in a jam

"Fox Channel ice is the ice which chiefly regulates navigation. That is the chief bar to navigation. It comes down any time." (4)

- (1) See Section 6, Economic Phases P. 79.
 (2) P.39, Report of the Special Committee --- 1920.
 (3) P.454, Vol.1 '08, Debates of the Senate.
 (4) P.18, Report of the Special Committee --- 1920.

This heavy Arctic ice, carried by the current, seldom enters the Bay, but passes between Salisbury and Nottingham Islands and there, very often, the huge pans block the west end of the Strait as they heave on their way eastward. ^{that} The ice/comes down by way of Baffin Bay often proves a menace, as this ice, frequently in the form of icebergs and growlers, enters the Strait with the westbound current on the north shore and follows on until struck by the eastward flow near Big Island, when it swerves across and passes east bound along the south shore. (1)

Hudson Bay and Strait were navigated once by the man whose name they bear - Captain Hudson. Since then sailing vessels and steamers have ploughed their way through these waters, to and from the ports on the Bay. Their captains and their logs have borne witness to the navigability of the Strait.

Captain Colin Sinclair, a native of this northern region, passed through the Strait on a sealing trip as early as April and saw no ice. (2)

Captain Coates (1727 - 51) claimed that until July 20 there was little or no use to force an entrance through the Strait. (3)

Thomas McKenzie of the "Platina", a whaling barque from New Bedford, stated in 1897 -

"I do not think you are going to get through the Hudson Straits into the Bay, even with suitable

(1) P.37. Report of the Select Committee -- 1920

Capt. N. E. Freakley.

(2) P.463.Vol.1, '08. Debates of the Senate.

(3) Pp.50,55. Sessional papers No.9,11bB.1898.

steamers, before the 15 or 20 of July.....Fall ice is easier to work through.....Spring ice is jammed and "drove in". After the 15 of October weather is thick and snow storms frequent.(1)

But Captain St. Clair of the American whaler "A. Hodson of New Bedford", in 1877 entered the Bay, June 13. He made his return trip between September 15 to 25, 1878. Not so easy was the trip of Captain Tabor of the "Northern Lights" who in 1863 took from July 8 to August 15 to pass through because of the heavy ice encountered. (2)

The logs of some of the Hudson's Bay Company's sailing vessels record the conditions met with in passing through this strip of water. Between the years 1870 and 1883, of the eighteen passages through the Strait, only five trips were held up or detained because of ice. Of these "The Ocean Nymph" in 1877 made the quickest trip through, entering August 10 and clearing August 13. "The Prince of Wales" in 1879 made the earliest trip, entering July 22 and clearing July 28. "The Prince of Wales" in 1883 took from July 22 to August 28 to clear, because of heavy ice. (3)

For these thirteen years, 1870 - 1883, for inbound ships passing the strait, the average time is 12 days, -
 - the longest time is 33 days, -
 - the shortest time is 4 days.

The delays in these cases were caused by ice conditions.

(1) P.55, Sessional Papers No.9, 11 B. 1898.

(2) Pp. 8, 9. Sessional paper No.104, 46 V.A. 1883.

(3) From a list compiled by Capt. McElhinny, Marine & Fisheries Dept.

For the eleven years between 1835 and 1846, Captain Markham gives, -

The average time as 16 days
 the longest time as 31 days
 the shortest time as 8 days (1)

The delays in his experience were caused by calm and adverse winds and not by ice.

These are the records of sailing vessels helped or hindered as the case might be, by every wind that blew. Yet they made their trips without any loss to shipping. How much more efficient the modern steamship is. With the convenience of steam driven vessels and with twentieth century facilities, the straits should present no serious risk during the season of navigation.

Captain Gordon in his report of 1886 says, -

"The length of season for practical navigation, if we regard field ice as the only barrier.....would permit the months of July, August, September and October as being months in which the Straits are free. (2)

Commander Wakeham, eleven years later in 1897, agreed with Captain Gordon in fixing the opening from July 1 to 10, and October 20 as the extreme limit for closing. (3)

Mr. Law, of the "Neptune", in the 1903 - 04 expedition, believed, -

"The period for safe navigation for ordinary iron steamships may be stated

- (1) P.195, Vol.1, '07, Debates of the Senate.
 (2) P.195, Vol.1, '07, Debates of the Senate.
 (3) P.463, Vol.1, '08, Debates of the Senate.

to extend from the 20 of July to the 1st of November. The period might be increased without much risk by a week at the beginning of the season and by perhaps two weeks at the close.

Captain F. Anderson of the S.S. "Minto", 1912,⁽¹⁾ passed out through the Strait between the 2nd and 10th of November and encountered no ice. The "Minto", the previous summer, ploughed her way through heavy Arctic ice from July 27 to August 2 on an inbound trip.

C. G. S. "Stanley," 1927, encountered heavy open ice 60 miles south of Cape Chidley on July 26, but a commercial vessel, exercising caution, would pass through safely. From August 6 to November 11 no ice except icebergs were observed.

C. G. S. "Montcalm", 1928, reported that on July 6 the ice encountered was so heavy that it would "very seriously damage a commercial vessel" - yet from July 26 to November 8, 1928, no more ice except bergs was observed by the same boat.⁽²⁾

Although there is some discrepancy regarding the length of season of navigation, there is a general agreement that the season would be at least three to three and one-half months. To enter earlier in July or to leave later in November, would depend entirely upon the kind of year. This is further substantiated by the daily radio reports from the Hudson Strait aerial patrol, which stationed at Port Burwell, Nottingham Island and

(1) P.4, Seasonal Paper 101 A.

(2) Hudson Bay Expedition, 1927 - 28.

Wakeham, for eighteen months patrolled the Straits daily, (weather permitting) for a distance of four hundred and fifty miles. A huge pan of ice was sighted in Fox Channel late in November, 1927. It was not until December 10 that it blocked the Strait. (1)

Observations made from the ground and air during the winter of 1927 - 28, show that the maximum ice areas were reached at, -

Nottingham Island from Jan. 12 to May 7,
 Wakeham Bay from February 12 to May 21,
 Port Burwell from February 16 to May 22.

The following reports from these three bases are very interesting in that they show with what advantage to shipping aerial and ground observations of ice conditions could be made. Conditions at Nottingham Island in the fall would be the key to the latest time the vessels might pass out safely, while conditions at Burwell would indicate when ships might venture westward in the spring.

Take for instance the report from Base B., Nottingham Island, November 24, 1927, Air Patrol No. B - 11.
Route of Patrol - went around Nottingham Island and patrolled in direction of Mill, Salisbury and Digges Islands.
Visibility at 7,000 feet from 40 to 50 miles.
 About 50 percent cake floe ice and open water within range of

(1) Free Press, December, 1928.

visibility. Very little movement but clear water east of Salisbury and Nottingham Islands indicate a slight movement to the southeast. (1)

Base C, Wakeham Bay. (2) November 23, 1927. Beach very rough and bay practically frozen over. No ice observed in straits.

Dec. 12, 1927, Air Patrol No. C - 25.

Route of patrol, north 25 miles, west 15 miles, south to base.

Visibility about 60 miles.

For a distance of approximately 15 miles from the south shore of the straits the straits were covered completely with slob ice; from a point beyond that to the north shore of the straits was about 50 per cent slob and 50 percent open water. No heavy ice observed.

Base A, Port Burwell. (3) December 4, 1924.

Visibility six miles. Ice can be seen in straits.

Air Patrol No. A - 3. December 15, 1927. (4)

Route of Patrol, "A - 3" north to Resolution Island, North-northwest to Lower Savage Island and South southeast to Port Burwell.

Visibility ten miles.

(1) P.90)

(2) P. 112 - 113)

(3) P. 131)

Report of the Hudson Bay Expedition, 1927-28.

(4) P. 133 - 134, Report of the Hudson Bay Expedition, 1927-28.

(slob ice - is snow aloat and forming into ice)

Thick ice field approximately five miles out to sea from Button Islands. Centre of strait practically open water with thin coating of ice. Large expanses of water with absolutely no ice whatever, etc.

Jan. 13, 1927. Air Patrol No. A - 4. -----

Ice in straits is new within last few days and very thin; from two thousand feet it is possible to see through it. There are some large leads of open water; approximately forty per cent is open water. At the entrance of Hudson Strait there is no ice but in the Gray strait it is packed. The Atlantic as far as could be seen was covered with slob ice. No heavy drift ice was observed.

As early as the end of May, 1928, such conditions were reported.

Base A - Port Burwell. ⁽¹⁾ May 28, 1928.

Visibility 30 miles. -----

Ice in straits slack ice in very small pans. At 10 A.M. straits and Ungava free of ice. At 4 p.m. Ungava bay free of ice, Hudson Strait 80 percent open water, balance ice as above.

Base C - Wakeham Bay. ⁽²⁾ May 29, 1928.

Air Patrol No. C - 70.

Visibility about 15 miles.

In area under observation 90 percent open water, balance small floating ice cakes.

(a lead is a strip of navigable water opening into the pack)

(1) P. 145 } Report of The Hudson Strait Expedition. 1927-28.
 (2) P. 124 }

Base B, Nottingham Island (1) May 29 & 30.

Air Patrol No. B - 58, B - 59.

Visibility from 5,000 to 6,000 ft. - 60 to 70 miles.

South half of strait between Nottingham and Wolstenholme open for about 25 miles in width, closing in toward south end of Digges Island. Ice pack between Digges and mainland. About 40 percent open water in strait as far as visibility.....

Air Patrols were carried out from Base C, Wakeham Bay, on September 30, October 4, 6, 7, 13, 25, 27, 28, 1927, and no ice was observed.

From July 19 to August 15, 1928, Air Patrols were carried out and no ice was observed between Nottingham Island and Cape Wolstenholme. Ice, however, was observed to the northwest and west in the vicinity of Mill Island, Bell Island and in Evans Strait, and to the north on the Western side of Fox Channel.

It will be noted from the above no ice was reported to the south and east of Nottingham Island. (2)

(3) 107 P.)
 (4) 112 P. (Report of The Hudson Strait Expedition,
 1927 - 28.

The Question of Terminals.

(a) Nelson rejected.

Until the report of Mr. Frederick Palmer, President of the British Engineering Institute, whose services were obtained to investigate the ports and to advise the government as to which would be the better harbor to develop, much controversy and indecision had been experienced. In the early years of the project, Churchill seemed to be the objective of the line. Whether or not the extension of the Manitoba boundaries to the present size, bringing under the jurisdiction of a province the two ports that had hitherto been in the territorial lands, had anything to do with the shifting of the choice of the terminal from Churchill to Nelson is controversial. But the facts are that in 1912, on the advice of three Canadian engineers and the Minister of Railways, the government decided to establish the terminal of the Hudson Bay Railway at Nelson, on the ground that it was nearer by 87 miles and that its selection did away with the need of building across the barrens;⁽¹⁾ and that in 1912, also, the Manitoba Extension Act became law.⁽²⁾

Since 1909, the extension had been discussed between the Dominion and the Provincial governments but they had not been able to agree upon the amount of subsidy to be paid in lieu of the natural resources. In 1911, R. P. Roblin, Premier of Manitoba, after a conference with Premier Borden at Ottawa had announced that the boundary dispute had been settled. Within three days (Nov. 20 - 23), Sir

(1) P. 10941, Vol. 6, 12-13. Official Report of House of Commons.

(2) 2 Geo. V. Chap. 32 - 1912.

James Whitney had declared that the matter was not finally settled since Ontario demanded an outlet on Hudson Bay. The Honorable Francis Cochrane of Ontario in conference had proposed that Nelson should be made a joint port by the expedient of having the boundary between the provinces strike the Nelson river ten miles from its mouth and follow it to the Bay. This would have meant that all south of the Nelson to the existing eastern boundary of Manitoba would have belonged to Ontario, including the mouth of the Hayes River and possibly the Port of Nelson itself, if it had been built on the south bank. This proposal, of course, had met with the disapproval not only of the Premier of Manitoba but also of the Western members in the Federal House. In February 1912, Premier Borden at last announced that Ontario in lieu of a port on Hudson Bay, was to be given a strip of land five miles wide and not to exceed fifty miles in length running to Port Nelson from any point on the Manitoba - Ontario boundary. (1) If Churchill should be chosen as the port, then Ontario was to be granted a right-of-way of two hundred ^{feet} in width from Nelson to the railway and running rights over the road.

The choice of Nelson as a terminal did not convince all that the better port had been chosen. Honorable Frank Oliver, for one, thought the government ill advised to decide upon Nelson where

(1) "The five mile strip, however, was granted to the province as a railway Corporation and with no rights of economic ownership." P. 137. Political History of Manitoba, C. B. Martin. Canada and Its Prov. Vol. 19.

There is no mention of this right-of-way in the Manitoba Boundaries Extension Act. It was dealt with by the Department of the Interior. Ontario's claim to it has now lapsed. P. 3735. Vol. 2 - 1928. Official Report of House of Commons.

the cost of establishing proper facilities would be enormous. (1)

A report was given in 1912 by Mr. H. D. Paripeau, head of the party sent to survey Nelson, who described that port as a

"roadstead exposed to every wind that blows, every sea that runs currents and cross currents are strong.. shore so low nothing can be seen from the boat and all locations must be determined from previously ascertained position of ship. (2)

Experience was to support these unfavorable opinions.

In August 1914, the steamer Alcazar, loaded with two million feet of pine lumber, arrived off Nelson but was unable to approach within eight miles of the mouth because of low water, so returned to Sydney, N. S. with her cargo.

The Cearense, another laden ship bound for Nelson Port, was wrecked twenty miles from the mouth. Captain Robertson of the Alette, which was grounded on the mud flats, condemned the boulders in the bottom of the Nelson river because of their great danger to boats drawing over 18 feet of water.

F. H. Kitto, D. L. S., made a report to the government in 1918 giving a clear description of the Nelson road - stead:

"From Fort Nelson to the open water of the Bay, the mouth of the river has to be navigated by a long and sinuous course. The banks on either hand are low and flat and several beacons have been erected along the water's edge for the mariners. The waters here are very shallow, in fact at ebb tide, mud flats appear between the main channel and the shores. It is therefore necessary for a vessel to stick closely to the channel. This is

- (1) P. 10942. Vol. 6. 12-13. Official Report of the House of Commons.
 (2) PP. 11, 17. Sessional Paper 101 A. 1912.
 (3) P. 671 - 676. Vol.1, 1914. House of Commons Debates.

not easy as it continually is changing its position. Great quantities of mud and silt are carried in suspension by the waters of the Nelson and deposited at its mouth. Huge cakes of ice are carried down the river following the spring break-up, while others are blown in from the Bay by storms or carried to and fro by the tide. The result is that the waters of the channel from the point where it first meets the tide until the open Bay is reached is continually filled in and gouged out in various places. (1)*

When work closed down in 1918, the sum of \$6,347,000 had been appropriated for work on the harbour at Nelson. A pier had been erected about a mile and a half long, running out into water deep enough to allow vessels to discharge or take on cargoes alongside. The crib-work (1,500 feet) for the artificial island had been filled in. Some dredging had been done to enlarge and deepen the channel. Wireless stations had been erected.

The Free Press of April 9, 1927, carried this report,

"In connection with Port Nelson the feature which is the greatest time consumer is the necessity of dredging a portion of the channel. The artificial island.. is some 22 miles from the Bay itself and the navigable channel ... extends to within five miles of the island. For $3\frac{1}{2}$ miles of these 5 miles, the channel must be dredged... The material taken out would have to be carried 22 miles to sea... would take at least six years."

When operations were to be resumed, nothing of a permanent nature existed at Nelson, except the bridge superstructure leading to the partly finished artificial island, the cribbing of which had greatly deteriorated since 1918. The 2000 ton dredge swept on the island by a terrific storm lies high and dry.

The following are some of the reasons Mr. Palmer gave in

(1) Page 503-5 Canadian Magazine Vol. 59. 1922.

his report of 1927 for rejecting Nelson as the terminus of the Hudson Bay Railway:

- (1) The open estuary gives no protection in the time of storms or high winds.
- (2) Even light mists obscure the lights from the beacons and buoys.
- (3) The construction of a necessary breakwater would be very costly to build and to maintain as the material, stone, gravel, sand, rock, etc. is only obtainable at a long distance.
- (4) The artificial island offers only limited space for expansion and would consequently handicap traffic.
- (5) The necessity of dredging the channel of over six million cubic yards would take six years and would delay operations too long.
- (6) The port is limited at low tide to vessels of twenty-six foot draught.

"The approach to Nelson can only be described as a constant menace to shipping. The least departure from the strictest vigilance and care on the part of those responsible for navigation would result in losses that would prejudice the port to a far greater extent than the intrinsic value of losses sustained." (1)

He unhesitatingly advised the development of Churchill.

(b) Churchill Accepted.

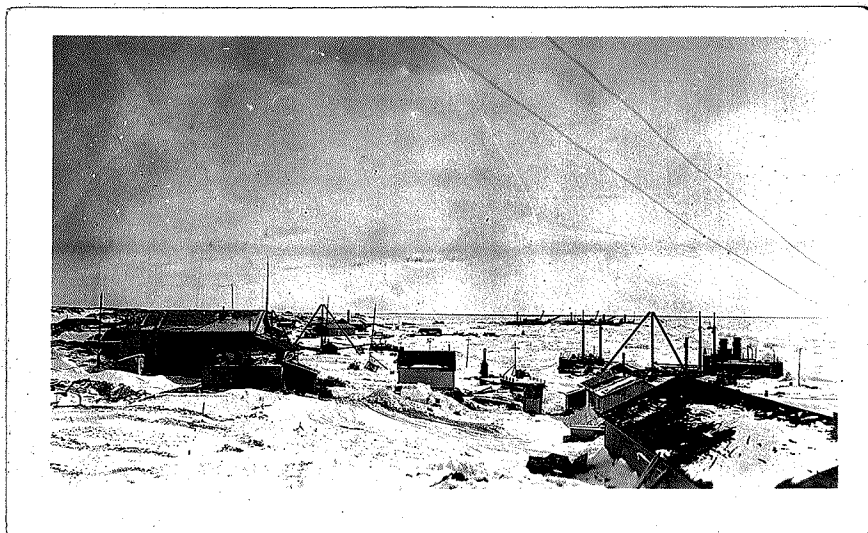
Churchill harbour lies about the middle of the West shore of the Bay in latitude 48 - 56 - 10 N., longitude 94 - 10 W. at the mouth of the Churchill river. (2) At the entrance well marked cliffs rising from forty to seventy feet provide a magnificent Bay; rough weather from the N.N.E. and E.N.E. expends itself on the north of the west shore, while the east coast is never ruffled by conditions in the Bay. At low water sixteen hundred feet separate

(1) P. 11. Report of Selection of a Terminal Port for the H.B.Rly.

(2) P. 16. Sessional Papers 101 a, 1912.



CHURCHILL - WINTER OF 1928-29.



CHURCHILL, DREDGES AND WORKSHOP.

the headlands by a wonderful deep channel, 60 feet deep for a width of seven hundred and fifty feet, 30 feet deep for eight hundred and fifty feet, leading into the protected water. The harbour itself covers a vast area. There are 140 acres with a depth of 30 feet and over at low tide, the area increasing as the depth decreases.⁽¹⁾ The accompanying map gives some idea of this land locked harbour.

The protected and sheltered side off Cape Merry has been chosen as the site for the wharves and docks. It is within a mile and a half of the open Bay. Soundings and drillings done here show a bottom of gravel, sand and some boulders so that it will be easy to dredge the million cubic yards which must be excavated to give a channel five fathoms deep running up to the filled in site for the wharves. There is enough land near at hand at a suitable level to provide railway facilities at low costs and ample room (contrary to former opinions)⁽²⁾ for the efficient handling of all present and future traffic -

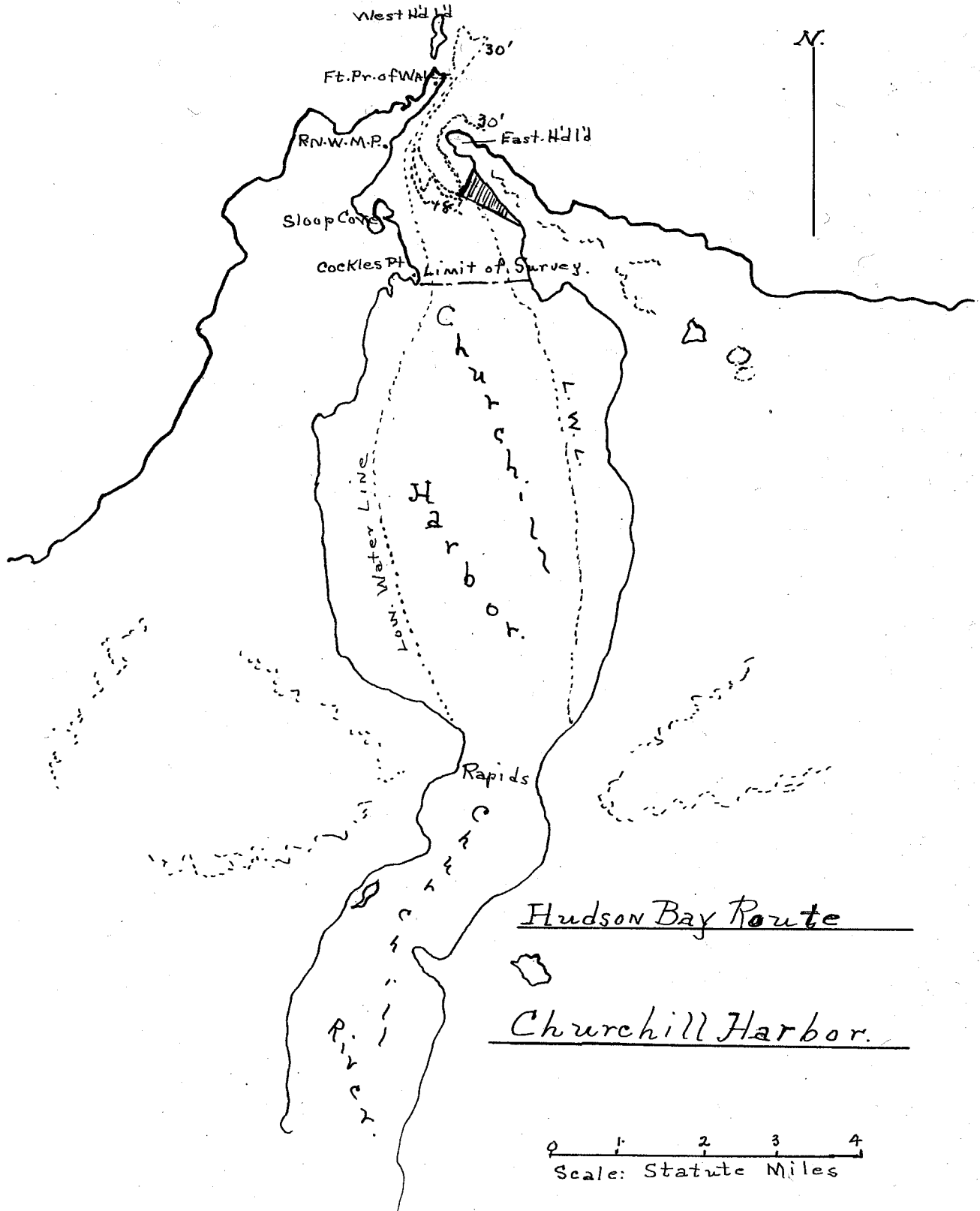
"sufficient for the shipment of twenty-five million bushels of grain during one hundred working days - leaving one berth free for the import and export of general cargo, including the export of cattle."⁽³⁾

The material necessary for the filled in area for the wharves, stone, sand, rock, etc. is available within a mile of the proposed site.

(1) Report on the Selection of a Terminal Port for the H. B. Rly.

(2) P. 20 Sessional Papers 209, 1917, - the room for terminals at all convenient to possible dock sites is not satisfactory ... the area of the east side is inadequate if any considerable development is required.

(3) P. 21 - Report on the Selection of a Terminal Port for H.B.Rly.



The cost of the harbour development is estimated to be one-third the expenditure necessary at Nelson and cuts down the time in connection with the work at the harbour to three years.

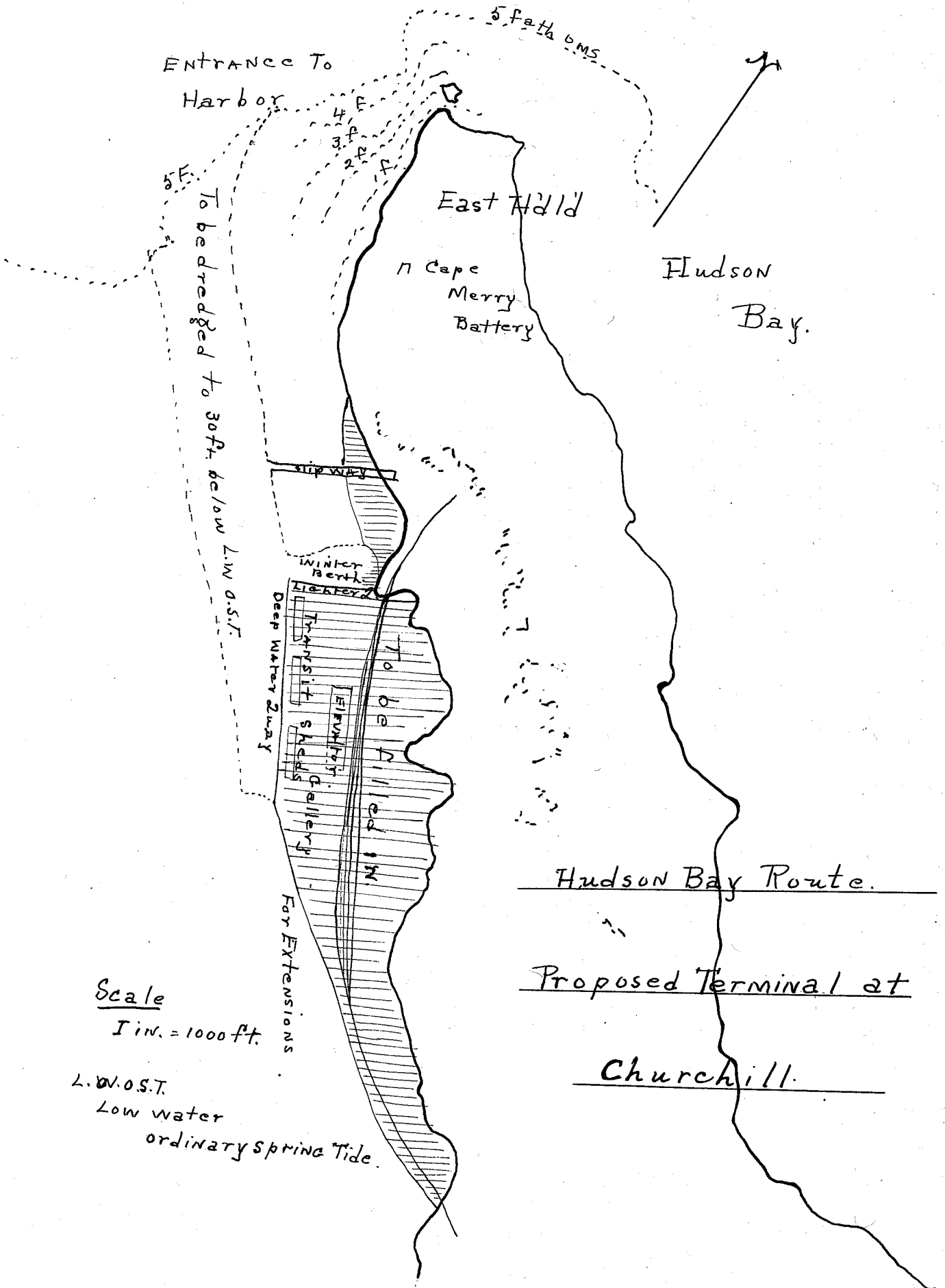
Comparative Statement re development.

	At Nelson.	At Churchill.
Wharves	\$2,277,000.00	\$2,530,012.00
Breakwater	4,038,025.00	
Bridge Pier Crib	817,000.00	
Dredging	8,480,000.00	1,550,000.00
Aids to Navigation	1,007,000.00	19,000.00
Dock Equipment	722,300.00	697,000.00
Slipway Equipment	275,000.00	275,000.00
Grain Elevator	2,000,000.00	2,000,000.00
Harbour Rlwy. Connections	60,000.00	75,000.00
	<u>20,676,325.00</u>	<u>7,146,012.00</u>
Plus 10% for contingencies	2,067,632.00	714,601.00
	<u>22,743,957.00</u>	<u>7,860,613.00</u>
Interest on Capital Stock during construction 6 yrs. at Nelson, 3 yrs. at Churchill.	3,411,593.00	589,546.00
	<u>26,155,550.00</u>	<u>8,450,159.00</u>
Balance in favor of Churchill.		17,705,391.00 (1)

Comparative Statement re Annual Charges.

	Nelson.	Churchill.
Interest on extra Capital Cost 17,705,391.00 @ 5%	\$855,269.00	
Extra Maintenance		
Engineering works	423,060.00	
Aids to Navigation	166,265.00	
Extra capital cost of 87 miles 5,085,000.00 @ 5%		254,250.00
Maintenance of Extra mileage		69,600.00
Extra Station		4,000.00
Operation:		
100 mixed trains over 87 extra mls.		29,580.00
130 grain trains, 110,000,000 bus.		
	<u>\$1,474,594.00</u>	<u>413,980.00</u>

(1) Report on Selection of a Terminal Port for H.B.Rly-Palmer.



Scale
1 in. = 1000 ft.

L.W.O.S.T.
Low water
ordinary spring Tide.

Hudson Bay Route.

Proposed Terminal at

Churchill.

Net annual difference in favor of
Churchill

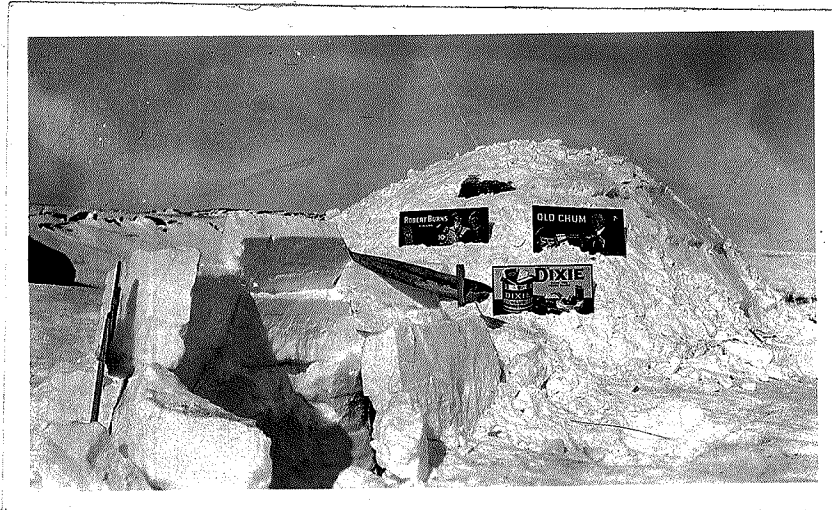
\$1,060,614.00⁽¹⁾

Churchill port when in operation will have accommodation for three berths at the wharf, three berths at moorings. The wharf will be but a mile and a half from the open Bay, no pilots will be needed, three beacons and two gas buoys will be the necessary aids to navigation. Vessels of twenty-eight feet draught can ride at anchor in the calm waters of the protected harbour. When the ultimate maximum development is reached, vessels of forty feet draught may enter. Ships can be unloaded or laden directly to or from the railway yard, which can be extended almost indefinitely.

SECTION FIVE.Possibilities in Northern Development.

By the Manitoba Boundary Extension Act of 1912, approximately 178,000 square miles were added to the Province. The building of the Hudson Bay railway across this country has increased the value of the natural resources found here. All this latent natural wealth is on the verge of a tremendous development, because the Railway brings these new areas closer to transportation centres and will help to make the once lone North a busy enterprising land.

Missions, trading posts and a few scattered settlements have been in this country for many years but have showed no marked advancement. Colonization often precedes the advent of the railway and every pioneer looks eagerly for the coming of the "Iron Horse". Without the railway, progress is very slow. Railways carry supplies into the settlers and carry the settlers' surplus produce to the centre where there is a demand for it. The extension of the Hudson Bay Railway northward has increased the number of land holders. Many new-Canadians, besides trappers and prospectors are in this country. This movement of people entering the north has increased the demands for all commodities, jobbing houses and business firms have their travellers visit regularly the merchants in the embryo towns along the line. Food, clothing, ammunition, traps, tobacco, etc. are in constant demand. Before the opening of the Hudson Bay Railway, little was heard of this "Silent North", now a day rarely passes without some item of inter-



NORTHERN ADVERTISING AMONG THE ESKIMO.



"DINKIE" ENGINE ALONG THE LINE.

est appearing in our papers concerning its development, business, social or political.

Agriculture.

There is a large, central belt some 10,000 square miles in area lying between the Nelson and the Churchill rivers north of mile 130 (H. B. Rly.), of which 50 and 75% is arable land and suitable for mixed farming. ⁽¹⁾ There is sufficient rainfall at the proper seasons and during the summer great lengths of sunlight for the growth and maturity of crops and garden vegetables.

"The winter climate, the severity of which has been unduly over-estimated, is no worse than that of Winnipeg. What is forgotten is that it is a land of long summer days, with actually more hours of sunlight than Ottawa ... So far as climate is concerned, anyone who can live in comfort in any part of inland Canada can live with an equal degree of comfort in the north ..."

so writes A. P. Woollacott in "Canada's New-Found Empire, an article appearing in MacLean's Magazine of March 15, 1929.

Agriculture is carried on in a very small way. Production is for local use only. At Lac La Ronge, Saskatchewan, latitude 55 degrees, wheat has matured without damage from frost for seven consecutive years. In the Nelson Valley between 54 - 55° N.L. at Norway House and Cross Lake, wheat has been grown while barley grows at Oxford House. ⁽²⁾ Potatoes and common garden vegetables grow and ripen at all the settlements including York Factory and Churchill. The Dominion Government has experimental plots and cooperative test plots at several stations, including The Pas, Cormorant, Mile 82, Mile 137, Mile 185 and Port Nelson. Although

(1) P. 5. The Natural Resources of N. Manitoba and Hudson Bay.

(2) P. 6. Natural Resources of N. Manitoba and Hudson Bay.

agricultural possibilities are quite encouraging, this country will be the home of the struggling pioneer for many years. There is proper drainage to consider, the clearing off of the bushland and experiments to be tried with a northern soil. A comfortable log house and barns nestled in the woods, a small garden plot - a field of grass and a herd of cattle will make up the holdings of these sturdy settlers.

There will be a greater interest in cattle than in grain during the early years on these northern homesteads. With shipping facilities made possible by the Hudson Bay Railway, a marked increase in stock production should result. Abundant native feed, a short rail haul and a steady European market are first class inducements to cattlemen to locate here. About 2,000 tons of hay are put up each year in The Pas and Moose Lake districts. In 1920, \$65,000.00 worth of cattle were disposed of from these districts.⁽¹⁾ The barren lands west of Churchill produce hay and other vegetable growth capable of feeding herds of native grazing animals. Farmers in the Carrot River district and Prince Albert area will fare much better than those in Northern Manitoba, as these districts are already grain and cattle producing. The benefit derived from their nearness to the H. B. railway will soon be apparent in increased acreage and concentrated effort.

Mining.

The most outstanding mineralized area yet discovered in these parts is The Pas Mineral Belt, a district 125 miles long,

(1) P.6. The Natural Resources of N. Manitoba & Hudson Bay.

starting just within the Saskatchewan boundary and from 20 to 40 miles wide. Doctor R. C. Wallace, ex-Commissioner of Northern Manitoba outlined the mineral formation here as:

1. Gold in quartz carrying sulphide.
2. Copper - zinc - iron sulphide bodies.
3. Iron Sulphide bodies.⁽¹⁾

Active camps in this belt are located at:

- (a) Flin Flon.
- (b) Athapapuskow Lake.
- (c) Elbow Lake
- (d) Herb and Little Herb Lake.
- (e) Kississing Lake.

Gold was discovered in 1914 at Herb Lake, and at Rex Mine \$1000.00 per month in gold was recovered while the mine was in operation. Between 1916 - 1919, two million dollars worth of copper ore was removed from the Mandy mines. At Flin Flon, it is estimated that to 900 feet, there is enough ore to keep a 3000 ton smelter active for twenty years.⁽²⁾ There is no question of the stupendous values of the composite ore deposits here. When the smelter is in operation (probably in 1931), the daily shipments of copper, zinc, gold and silver will run approximately at 60 T. 120 T. respectively, with \$6,000.00 in gold and \$3,000.00 in silver bullion.⁽³⁾ The ninety mile branch line from Flin Flon to Sheman on the Hudson Bay Railway was completed in September 1928 by the Canadian National Railways assisted by the Government of Manitoba.⁽⁴⁾ The convenience of the railway will make possible the developement of the mineral resources at Flin Flon, Sherritt-Gordon and Mandy mines and other fields near by.

- (1) P.7. Natural Resources of N. Man. & H. B.
- (2) Article in Selkirk Record Jan. 24, 1929.
- (3) P. 220. Manitoba Milestones-M. McWilliams.
- (4) Free Press. Sept. 21, 1928.

Doctor G. H. Blanckett of the Topographical Survey says:

"It is unwise to consider any district or resource as permanently beyond the limits of economic development because of its location. The question of reaching this new mineral empire of the north has now been simplified by the development of Fort Churchill as a railway and ocean terminus."⁽¹⁾

The east coast of Hudson Bay is rich in deposits of iron, while Belcher Islands are a continuous bed of iron ore. With the opening of Hudson Bay transportation facilities, this ore will become a valuable asset in the production of iron and steel.

Building and ornamental stone from 1 to 5 feet thick is found close to the line near Cormorant and Atikameg Lake. Deposits of brick clay are along Setting Lake to Armstrong Lake in the Limestone River valley. Mica, bituminous coal, iron and copper, crop out in the islands of the strait.

The fact is Northern Manitoba is crossed by the Canadian Shield - "the richest repository of metals the world has ever seen." A railway through this field has every chance in the gamble. It makes possible the development of the venture which in turn provides the tonnage in minerals.

Timber.

There is a certain amount of timber across this North Country. Before the railway went through, there was no commercial value to these forests. Now there is the possibility of clearing the lands adjacent to the line and shipping out the wood to the pulp mills. The proposed development of water power on the Nelson

(1) P. 60. MacLean's Magazine. Mar. 15, 1929.

will increase the value of the pulpwood areas. These pulpwood areas were under survey in 1927 - 1928 to determine the feasibility of starting pulp and paper mills north of Lake Winnipeg. Small portable mills are found at some of the Missions and at the Hudson's Bay Company's posts for private use. There is one large lumbering concern at The Pas whose annual cut would be about 35,000,000 feet. It gets its supply of saw logs from the Carrot River country. (1)

FURS.

This has been a land rich in fur-bearing and game animals. Whether the railway has proved an asset to this resource is doubtful. Before the day of the railway, the Indian was the Chief trapper in the north, and the supply of fur-bearing animals was maintained. The white hunter has come with the train, the service of which has made it easy for him to get his supplies and to ship his catch, consequently the concentrated business efforts of the white trapper, together with the many fires increased by the number of camps, are very quickly reducing this once staple and wealth producing resource. (2)

Fisheries.

The fisheries of Hudson Bay and especially of the lakes and rivers drained by it should be a source of unlimited food supply and of increasing revenue. Fish are abundant, of good quality and of many kinds. Lake and river fish of the north take in these varieties, pickerel, Jack, sturgeon, trout and whitefish. Much fish is consumed locally and the staple food of the many husky teams is fish. Previous to the facilities of railway transportation, tons of fish were hauled to far off shipp-

(2) Free Press, March 2, 1929.

(1) Natural Resources of N. Man. & H.B.

ing centres. During the year 1924, fish taken in The Pas district for commercial purposes was valued at \$107,000.00.⁽¹⁾ The Hudson Bay Railway will prove a great benefit to the development of this resource as it will be a means of exporting this valuable food to the populous cities of Canada and the Republic.

Fishing in the Bay has been very little developed. Cod, a certain kind of salmon and tullibeas are found in certain quantities. The findings of the special committee in their investigation on the fishery resources of Hudson Bay and Strait brought forth this statement,

"That the waters of the strait and rivers tributary to the Bay teem with fish and valuable marine animals, and we believe that the Bay is equally well stocked but there has not been sufficient data collected as to the extent of the fisheries of the Bay to enable an authoritative statement to be made as to their value." (2)

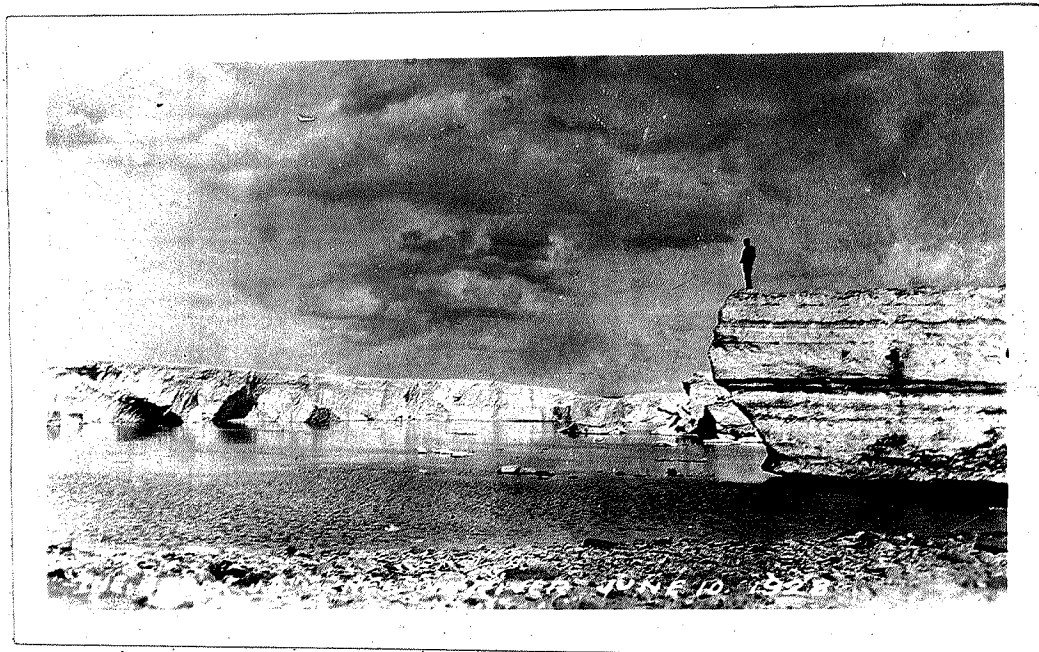
Water-power.

The water power possibilities of northern Manitoba and north-eastern Saskatchewan are very promising. There is sufficient potential power in the falls and rapids of both the Churchill and the Nelson rivers for the development of industries yet unforeseen. The great water-power resource will be of inestimable value in the development of the mineral and pulp industries alone. Whitemud Falls on the Nelson has a capacity of 180,000 continuous 24 hour horsepower at minimum flow. On the Churchill, there are two sites suitable to develop for exploitation of the mineral resources of The Pas Belt. Island Falls with 76,000 h.p. and

(1) P.18. The Natural Resources of N. Man. & H. Bay.
 (2) P. 7. Report of Special Committee -- 1920.



WHITE MUD FALLS - NELSON RIVER



NELSON RIVER - THE SPRING BREAK-UP.

Bloodstone Falls with 42,000 h.p. The former is being developed for power in connection with Flin Flon. (1)

Incalculable amounts of hydraulic power are within transmission distance of the Hudson Bay Railway. The following are estimates given by the Dominion Water Power Branch as a result of their investigation:

Location	No. of sites.	Heads in feet.	Ordinary min. flow in second feet.	h.p. at ordinary min. flow 80% efficiency.
Nelson, Man.	22	6-52	50,000	2, 443, 320.
Churchill, Sask.	8	8-70	3,800- 20,000	255, 870.
Churchill, Man.	8	10-34	20,400 24,000	325, 500.
Hayes, Man.	20	5-56	65- 506	7, 611.
Reindeer, Sask.	4	5-30	1,600	93, 070.
Sturgeon-Weir-Sask.	3	10-30	1,200	5, 660.
Saskatchewan, Man.	3	10-57	5,970	58, 614.
Burntwood, Man.	4	34-84	405- 550	9, 060.
Grass, Man.	5	37-55	110,338	5, 131.

Nelson River horsepower for eleven rapids is distributed thus:

Rapid	Approximate Head in feet.	Estimated Horsepower.
Limestone Rapid	85	1,140,000
Long Spruce	85	1,140,000
Kettle	96	1,290,000
Gull	67	900,000
Birthday	24	320,000
Grand	20	270,000
Rapids above Sipiweck Lake	31	416,000
Bladder	10.6	147,000
Whitemud	30	403,000
Ebb-and-Flow	11	148,000
Rapids above Cross Lake	45	605,000 (2)

(1) From notes prepared by Dominion Water Power and Reclamation Department, Ottawa. (2) P. 38. The Hudson Route (2) On-to-Bay Assn.

SECTION SIX.Economic Phases.

The Hudson Bay railway has made possible the hope of an inland people, for easy access to the sea has always been considered of vital importance to the economic and competitive development of a country. Steel now links Western Canada with oceanic transportation which in its turn connects at a relatively low cost, the produce of the prairies with the markets of Europe. The resources of the Prairie Provinces, of which the fertile prairies are the fields of extensive and permanent agriculture; the woods the newsprint of tomorrow; the lakes the scene of old established fisheries; the waterpower the envy of nations; the wild life the source of much wealth in furs, and the mineral deposits rich beyond expectation, amply justify the development of primary industries, the surplus production of which can the more cheaply be placed on the markets of the world by use of the Hudson Bay route.

It is essential that this route should have all the necessary safeguards to navigation, such as accurate charts, reliable tidal information, modern aids to navigation and powerful and efficient ice-breakers, so that this waterway may have the confidence of the shipping interests and develop a good reputation. The measure of success obtained from any water transportation route depends to a great extent upon the safety aids and devices provided for the vessels making use of it. Every effort is being made to make the Strait safe and attractive. All the modern conveniences

and aids to navigation are strongly recommended by the several official expeditions of investigation, especially by the Expedition of 1927-28. Reliable charts with points and headlands accurately fixed by astronomical observations, and a record of the behavior of the tides, especially in the west end of the Strait are again suggested to the Department of Marine and Fisheries. Of other aids to be established Direction Finding Stations should be first. During 1928, one such station was built, calibrated and put into operation at Cape Hope's Advance, and the Nottingham wireless station was converted into a D. F. S., although it was not calibrated. Resolution Island, Charles Island, Coates or Manseel Island, are recommended as sites for additional stations. A light at each of these stations would further help navigation. At least two modern ice-breakers should be assigned to the Hudson Bay route - one at Port Churchill and the other at some suitable post in the Strait. (1) It is found that by use of ice-breakers in the St. Lawrence, the upper stretches of the river are opened earlier, traffic is speeded up through the ice fields in the gulf and in the late fall ships are aided or escorted to sea through the newly forming ice. The knowledge that an ice-breaker is within call gives Masters, owners and the shipping interests generally (2) more confidence in using that particular waterway.

The development of Churchill as an export and import centre depends upon the length of season the Strait will permit

(1) Report of Hudson Strait Expedition 1927-28.

(2) P.27. The Hudson Bay Route. (No.2) On-to-the-Bay Association.

navigation. This season under present conditions is at least four months in length, and may by reasons of improvements in aids to navigation be considerably increased.⁽¹⁾ If in these four months and more, profitable commercial transportation can be developed, then Churchill will rank as one of the outstanding ports of the continent and compare most favorably with Montreal or even New York.

J. B. Tyrell, Mining Engineer of northern experience, says "It is one of the most magnificent harbours in the world."

Lieutenant Gordon in the 1886 report claims

"The harbour (Churchill) is admirably suited for a railway terminus Nature seems to have left very little to be done in order to make it a capacious port fit for doing business of great magnitude."

Mr. F. Palmer in his report in 1927 says:

"The advantage lies with Churchill where there is no practical limit either to length of the wharf which can be built or the draught of vessel which can be accommodated."

With no disadvantage as a harbour, it has a tremendous advantage in that it cuts distance to the European markets by many hundreds of miles. It brings Western Canada and the Western United States much closer to the ports of the Old World than Vancouver, Montreal or New York can, and shortens the distance from the Orient to Europe.

(1) P. 9. Report of Special Committee 1921.

The following is a table of relative distances:

From	To	Distance	Route.
Churchill	Liverpool	2929 mi.	Via H. B.
Montreal	"	3007 "	
Vancouver	"	5892 "	Via C.P.R. to Montreal.
"	"	9930 "	Via Panama.
New York	"	3040 "	
Japan	"	12038 "	Via New York.
"	"	11019 "	Via Montreal.
"	"	9902	Via Churchill.
Winnipeg	"	4693 "	Via Chic.- Montreal.
"	"	4418 "	Via C.P.R. to Montreal.
"	"	3919 "	Via Churchill.

(1)

In every instance the saving in mileage is in favor of Churchill.

What the saving in rail haul means may be gleaned from a comparison of the land routes:

From	Via rail To Montreal	Via In.Lakes Churchill	Via rail	Saving in favor of Churchill.
Winnipeg	1357 mi.	1633	933	424 to 500 miles
Brandon	1492 "	1767	937	455 " 630 "
Regina	1713 "	1990	843	870 " 1047 "
Saskatoon	1828 "	2133	847	981 " 1286 "
Edmonton	2158 "	2464	1146	1012 " 1218 "
Calgary	2260 "	2466	1246	1014 " 1220 "

(1) Hudson Bay Route. (No.2) On-to-the Bay Association.

The average saving in rail transportation for Manitoba, Saskatchewan and Alberta is almost a thousand miles. This average will be considerably increased when the branch lines linking up Western centres with short cuts to the Hudson Bay Railway are completed. There is a strong agitation in Winnipeg at the present time to build a more direct route to the Bay⁽¹⁾. At present the only rail connection for southern Manitoba is via Hudson Bay Junction, a 993 mile run from Winnipeg. Three possible routes of a short cut from Winnipeg have been suggested:

"Winnipeg to Churchill via east side of Lake Winnipeg	700 miles
Between the lakes	818 "
Mafeking cut off	835 "

If the first route is used, new mineral fields and pulpwood areas would be opened, while the suggested route between the lakes would be much less expensive as the Canadian National Railways have in operation a line between Winnipeg and Gypsumville. The building of a more direct route from Winnipeg would provide a means for trade transportation from the middle Western States. Saskatoon has plans for a much shorter route to join the northern railway, by means of the cut off between Aberdeen and Melfort.⁽²⁾ The route from Regina has been shortened by some 78 miles by the completion at the end of March 1930 of the line from Sturgis to Hudson Bay Junction.⁽³⁾

- (1) Free Press. March 1930.
 (2) P.14. On-to-the Bay Association 1929.
 (3) Edmonton Journal March 27, 1930.

Distances from various Western Points to Liverpool.

From	Via Great Lakes	Via Panama	Via Churchill (present routes)
Winnipeg	4393 mi.		3919 mi.
Brandon	4527 "		3863 "
Regina	4750 "		3769 "
Saskatoon	4878 "		3773 "
Calgary	5226 "	10,572 mi.	4172 "
Edmonton	5224 "	10,701 "	4072 " (1)

Much influence is being brought to bear upon the powers that be to connect existing Northern Alberta railways with main lines leading both to Vancouver and Prince Rupert to turn the flow of Alberta grain westward. Up to February, 1929, 60,000,000 bushels of grain had passed through the Port of Vancouver. (2)

The advantages of the shorter rail haul and ocean transportation via Hudson Bay should to some extent offset this unnatural direction to Liverpool, for by the Panama Canal, Calgary and Edmonton are 10,572 and 10,701 miles respectively from Liverpool, while by the Hudson Bay route 4172 and 4072 miles respectively, separate them from this English port. By the charter granted to the Canadian Pacific and Canadian National Railways in 1929 for Branch line construction in Northern Saskatchewan and Alberta, it is reasonable to suppose that these railways are considering the

(1) On-to-the Bay Association. 1929.

(2) Vancouver Daily Province Feb. 15, 1929.

the Hudson Bay Route as the natural outlet for the Peace River area. (1)

The Bay route in reducing the number of miles of land travel should in the ordinary course of events reduce the cost to the farmer in his export of grain, cattle and dairy products. The short land haul to the Bay and the short sea route through cool latitudes will land Western cattle in Britain in much better condition than is possible when they are shipped by the long rail route to Montreal or St. John.

Freight Rates. (2)

The following is an estimated comparison of rates on grain, cattle and dairy products from Western Canadian points:

Grain Rates.

(Rates in cents per 100 pounds.)

From	To				In favor of		
	Churchill	Ft. Wm.	Montreal	All east.	Vancouver.	Fort Mont.	Van- couver.
Winnipeg	23	14	48 $\frac{1}{2}$	No rates	.....	25 $\frac{1}{2}$	.....
Portage-la-Prairie	22	15	49 $\frac{1}{2}$	- -	.....	27 $\frac{1}{2}$	.....
Brandon	23	16	50 $\frac{1}{2}$	- -	.....	27 $\frac{1}{2}$	.....
Regina	23	20	54 $\frac{1}{2}$	26	.....	31 $\frac{1}{2}$	.03
Saskatoon	22	22	56 $\frac{1}{2}$	24	.....	34 $\frac{1}{2}$	.02
Prince Albert	20	23	57 $\frac{1}{2}$	25	.03	37 $\frac{1}{2}$	.05
Moose Jaw	23	20	54 $\frac{1}{2}$	25	.....	31 $\frac{1}{2}$	.02
North Battleford	22	23	57 $\frac{1}{2}$	24	.01	35 $\frac{1}{2}$	.02
Edmonton	25	26	60 $\frac{1}{2}$	20	.01	35 $\frac{1}{2}$	.....
Calgary	26	26	60 $\frac{1}{2}$	20	.....	34 $\frac{1}{2}$	.....
Weyburn	24	19	53 $\frac{1}{2}$	28	.....	29 $\frac{1}{2}$	.04
Vermilion	24	25	59 $\frac{1}{2}$	22	.01	35 $\frac{1}{2}$	.....

(1) Edmonton Journal, April 10th, --12th, 1930.

(2) P. 11. The Hudson Bay Route No2. On-to-the-Bay Association.

Cattle Rates in cents per 100 lbs.

From	To								
	In favor of Churchill.					In favor of Churchill.			
	Churchill	Montreal Ft. Wm.	Halifax all St. East John	Halifax St. Vancou- ver.	Montreal Ft. Wm.	Halifax all St. East John	Halifax St. Vancou- ver.	Montreal Ft. Wm.	Halifax all St. East John
Winnipeg	57	35	85	91½	85½	....	28	34½	28½
Portage-la Prairie	55	37	86	92½	85	....	31	37½	30
Brandon	56	40	88	94½	82	....	32	38½	26
Regina	56	50	107	113½	76½	....	51	57½	20½
Saskatoon	52	54	112½	119	76	.02	60½	67	24
Prince Albert	50	56	113½	120	78	.06	63½	70	28
Edmonton	63	62	114½	121	56	....	51½	58	....
Calgary	67	62	114½	121	56	....	47½	54½	....

(1)

Butter and Dressed Poultry 20,000 Pounds.

From	To								
	In favor of Churchill.					In favor of Churchill.			
	Church- ill.	Montreal Ft. Wm.	Halifax all St. East John	Halifax St. Vancou- ver.	Montreal Ft. Wm.	Halifax all St. East John	Halifax St. Vancou- ver.	Montreal Ft. Wm.	Halifax all St. East John
Winnipeg	161	84	178½	158½	233	....	17½	24½	72
Portage-la Prairie	158	96	190½	197½	230	....	32½	39½	72
Brandon	161	110	204½	211½	224	....	43½	50½	63
Regina	161	141	241½	248½	200	....	80½	87½	39
Saskatoon	147	153	259½	266½	197	.06	112½	119½	30
Prince Albert	138	161	268½	275½	201	.23	130½	137½	63
Edmonton	182	192	307½	314½	145	.10	125½	132½	....
Calgary	192	192	307½	314½	145	....	115½	122½	....

(2)

(1)

(2) P.11. The Hudson Bay Route, 1929. On-to-the-Bay Association.

Sir Henry Thornton, in an article in the Saturday Evening Post says

"For years people discussed whether the Hudson Bay Railway could live once it were built. There was the problem of whether the grain haulage would be sufficient for revenue. Now the road has been built and it can live if it never hauls a sack of grain. One of the great mineral fields of the world is up there, smelters are rising, water power is being harnessed, millions are pouring into the country."

Mr. J. B. Tyrell in his evidence before the Select Committee of 1921 remarked

".... I have the utmost confidence in the railway to Hudson Bay being of economic value to the country. I firmly believe that when that railway is completed to the Bay and a harbour is constructed, it will be of great service in both export from and import to the Northwest. If was largely due to the fact that the Hudson Bay railway was under construction that new mining areas were discovered to the west of the road."

The road should not be an exporting one only, for importers and Western manufacturers should use the route to a great extent. Raw materials for these manufacturers of the west and manufactured goods from European markets will make Churchill a busy customs centre. At York Factory, according to the statistics for the year 1925-26, revenue of \$2,285,43 was collected, of this \$1,633.44 was import duty and \$504.95 excise taxes. (1) The Hudson's Bay Company's ship, the Nascopie, brings to York the year's supplies and merchandise in August for the posts along the Bay. Surely with railway facilities and a prosperous

(1) Free Press. Feb. 21, 1926.

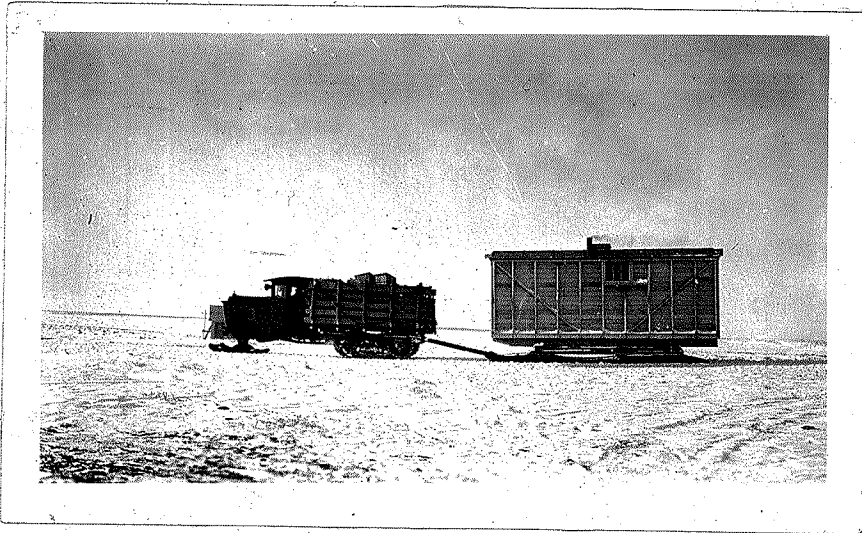
growing West, the importations via the Bay will steadily increase.

That the line will, in time, become a strong factor in the removal of grain from the fields of the Dakotas and Montana is not at all far-fetched. American statesmen are not unaware of this possibility for as early as 1908, N.S. Senator Davis intimated that if the road were opened up much trade of the western state would be diverted to it, and the Canadian lines would get the benefit of a large carrying trade. He even went so far as to suggest an enlargement of the canal at Ste. St. Marie to increase the volume of freight via American ports.⁽¹⁾ This Canadian handling of American freight will mean added receipts for our railways and will at least partially compensate for the freight revenue now going to American companies on that portion of the Canadian crop shipped from Buffalo to New York and United States ports, which amounted to 11,394,652 bushels of the 1925-26 Canadian crop.⁽²⁾

It is reasonable to assume that the completion of the Hudson Bay Railway will direct to this all Canadian route a large percentage of our trade which in the past has been carried over American roads. This will develop in Canada a sense of national independence and will tend to overcome that inferiority complex which has hindered Canadian development in the past. The C.P.R. was built to save British Columbia for Canada. If the Hudson

(1) P.6320 Vol.4. '08 House of Commons Debates.

(2) P.34. Progress and Possibilities No.I. On-to-the-Bay Association Sept. 1928.



HAULING SUPPLIES TO CHESTERFIELD INLET.



LUKE CLEMENS' STORE AT MILE 412.

Mr. Clemens is a cousin of the late Mark Twain.

Bay Railway will even in a small way help to promote a national consciousness, it will have been worth the time and money expended upon it. We have a wonderful country, full of possibilities and it is significant that this truly Canadian project is completed at a time when national consciousness is awakening.

Canada no longer thinks of herself as a narrow strip of land facing the United States. Our eyes are turned northward, every year the value of this great hinterland is more apparent. It has lost its false reputation as the frozen north - the 'barren' lands. At the present time both Saskatchewan and Alberta are seeking to extend their north boundary even into the Arctic Sea.

With the completion of the railroad, the question of freight rates looms high. The Cabinet believes that as far as grain rates across the prairies to Churchill is concerned, the Crows' Nest Pass rates will be effective. The water rates and Marine Insurance rates will present the worst problem. It is probable that the marine insurance companies which now maintain excessive and discriminating rates against all Canadian ports as compared to American ports will fix a prohibitive marine insurance premium against ships trading in Hudson Bay. In that case, ship owners would have to charge enormous rates in their turn in order to clear expenses. The Canadian government has considered carrying the grain in chartered vessels guaranteeing a certain profit to the owners of the boats, and charging the

bare costs of the experiment to the grain shippers. (1)

The government boats operating through the Strait in 1914 were asked to pay a 11% rate per voyage as a premium, with the consequence no insurance was taken out. Thirty-eight voyages were successfully made. (2)

W. M. Thresher, formerly of the United Farmers of Canada, suggests that in order to get accurate knowledge of the commercial costs, the Saskatchewan wheat pool set aside a certain amount of wheat to be shipped via Churchill in Dominion Mercantile vessels. (3) By such a practical method much valuable data re costs would be obtained.

There are also tramp steamers to consider. These will, no doubt, be anxious for the carrying trade and will thus protect the Western shipper considerably from the heavy rates set by the North Atlantic Combine. The question of marine rates at present is a vexed problem and the parties concerned are alive to its importance. Whether or not the excessive rates will offset the advantage gained in distance, the future alone can answer.

The North will justify the building of the Hudson Bay Railway. The Honourable Vincent Massey before the annual meeting of the American Association of Engineers, defends this statement, -

(1) Free Press January 7, 1929.

(2) P.29. The Natural Resources of N. Manitoba & H. Bay.

(3) Free Press Oct. 25, 1928.

"Mineral wealth has been discovered within the area it serves Our railways and our mines have always been closely related. Lines which seem to be built from over-confidence have justified themselves by the minerals they have tapped." (1)

Already the Hudson Bay Railway has carried its initial cargo of wheat to Liverpool.⁽²⁾ The construction of the new railway has opened a new era in transportation to and from the Prairie Provinces and to mark this event, the Hudson's Bay Company had transported one thousand, two pound sacks, from Winnipeg over the temporary rails to Churchill, hence overseas to Liverpool where it was landed by the Company's ship *Nascopie* on the 10th of October, 1929.

Lord Willingdon, Governor General of Canada, made a presentation during the week of March 10, 1930, to the Dominion Archives of a small bag of this wheat which had been sent to him by the Hudson's Bay Company. This bag was marked No. 1. At the same time, the Dominion Archives received a sample pound marked 14. The following letter which accompanied the portion sent to Ottawa is of interest to Canadians at the present time and will be interesting history in years to come:

London, Jan. 3rd, 1930.

Dr. A. G. Doughty,
Dominion Archives, Ottawa.

Dear Sir:

We have pleasure in sending for your acceptance a sample

(1) Edmonton Journal, Mar. 7, 1929.

(2) Yorkton Enterprise Sept. 23, 1929, Selkirk Record Mar. 20, 1930.

of Canadian wheat, 1929 crop, being part of the first shipment by the new route from the Prairies via Hudson Bay to the United Kingdom.

This shipment, prepared by Messrs. James Richardson & Sons, Ltd., of Winnipeg, was made possible by the courtesy of Hon. Charles Dunning, Canadian Minister of Railways, who kindly gave facilities for the use of the temporary rails as soon as they were laid to Churchill in the month of September. The permanent way, the terminal works, the docks and grain elevators are in course of construction and will all be ready for operation when the harbor works are completed in 1931.

This event will open a new chapter in the history of Churchill so named in 1688 in honor of John Churchill the first Duke of Marlborough and governor of Hudson's Bay Company from 1685 to 1691. The selection of this port as the terminus of the railway adds interest to the following extracts from the Company's record.

London Minute Book, 13th October, 1686: "Captain Abraham, late governor at Port Nelson, came before ye committee acquainting yem of his proceedings yere and how he did ye last Spring sayle 50 leagues northward of Port Nelson & discovered there a faire river. Ordered he bring in writeing the said discovery."

London Minute Book, 8th February, 1688: "This committee does resolve and agree as followeth: That Churchill River bee Settled this yeare with a good shippe a competent cargoe for Trade and Materials for White Whale fishing."

Churchill report of Chief Factor, Thomas Staynes, 1797: "The harbour of Churchill is the finest in the bay, for the ship, and where her cargoes could be soonest discharged."

Yours faithfully,

Charles V. Sale, Governor. (1)

What the grain movement of the West via Churchill will mean to Western development is as yet a matter of conjecture, but no doubt its influence on the City of Winnipeg will be most

(1) Selkirk Record March 10, 1930.

marked. Hitherto all western grain shipped eastward has passed through this city, so that it has become the greatest grain trading centre in the world. But wheat shipped by Churchill will follow the most direct route to the terminal, which route will not touch the Manitoba capital. Financial interests in Winnipeg are not unmindful of this possibility and they have sought charters for more direct lines to the northern outlet.

CONCLUSION.

The development of the trade routes of a new country ^{is} ~~are~~ helped or delayed in various ways. The causes governing speedy development are natural -- the follow-up of routes of discovery or colonization, the possibilities of financial gain to the promoters of private enterprises, or the political expediency with a governmental project; the hindrances are both natural and artificial -- the handicaps due to Nature are both climatic and geographic, and the artificial is practically one, that of the opposition of vested interest in rival routes. In the Hudson Bay route these factors have all played a part. The early settlement of the West entered by this route and for two hundred years most of the commerce of the country was shipped this way. ⁽¹⁾ In all probability this early use of the Hudson Bay route would have steadily developed, had the Hudson's Bay Company, a private corporation, in their desire to keep intact the monopoly of the fur-trade of Rupert's Land, not thrown every obstacle and discouragement in the way, even to the length of suppressing the private trade of the settlers. ⁽²⁾ In 1871 British Columbia came into the Confederation of Canadian Provinces with the distinct understanding that direct rail and

(1)

FP. Section I p. 7

(2) See Section I p. 8, 9.

telegraphic communication be established with Eastern Canada. This led to the building of the Canadian Pacific Railway, which should have satisfied Manitoba's demand for railway facilities, but in the safeguarding of the promoters of the road, certain clauses giving monopoly to the territory south of the main line and control of the existing road, were incorporated in the Charter.⁽¹⁾ Virtually this meant control of the freight rates by the C. P. R. and tended to direct the attention of the Manitobans toward the northern outlet. In order to overcome the restriction set by the monopoly clause, many charters were granted by the Province to build lines of communication to the Bay, which charters were promptly disallowed by the Dominion. This state of affairs carried on until 1888, when the clause was rescinded by the Federal Parliament, only after Manitoba had threatened to secede.⁽²⁾ Competing railways from the south now allowed to come in helped the freight rate situation, so with the quashing of the monopoly clause the agitation for the northern route subsided.

In 1905, following a period of most rapid development and expansion, the two new provinces of Saskatchewan and Alberta were formed.⁽³⁾ The volume of Western grain had so increased, that the carrying capacity of the existing lines was over-burdened and a serious grain blockade resulted. This again focussed the attention of the West on the Hudson Bay route as an outlet for the wheat crop. From now on, the project became a veritable

- (1) See Section 1. Pp. 15, 16.
- (2) See Section 1. P. 18.
- (3) See Section 11. Pp. 22, 23.

political football, both parties in the Federal House were in favor of building the road, ⁽¹⁾ but eastern capital vested in eastern development schemes became a strong opposition. Although actual construction was commenced as early as 1910, progress was very slow, as each party was using the building of the line for political expediency. But despite the delays and the actual closing down of work, both on the railway and the terminal in 1917-18, the backers of the project through perseverance and tenacity made the Hudson Bay Railway an actuality, when steel reached Churchill in the spring of 1929. ⁽²⁾

The Port of Churchill, the terminal of the Hudson Bay Railway, has been thoroughly investigated by a world-renowned engineer in the person of Mr. Frederick Palmer, whose report gives this harbour a most enviable prospect, ⁽³⁾ while recent and modern investigation of the Strait of Hudson Bay leaves no doubt that navigation is feasible and shipping can be carried on for at least four months each year.

Twenty years ago, the primary object of building the Hudson Bay railway was to secure another outlet to Europe for the grain crop of the West, but recent developments in areas adjacent to and opened up by this road are such as to give an entirely new value to the importance of the route. In the

- (1) See Section II. p. 23
- (2) See Section II. p. 26, 30
- (3) See Section IV. p. 64, 65.

opinion of such eminent authorities as Sir Henry Thornton and the Hon. Mr. Vincent Massey, the mineral wealth alone justified the building of the railway even if no grain be shipped.⁽¹⁾

With each succeeding generation new angles of economic importance of this route have developed, so that it is unwise to attempt any forecast of the future. One thing is certain though and that is, that the development of the mineral resources of the New North here on the threshold of the West will promote industrial progress in the Prairie Provinces, which in turn will strengthen the market for agricultural products. This bringing of industrial and agricultural interests closer together will make for a mutual understanding of each other's problems.

The Federal Government by sponsoring the final work has raised the question from Provincial to Dominion importance. The completion of the docks at Churchill in 1931 will bring to a successful conclusion the agitation of half a century and usher in an era of expansion which will justify in their entirety the expenditures on the Hudson Bay Route.

.....

(1) See Section VI p. 89 - 90.

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IV. Pictures.

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