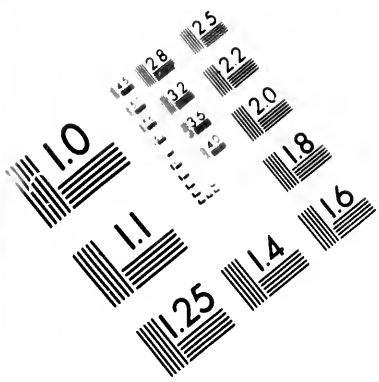


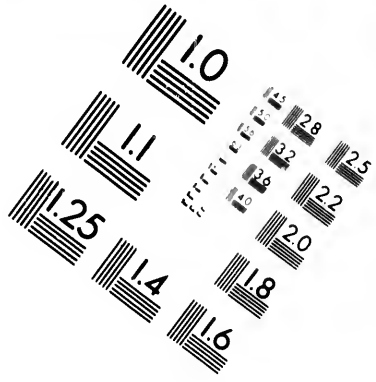
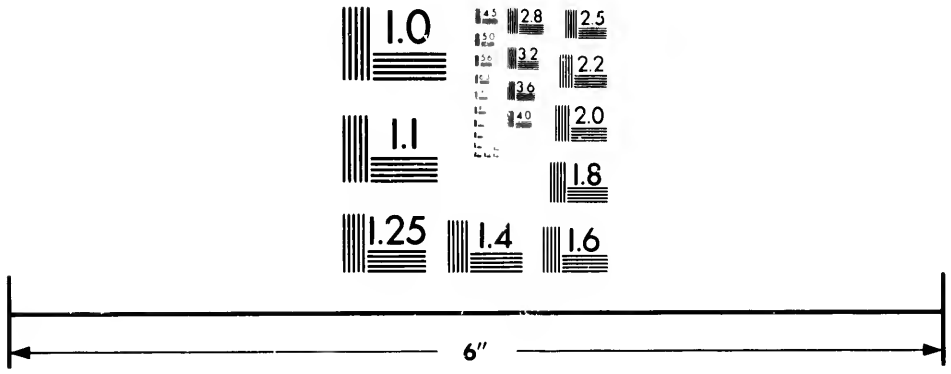
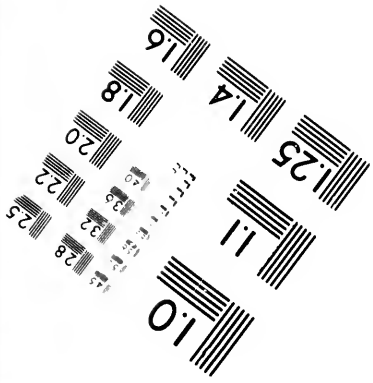
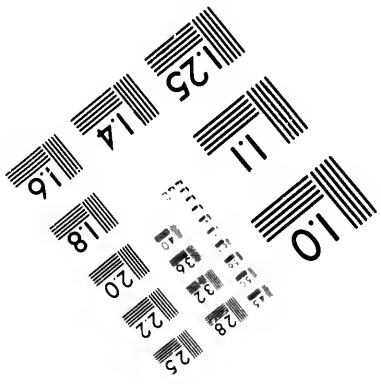


IMAGE EVALUATION TEST TARGET (MT-3)







Photographic Sciences Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

Technical and Bibliographic Notes/Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- [x] Coloured covers/ Couverture de couleur
- [ ] Covers damaged/ Couverture endommagée
- [ ] Covers restored and/or laminated/ Couverture restaurée et/ou pelliculée
- [ ] Cover title missing/ Le titre de couverture manque
- [x] Coloured maps/ Cartes géographiques en couleur
- [ ] Coloured ink (i.e. other than blue or black)/ Encre de couleur (i.e. autre que bleue ou noire)
- [ ] Coloured plates and/or illustrations/ Planches et/ou illustrations en couleur
- [ ] Bound with other material/ Relié avec d'autres documents
- [ ] Tight binding may cause shadows or distortion along interior margin/ La reliure serrée peut causer de l'ombre ou de la distortion le long de la marge intérieure
- [ ] Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/ Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- [ ] Additional comments:/ Commentaires supplémentaires:

- [ ] Coloured pages/ Pages de couleur
- [ ] Pages damaged/ Pages endommagées
- [ ] Pages restored and/or laminated/ Pages restaurées et/ou pelliculées
- [x] Pages discoloured, stained or foxed/ Pages décolorées, tachetées ou piquées
- [ ] Pages detached/ Pages détachées
- [x] Showthrough/ Transparence
- [ ] Quality of print varies/ Qualité inégale de l'impression
- [ ] Includes supplementary material/ Comprend du matériel supplémentaire
- [ ] Only edition available/ Seule édition disponible
- [ ] Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best possible image/ Les pages totalement ou partiellement obscurcies par un feuillet d'errata, une pelure, etc., ont été filmées à nouveau de façon à obtenir la meilleure image possible.

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X

The copy filmed here has been reproduced thanks to the generosity of:

National Library of Canada

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ▽ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:

L'exemplaire filmé fut reproduit grâce à la générosité de:

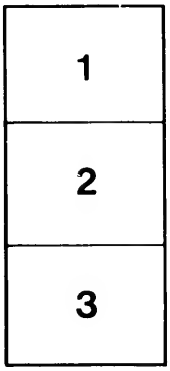
Bibliothèque nationale du Canada

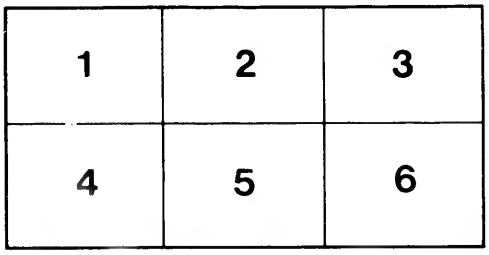
Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ▽ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.



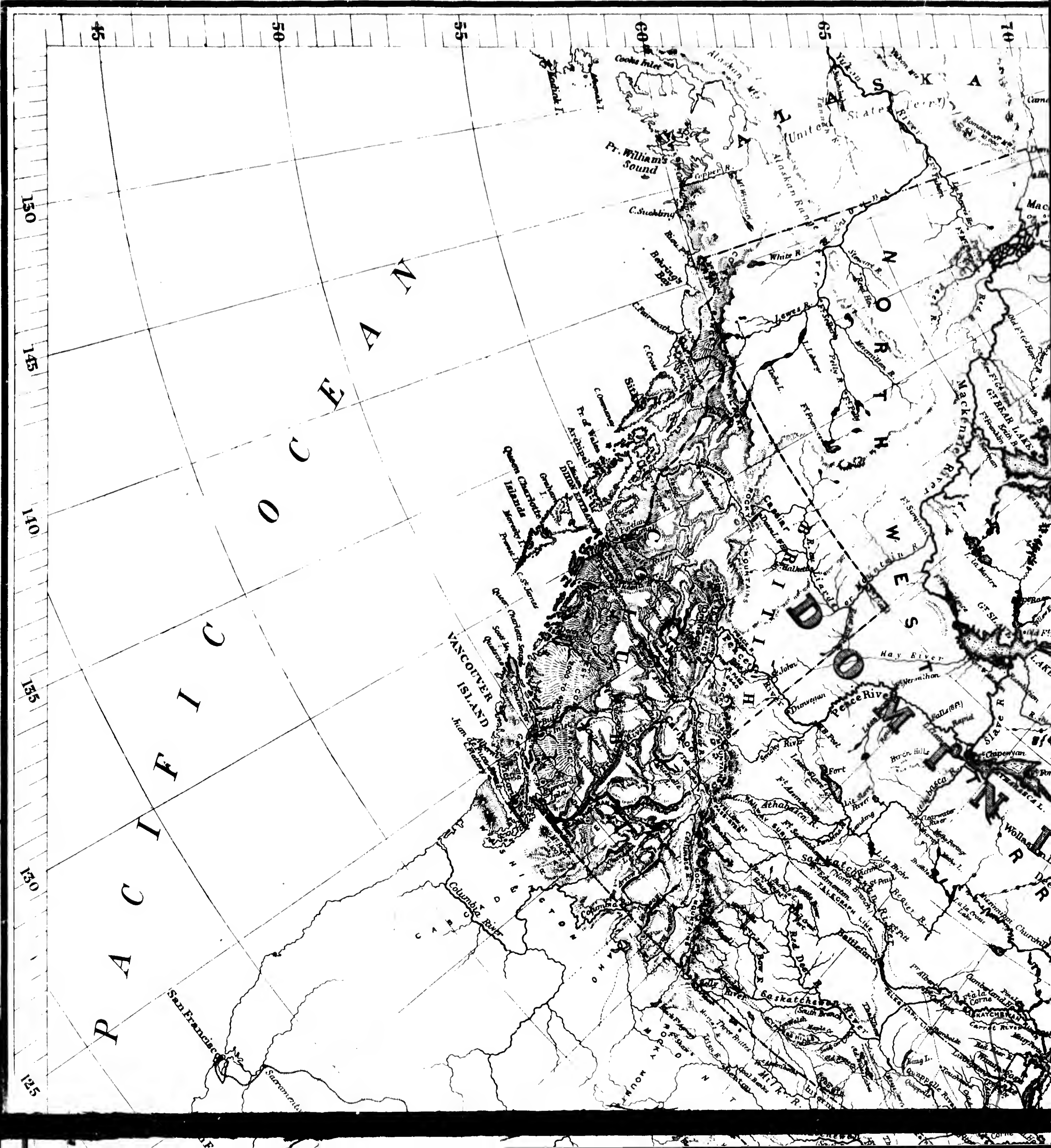


32X

IC

GRAPH

ISH



45
50
55
60
65
70
150
145
140
135
130
125
PACIFIC OCEAN
ALASKA
United States Terr'y
NORTH WEST
DOMINION
Cooks Inlet
Pr. William's Sound
C. Suckling
Copper R.
Behring's Bay
White R.
Lewes R.
Yukon
Queen Charlotte Islands
VANCOUVER ISLAND
Mackenzie River
Peace River
Hay River
Smoky River
Athabasca R.
Slave R.
Chipewyan
Columbia River
Saskatchewan River
Battleford
San Francisco

70
75
80
85
ARCTIC SEA
Beaufort Sea
Camden B.
Demarcation Pt.
Herschel I.
Mackenzie Bay
Richards I.
Melville Island
Prince Patrick
M'Clure Str.
Banks Land
Baring Land
Melville Sound
Pr. of Wales Str.
Pr. Albert Land
Wollaston Land
Victoria Land
Coronation Gulf
Bathurst Inlet
Barrow Str.
Bathurst Island
North Cornwall
Grinnell Land
Ellesmere Land
Grinnell Ld.
Lady Franklin Sd.
Hall Land
Washington Land
Peabody Bay
Hayes Sd.
Smith Sound
Inglefield Ld.
Prudhoe Ld.
C. Parry
North Lincoln
Jones Sound
North Devon
Lancaster Sd.
North Somerset
P. Regent Inlet
Franklin
Boothia
Gulf of Boothia
Cockburn Island
King Wm. Land
BAFFIN BAY
Melville Bay
C. York
Ponds Inlet
C. Bowen
Scott Inlet
River Clyde
Isabella B.
C. Kater
Home Bay
C. Searle
Melville Peninsula
Fox Channel
Fox Land
L. Kennedy
Southampton I.
Chesterfield Inlet
Penny Land
Cumberland Sound
C. Mercy
Frobisher Bay
Resolution I.
Hudson Strait
C. Chudley
Ungava B.
Mosquito Bay
C. Southampton
Fisher Str.
Evans Str.
Mansfield I.
Charles I.
Nottingham I.
Salisbury I.
HUDSON BAY
Churchill River
Port Nelson
Nelson River
C. Tatnam
Fort Severn
Mackenzie River
Gt. Bear Lake
Gt. Slave Lake
Old Ft. Providence
Ft. Chipewyan
Fond du Lac
Athabasca L.
Wollaston L.
Deer L.
Cumberland Ho.
Pr. Albert
Norway Ho.
Ft. Simpson
Hay River
Ft. Vermilion
Peace River
Slave R.
Back R.
L. Garry
Wager R.
Kendall
C. Fullerton
Ft. Churchill
Churchill Harbour
Indian or Big L.
Churchill or English R.
Carrot River
Saskatchewan
Red Deer R.
Long L.
Qu'Appelle River
DOMINION OF CANADA
DISTRICT OF KEEWATIN
NORTH WEST TERRITORIES
ALASKA

80 75 70 65

GREENLAND SEA

Arctic Circle

Meridian of Greenwich

Shetland Is.

Faeroe Is.

ICELAND

GREENLAND

Disko

Disko Bay

DAVIS STRAIT

Holsteinborg

Godthaab

Lichtenau

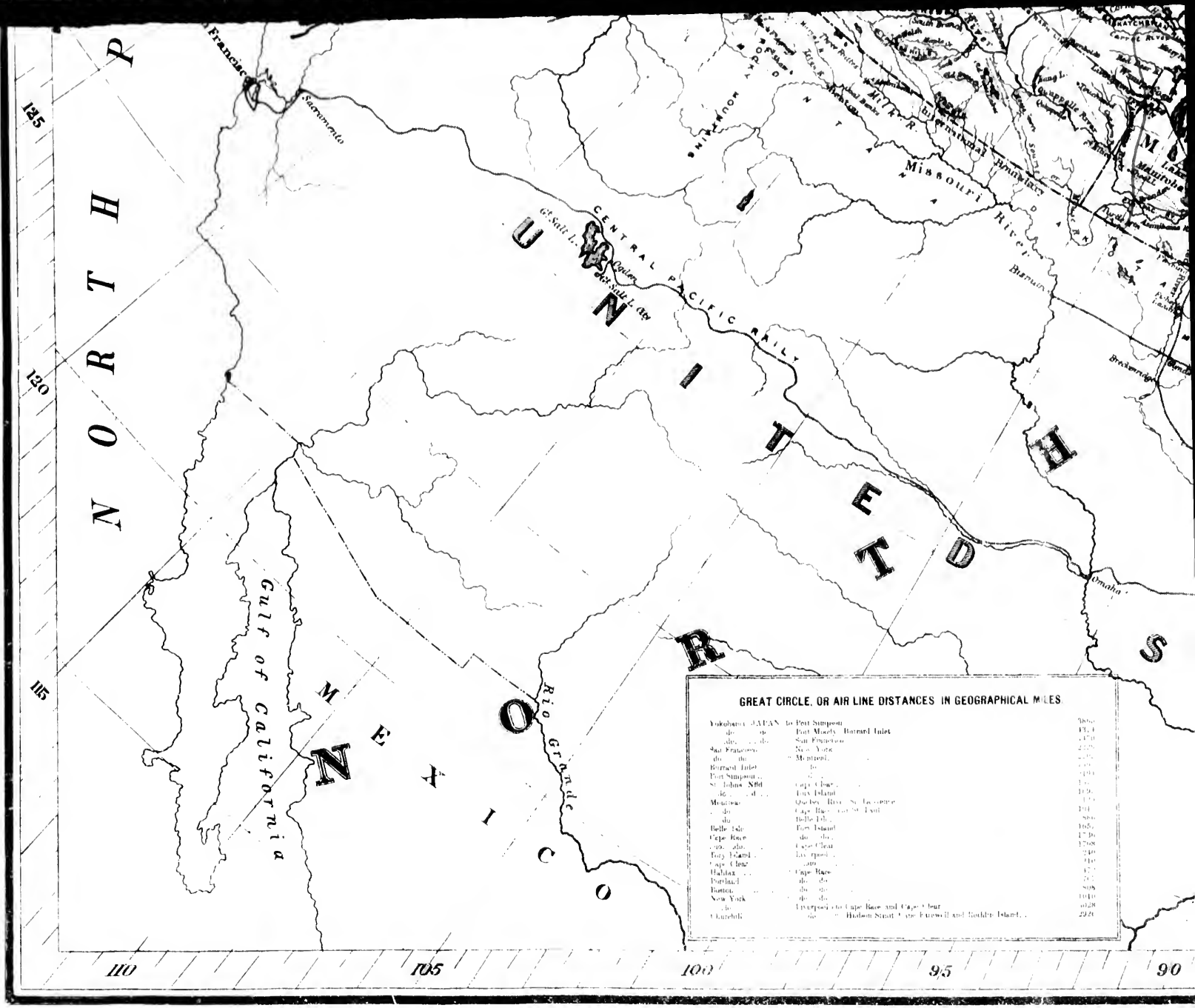
Frederikshaab

C. Farewell

CHURCHILL TO LIVERPOOL 2926 MILES

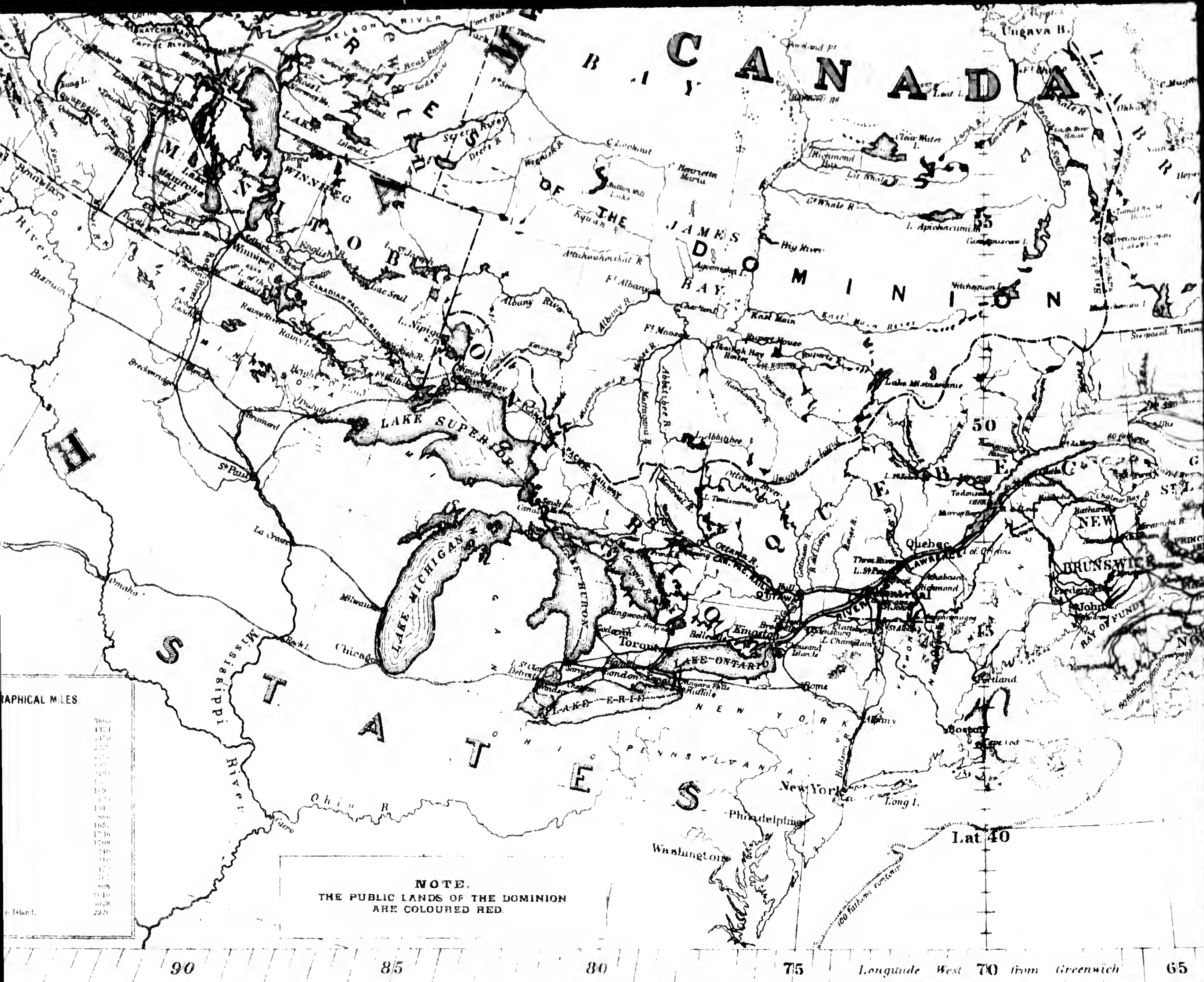
OCEAN


MAP OF THE
OCEAN
Faroe Is.
Shetland Is.
Orkney Is.
Hebrides
SCOTLAND
BRITISH ISLANDS
IRELAND
Galway B.
Dublin
IRISH SEA
Liverpool
ST GEORGE'S CH.
WALES
ENGLAND
Sally Is.
Str. of Dover
ENGLISH CHAN.
Guernsey
Jersey
Caen
Havre
Paris
BAY OF BISCAY
PORTUGAL
Lisbon
SPAIN
Madrid
Gibraltar
MEDITERRANEAN SEA
Skagerrak
NORWAY
Christiania
SWEDEN
DENMARK
Heligoland
Hamburg
NETHERLANDS
Amsterdam
Rotterdam
Brussels
BELGIUM
Berlin
GERMANY
FRANCE
SWITZERLAND
Geneva
AUSTRIA
ITALY
Venice
ADRIATIC SEA
65
60
55
50
45
10
5
0
5
10
Longitude East from Greenwich.



GREAT CIRCLE, OR AIR LINE DISTANCES IN GEOGRAPHICAL MILES.

Yokohama	JAPAN to Port Simpson	3850
do	do Port Moody, Burrard Inlet	4340
do	do San Francisco	5470
San Francisco	New York	2550
do	do Montreal	2500
Burrard Inlet	do do	2400
Port Simpson	do do	2400
St. Johns, Nfld	Cape Clear	1700
do	do Fort Island	1900
Montreal	Quebec, River St. Lawrence	1400
do	Cape Race, via St. Paul	1940
do	Belle Isle	1800
Belle Isle	Fort Island	1650
Cape Race	do do	1750
do	do Cape Clear	1700
Fort Island	Liverpool	240
Cape Clear	do	110
Halifax	Cape Race	1000
Portland	do do	950
Boston	do do	800
New York	do do	1040
do	Liverpool, via Cape Race and Cape Clear	3020
Churchill	do Hudson Strait, Cape Farewell and Resolute Island	2900

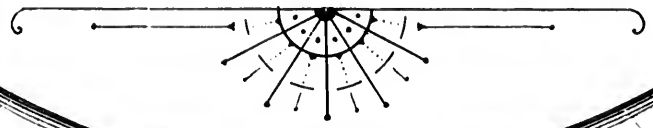

CANADA
DOMINION
OF THE
STATES
MANITOBA
BAY
JAMES
BAY
LAKE SUPERIOR
LAKE MICHIGAN
LAKE HURON
LAKE ONTARIO
LAKE ERIE
NEW YORK
PENNSYLVANIA
NEW BRUNSWICK
BAY OF FUNDY
Ungava B.
Lake Winnipeg
Lake Manitoba
Winnipeg
L. Nipigon
Albany River
Ft. Albany
Ft. Moose
Big River
East Main
L. Abbitibee
L. Temiscaming
Ottawa R.
Quebec
Three Rivers
Kingston
Toronto
Hamilton
Goderich
Buffalo
St. Paul
La Crosse
Milwaukee
Chicago
Omaha
Mississippi River
Ohio R.
Cairo
Rome
Albany
Boston
Portland
New York
Long I.
Philadelphia
Washington
Lat 40
50
55
45
100 fathoms contour
RAPHICAL MILES
NOTE.
THE PUBLIC LANDS OF THE DOMINION
ARE COLOURED RED.
90
85
80
75
Longitude West 70 from Greenwich
65


LABRADOR
Hamilton Inlet
Sandwich B.
Indian Hr
Suppose Boundary
NEWFOUNDLAND
St Johns
Cape Race
Cape Ray
Anticosti I.
GULF OF ST LAWRENCE
Magdalen Islands
PRINCE EDWD ISLAND
Cape Breton Island
NOVA SCOTIA
Halifax
Sable I.
BAY OF FUNDY
NEW BRUNSWICK
St Pierre I.
Miquelon
St Pierre Bank
Grand Bank
100 fathom contour
100 fath. contour
TELEGRAPH LINE
TELEGRAPH CABLE
NORTH ATLANTIC
SHEWING
ALSO IT
65
60
55
50
45

MAP OF THE DOMINION OF CANADA,

SHEWING THE EXTENT AND SITUATION OF ITS PUBLIC LANDS,

ALSO ITS GEOGRAPHICAL RELATION TO THE BRITISH ISLANDS.



15

20

25

45

40

35

30

PHOTO-LITH. BY THE BURLAND-LITH. CO. MONTREAL

A

A NEW ROUTE FROM EUROPE

TO THE

INTERIOR OF NORTH AMERICA

WITH A DESCRIPTION OF

HUDSON'S BAY AND STRAITS.

Issued by the Nelson Valley Railway and Transportation Company, Montreal.

MONTREAL:
PRINTED BY JOHN LOVELL & SON.

1881.

THE

NELSON VALLEY RAILWAY AND TRANSPORTATION COMPANY.

INCORPORATED 43 VIC. CHAP. 57.

1880.

BOARD OF PROVISIONAL DIRECTORS.

CHAIRMAN:

THE HON. THOS. RYAN, SENATOR, MONTREAL.

THE HON. JOHN HAMILTON, SENATOR, - - MONTREAL.

ALEX. MURRAY, ESQ., President Canada Shipping Co., MONTREAL.

PETER REDPATH, ESQ., Manor House, Chiselhurst, LONDON.

GEO. A. DRUMMOND, ESQ. President Canada Sugar Refining Company, - - - - - - MONTREAL.

DUNCAN MACARTHUR, ESQ., Manager Merchants Bank of Canada, - - - - - - - WINNIPEG.

ALFRED BROWN, ESQ., Director Bank of Montreal, MONTREAL.

TREASURER:

GEO. A. DRUMMOND.

LEGAL ADVISER:

THE HON. J. J. C. ABBOTT, M.P.

SECRETARY:

J. P. EDWARDS.

OFFICE:

NO. 39 ST. FRANCOIS XAVIER ST., MONTREAL.

T
regu
grea
T
of M
past
out a
on H
prove
struc
Ch
drawi
constr
tinent
Pacifi
cattle
fair r
States
Th
than
Chi
centra
over
imped
may
Wh
unuse
which
unsett
pany

PREFACE.

The following pages contain the latest information with regard to the route viâ Hudson's Bay and Straits to the great North-West.

The Nelson Valley Railway and Transportation Company of Montreal has obtained a charter, and during the present and past seasons has had a corps of surveyors engaged in laying out a railroad from Lake Winnipeg to the harbor of Churchill on Hudson's Bay, and this survey is sufficiently advanced to prove that the line is practicable and indeed easy of construction.

Churchill harbor is excellent, and available to vessels drawing thirty feet of water without outlay except for the construction of wharves. It is in the very heart of the continent, almost exactly midway between the Atlantic and Pacific oceans, is within 400 miles of the great wheat and cattle raising territories under the British flag, and within fair reach of the northern portions of those in the United States.

The voyage from Liverpool to Churchill is 64 miles shorter than to Montreal, and 114 miles shorter than to New York.

Churchill harbor is rather more southerly than the central line of the Baltic, and is open on an average for over six months in summer. Hudson's Bay is even less impeded by ice in winter than that sea, though the Straits may be closed to navigation during the winter months.

Why, it may be asked, has this route remained so long unused and ignored? The answer is: for the same reasons which have untill now kept the fertile lands of the North-West unsettled and imperfectly known. The Hudson's Bay Company have until lately held the whole of the North-West as a

hunting ground for its Indians, and the interest of that Company lay in discouraging settlement or intrusion on its domain. As a consequence it has been the universal belief that the territory was sterile and the climate Arctic in its character: these are now proved to be delusions. The navigation of Hudson's Bay has hitherto been confined to the regular traders of the Hudson's Bay Company, and to the American whalers, both of whom had a strong interest in magnifying its dangers. Its opening to commerce could not have preceded the settlement of the country, but there are excellent reasons for believing it entirely practicable now.

MONTREAL, September, 1881.

A NEW ROUTE FROM EUROPE TO THE INTERIOR OF NORTH AMERICA,

With a Description of Hudson's Bay and Straits.

The most conspicuous feature in the geography of North America is the great inland sea of Hudson's Bay, occupying an immense area in the centre of the continent. It is about 1,000 miles long and 600 wide, and has an area of about 500,000 square miles, or more than half that of the Mediterranean Sea.

The drainage basin of Hudson's Bay measures about 2,100 miles from east to west, and 1,500 miles from north to south, and its whole area is not far from 3,000,000 square miles. It extends from the Rocky Mountains nearly to Lake Superior, and southward far into the United States. The above figures will give some idea of the importance of the subject about to be referred to.

It is true that part of the region draining into Hudson's Bay is barren and unfit for the abode of civilized man, yet vast tracts possess a very fertile soil, and a climate suitable for the growth of all kinds of cereals and root crops. The whole region is interspersed with almost innumerable beautiful lakes, many of them of great size. It is also traversed by great rivers affording long stretches of navigable water.

The eastern shore of Hudson's Bay is generally high and rocky, its western side is mostly low, with muddy shores and level land stretching far into the interior. The shores of the southern prolongation, James' Bay, are all low, with level land to the west and south, and rocky ground to the east.

Hudson's Bay may be described as a shallow sea when we consider its great extent, but the depth of water is very uniform, and it is singularly free from shoals, reefs or other impediments to navigation over the greater part of its extent. The average depth of the bay is about seventy fathoms, while that of Hudson's Straits is from 150 to 300 fathoms.

Besides innumerable small streams, about thirty rivers of considerable size flow into Hudson's Bay. The longest of those on the east side has a course of about 500 miles. A number of large rivers flow from the east, south and west into the southern part of James' Bay. Of these the Moose is a mile wide for some distance up, but is too shallow for large vessels. The Nelson, on the west side, is the longest of all the rivers of Hudson's Bay. It is the great trunk river which discharges all the waters which have gathered into Lake Winnipeg from every point of the compass, and has a volume equal to about four times that of the Ottawa at the capital of the Dominion. Its length is about 400 miles, in which distance it has a descent of 710 feet from the surface of Lake Winnipeg. If we add the length of the Saskatchewan to that of the Nelson we shall have a total of 1,300 miles from the source of the former in the Rocky Mountains to the mouth of the latter on Hudson's Bay. The Churchill, which ranks next to the Nelson in point of volume, has its source between the Saskatchewan and the McKenzie, and in its course of several hundred miles it flows through a succession of large lakes, between which are many fine falls and cascades. It is considerably larger than the Rhine, and its water is as clear and bright as that of the St. Lawrence.

In Hudson's Straits the spring tides have a rise and fall of about forty feet and neaps of about thirty. The area of the Bay is so much greater than that of the openings connecting it with the ocean that its tides are considerably lower. In passing up the west coast, they decrease from fifteen feet of spring tide at York Factory to nine or ten

feet at Moose Factory, at the head of James' Bay. On the east coast tides are still lower.

The straits vary in breadth from forty-five to one hundred miles, and are about 500 miles in length. The tides are estimated to have a swing of about twenty miles, and the currents both ways are necessarily pretty strong. The effect of this on drifting ice when any is present is very important, causing it to open out and move about constantly, so that a steam vessel would be very little impeded in passing the Straits. It should, however, be here mentioned that vessels often sail through without encountering any ice. The delays which sometimes occur to sailing ships are due to what is called drift or pan ice by the Newfoundland sealers, and which seems to be most common in July, being apparently set free by the heat of the spring in the channels to the north-west of the Bay and Straits. The Bay itself is, of course, open all winter with the exception of a narrow margin around the shore. The ice which forms here is, however, thin, and disappears in the spring, being dissolved by the heat of the sun. It is doubtful if the ice sets fast completely across the Straits, even in the middle of winter, their width, depth and the strength of the tidal currents tending to prevent it from doing so. At all events, it is probable that the Straits would be found comparatively unobstructed early in the spring before the pan ice of the more northern latitudes comes down.

In the popular mind there is a rather indefinite idea of the geography and conditions of these regions, and much of the prejudice which exists in reference to Hudson's Bay and Straits may be due to confounding them with Davis' Straits and the Labrador coast, which are much encumbered with ice. It appears that the principal danger to be apprehended in passing from the ocean into Hudson's Bay is in crossing the stream of ice which floats past the entrance to Hudson's Straits at certain seasons. Once through this the navigation westward is said to be comparatively easy. Besides the main entrance, there is, however, another to the north-

ward around the back of Resolution Island, and a third on the opposite side, south of the Button Islands. Ships have already passed through both of these, and their existence, as a means by which steamships could avoid the drifting ice, may yet prove of considerable importance. Navigators find it best to enter the Straits in the fair way, but after gaining a certain distance, they keep near the north side, where it is found that the current runs regularly and the ebb tides are weakest. Both shores are high and bold, with deep water in all parts. The Straits and the great body of the Bay are remarkably free from sunken rocks, reefs or shoals.

In connection with a description of the route from the centre of North America to Europe by way of Hudson's Bay, it may be proper to glance at some of the resources of the Bay itself, and of the country immediately surrounding it. The trade in furs has been the principal business hitherto carried on in this part of the world, but other articles have also been exported in comparatively small quantities. These embrace oil, whalebone, feathers, and skins of porpoises and seals. The report of the United States Commissioners of fish and fisheries for 1875-76 states that, during eleven years preceding 1874, about fifty voyages were known to have been made by whaling vessels from New England to Hudson's Bay, and their returns amounted to at least $1,371,000. Some of the vessels had gone back repeatedly, showing that the business had been very profitable. It is still carried on, but no returns of a more recent date than the above are at hand. Large whales are found in considerable numbers in north-western parts of the Bay, and the white porpoise is very abundant around all the shores. Several species of seals are also plentiful at certain seasons.

Very little is known in regard to the fish resources of Hudson's Bay and Straits. The cod not being regarded as an article of commerce in these regions, and as the few nations who frequent the shores never attempt the sea

fisheries, nothing definite can be said as to the occurrence of this fish. Hearne, however, mentions that he has seen the jaws of this fish on the shore at the mouth of the Churchill River, and a few cod are reported to have been caught some years ago near the Little Whale River on the east side. The conditions as to depth, temperature, etc., are so favorable, and the food of the cod, including the capelin, is so abundant, that it is probable that, on proper trials being made, this valuable fish will be found plentifully in Hudson's Bay. The common salmon abounds in the rivers flowing into Hudson's Straits, and another species is met with in the streams in the northern part of the Bay. Other kinds of fish more or less valuable are also caught in the rivers and around the coasts.

Part of the country to the southward of James' Bay, which is in the latitude of the south of England, even along its eastern side, is likely to prove available in the future for stock raising. East of Hudson's Bay proper the country is barren and rocky, but on the west side it is level and underlaid by a great depth of clay. Still, the climate is too severe for farming, until we come about half way from the Bay to Lake Winnipeg, where barley may be produced, and wheat ripens well along the upper part of the Nelson River. But the most important point, in connection with the consideration of the adjacent country, is the fact that this region offers no engineering difficulties to the construction of a railway through it to the magnificent and almost illimitable farming lands beyond.

Valuable timber is found over a very large tract of country about the head waters of the rivers flowing towards James' Bay from the south and west, and some day this will no doubt prove valuable for export, owing to the rapid exhaustion of the available timber in other parts of Canada.

The mineral resources of Hudson's Bay may, however, eventually prove of more importance than any of the others. On the different branches of the Moose River, rich iron ores, lignite and gypsum are found in large quantities. Indica-

tions of gold, silver, copper and molybdenum have been recorded at different points on the Eastmain Coast. Dr. Bell of the Geological Survey has found valuable deposits of galena at Richmond Gulf, and inexhaustible quantities of rich manganiferous iron ores on the Nastapoka Islands on the east side. Large quantities of iron pyrites and sheet mica are reported to occur in the north-western part of the Bay, and of plumbago on the north side of the Straits. A systematic search for minerals on some parts of these coasts would no doubt be rewarded by valuable discoveries.

We now come to consider the practicability of the navigation of Hudson's Straits and Bay for the ordinary purposes of commerce. And, first, we must premise that, while the experience of sailing vessels in the past cannot be taken as evidence of what may be accomplished by properly equipped steamships in the future, still that such evidence, fairly considered, is upon the whole, very favorable. Since Hudson's discovery of the bay in 1609-10, about 730 round voyages (all by sailing ships) have been made into it, up to the present year. The ships have belonged to the Hudson's Bay Company (or been chartered by them), the British and French navies, expeditions of discovery, and American or other whalers. Out of this large number there have been remarkably few losses, and none at all in the Straits. Considering that the coasts are quite unsurveyed, the want of charts, beacons, light-houses, pilots, etc., it must be admitted that this is a remarkably favorable record. In 1864, two ships belonging to the Hudson's Bay Company were run ashore at the same time in daylight on Mansfield Island. But this was owing to gross carelessness, as the sea was smooth and the vessels had their studding sails set. The captains were said to have been "visiting" on board two American whalers in company with them, but which judiciously kept behind the others, and, seeing their mishap, steered off. At York Factory the dates of the annual arrivals and departures of the Company's ships have been noted for the last 92 years, and at Moose Factory for the past

146 years. They shew an almost uninterrupted record, extending through these long periods. When so much could be accomplished by old-fashioned slow-sailing ships for the sake of a limited trade in peltries, what may we expect as possible to be done in order to secure the carrying business of a continent?

The land is high and bold all along both sides of Hudson's Straits, with deep water near the shores. In places it rises to a height of 1,000 feet and upwards, immediately overlooking the shore. A few signal stations could be placed upon these heights so as to command a view of the entire surface of the water. By means of the telegraph between these stations they could be enabled to communicate to vessels the position of drifting ice when any was present, which might, in the absence of such information, interfere with their movements. It is believed that steam vessels would thus be able to pass through the Straits without difficulty during a sufficiently long period of the year.

The length of the season during which it is possible to navigate Hudson's Straits by steamships is unknown. The Bay might be navigated during the whole year, were it not that the harbors are frozen up. The whole region is by no means of such an Arctic character as is popularly supposed. Moose Factory is south of London, so that a great part of the Bay lies in the same latitudes as the British Islands. It is sufficiently far removed from the cold ocean current, which passes down the east coast of America, to escape its prejudicial influence; while the region on the west side of the Bay begins to enjoy the benefit of the moderate climate of the great North-West Territories of Canada. At Martin's Falls, on the Albany River, a record of the weather extending continuously over fifty years shews the open season to last for six months. The dates of the opening and freezing of Hayes' River at York Factory have been preserved for fifty-two years, and the average period of open water is there found to be rather more than six months. Nelson River, which is much larger, remains open for a considerably longer time each year.

The ships of the Hudson's Bay Company, having to make only one voyage a year, naturally choose the season most convenient for themselves. The New England whalers pass in and out of the Bay at other seasons. They no doubt carry on a successful and profitable business, but it appears to be difficult to obtain information in this quarter in regard to the navigation of the Straits, as the parties interested wish to retain the advantages of their experience for their own benefit. Messrs. Job Bros. & Co., prominent merchants of St. John's, Newfoundland, writing in reply to an enquiry from W. N. Fairbanks, Esq., of Emerson, Manitoba, state that they have no doubt of the practicability of navigating the Straits and Bay with proper steamers during the months of June, July, August, September and October. Counting the time necessary to make the ocean passage outward in the spring and homeward in the autumn, this would represent nearly six months of navigation. From all that can be learned on the subject, it appears probable that the Straits and Bay are navigable for steamships for at least four months of the year, or from the middle of June till the middle or end of October, or say five months, including the ocean passage in the first spring and the last autumn voyage. This will bear comparison with the navigation of the St. Lawrence, which is by no means free from the ice difficulty, either in the spring or fall.

When the shores of the Straits and Bay shall have been surveyed, so that good charts may be obtained, and the signal stations referred to erected, these waters may be navigated with much greater ease and still more successfully than they have been in the past. With respect to depth of water and freedom from shoals and rocks, the Hudson's Bay route is unsurpassed. The portion of the Bay to be passed through is also free from islands, and is absolutely unimpeded. The harbor of Churchill, on the west side, which lies directly opposite the western outlet of the Straits, offers a free and unobstructed approach from the open sea. This splendid harbor, which is just within the

mouth of the Churchill River, is the finest one on the west side of the Bay. It is entered by a channel about half a mile wide and twelve fathoms deep. The depth inside is from six to eight fathoms, with excellent holding ground. The east side affords the best site for the construction of wharves. A point on the west side appears as if formed by nature to command the entrance to the river, and upon this the Hudson's Bay Company, about the middle of last century, erected Fort Prince of Wales, one of the largest structures of its kind in North America. It measured about 300 feet on each of its four sides, was about twenty feet high, faced with large blocks of cut stone, and mounted some forty large guns. It was captured and partly destroyed by the French Admiral *La Perouse* in 1782.

A glance at the accompanying map will show that the route from Liverpool, by way of Hudson's Bay, is by far the shortest one to the North-West Territories of Canada. Churchill harbor is situated near the centre of the North American continent, and yet, owing to the convergence of the meridians towards the north, it is actually nearer to Liverpool than either Montreal or New York. The distance from Churchill Harbor to Liverpool, via Hudson's Straits, is about 2,926 miles; from Montreal, via Cape Race, it is 2,990, and from New York, via Cape Clear, 3,040 miles, showing 64 miles in favor of Churchill as compared with Montreal, and 114 miles as compared with New York.

The fact of a seaport existing in the very heart of the continent more than 1,500 miles nearer than Quebec to the centre of the North-West Territory, has scarcely begun to be realized by the public; yet its importance can hardly be over-rated. Churchill Harbor is only four hundred miles from the edge of the greatest wheat-field in the world, or not so far as from Quebec to Toronto. The lands of the North-West capable of supporting an agricultural population exceed 200,000,000 of acres in extent. An available seaport, which will, as it were, bring this enormous tract so much nearer the markets of the world, may become the

means of developing it in a way which cannot be accomplished by long railway lines. Should the route indicated be established, not only this vast region, but part of the United States to the south, would send their heavy freight over it, and a railway to Churchill Harbor, from Lake Winnipeg (the centre of a vast system of inland navigation), or connecting in its neighborhood with other railways from the interior, would secure the business of almost half the continent. Churchill Harbor is some two hundred miles nearer the Pacific, at the mouth of the Fraser River, than to the Atlantic at Halifax, so that a transcontinental railway starting from the former port would not be half as long as from the latter.

At the mouth of the Churchill, in latitude 58° 49′, potatoes and turnips are the only crops cultivated, but in the interior wheat is grown in the McKenzie Valley up to latitude 60°. The warm summer weather enjoyed by the vast region east of the Rocky Mountains and north of the United States line is partly due to the warm winds from the south; still it can be shewn that during the growing and ripening season of wheat, lasting, say, for about 160 days, or from May to September, the sun's heat between the parallels of 50° and 60° is nearly as great as it is in the ten degrees south of 50°, while the days are considerably longer, and the additional sunlight appears to compensate, in promoting the growth of plants, for the slightly diminished quantity of heat.

The distance from the central part of the agricultural lands of the North-West Territories, say from a point between the North Saskatchewan and the Peace River, to Churchill Harbor is about the same as to the City of Winnipeg. Now, as the sea voyage from the former to Liverpool is rather shorter than from Montreal to Liverpool, it follows that, by adopting the Hudson's Bay route, the whole distance from Winnipeg to Montreal is saved. By way of Lake Superior, this amounts to 1,291 miles, and by way of Chicago to 1,698 miles. The total distance from Winnipeg

to Liverpool, via New York, is still greater than by Montreal. Thus a consignment of grain or beef, sent from the Saskatchewan or Peace River districts, by way of Churchill, might be in Liverpool as soon as it could arrive in Montreal, if sent by the St. Lawrence route. Even from Winnipeg, in the south-eastern part of the great fertile area, the distance to Liverpool is at least 800 miles less by Churchill than by Montreal.

Of course, if this route were once opened, the above immense saving in distance, and consequently in time and passenger and freight rates, would secure for it the preference over all others. The establishment of such an outlet would at once considerably increase the value of all kinds of farm produce throughout the North-West, and consequently of the farms themselves. Indeed some of the cheaper or more bulky kinds of produce, which would not bear the cost of transportation at all by the longer land lines, might be profitably exported by this route. On account of the cool temperature by this northern route, grain, meat and dairy produce could be sent with much greater safety than by any of the more southern outlets.

The question as to whether the grain crops of the North-West can be exported the same year as harvested is a very important one, and awaits solution. The harvesting of these crops occupies nearly the whole of the month of September. The season of steam navigation in Hudson's Bay and Straits may prove long enough to enable the earlier part, if not the most of the crop, to be sent out. The harbor of Churchill does not freeze up until November. This fact is recorded by the Danish Captain, John Monck, who wintered here in 1619-20, or 261 years ago, and it has been verified by observations extending up to the present year. More than 100 years experience of the Hudson's Bay Company have shown that the average duration of the voyage of a sailing ship from York Factory to London is four weeks, or to the Land's End about three weeks. From Churchill, the time required would be a little less.

If the grain crop of the North-West cannot be sent to Europe via Hudson's Bay the year it is harvested, neither can it be by the St. Lawrence ; and if sent by rail to Halifax, St. John or New York, the price which could be paid for the grain would necessarily be so low that it could with more profit be stored in elevators and exported the next summer by way of Churchill. Owing to the coldness of the climate, there would be no risk of damage to the grain by thus storing it over winter. Even should grain in the North-West prairie country always bring lower prices than in the older provinces of Canada, it may still be grown at greater profit, owing to the saving of years of time and the great labor necessary to clear the land of timber in the latter; and, as Colonel Dennis remarked in his pamphlet: "Should there prove to be even a four months navigation on this (Hudson's Bay) route, and especially should such period extend sufficiently into the fall to permit of moving to market the preceding harvest, it would be difficult indeed to take an over-sanguine view of the future of the magnificent territories now lying dormant in the North-West.'

The comparatively new business of exporting live stock to Europe may in future be largely carried on in the North-West, but, in order that this may be successfully accomplished, an easy route to the seaboard is almost indispensable. The great system of inland navigation formed by the rivers and lakes of the Winnipeg basin seem as if they had been destined by nature for carrying down live stock to the head of the Nelson Valley, from which the animals could be driven along a common road, or carried by a comparatively short railway to Churchill Harbor. This business, or even the export of dead meat by the cool northern route, is probably destined to give great additional value to the north-western prairies and the stock-raising country northward of the region in which wheat may be grown. Apart from the difficulty as to the great distance for sending live stock to Europe through the older provinces or the United States, should any of the diseases which occasionally afflict

these animals be prevalent in these countries and not in the North-West, the Hudson's Bay route might be available when all others were closed.

For heavy or bulky imports, the short route by Hudson's Bay would stand unrivalled. For example, most of the railway and other iron and of the coal required in the North-West would be brought in by this route, the vessels taking back agricultural produce, of which in the future vast quantities will be seeking an outlet. Experience shews that the price of coal in any part of the world depends not so much upon distance as upon the exigencies of trade. Coal from Britain might be laid down cheaper in the North-West pr ries than from any other source.

The increase in the value of such immense tracts of land, which would be due to cheapened transportation, is a matter well worthy of the consideration, not only of the Government, but of all parties interested in real estate in the North-West.

For immigrants to the Canadian North-West this route presents advantages offered by no other. To say nothing of the saving in time and money, it is really the only independent route to these territories which we possess. The original colonists and traders of Manitoba came this way, and it has been found throughout America that the course of trade and travel pointed out by nature, and first adopted by the pioneers, is sure to become eventually the great highway of the region. Immigrants destined for our North-West Territory, in passing through the United States, as is well known, are induced in large numbers to abandon their original intention and settle in that country. They are beset by these agents with equal freedom in passing through Quebec and Ontario, and even on board ship on the voyage out; and there is no means of preventing this great loss except by bringing the immigrants direct to the land of their adoption. There is every probability that a great emigration to our North-West Territories will take place in the near future. We see, on the one hand, most of the countries

in Europe overcrowded with redundant populations, and on the other almost unlimited quantities of fine land ready for the plough, inviting them to come over and take possession. All that is now wanted is a cheap and direct means of transporting the people to the land. By the proposed route immigrants from Europe may reach their destination on the Saskatchewan or Peace River almost as soon and as cheaply as they could reach Western Ontario *via* Quebec, and much more cheaply and expeditiously than they could arrive in the Western States *via* New York

This independent route may also prove of value for military purposes. Troops have already been sent to the Red River Settlement on two or three occasions by way of York Factory, traversing in safety the intervening wilderness. By the aid of a railway from Churchill to the foot of Lake Winnipeg, a whole army might be transported easily and expeditiously.

General Sir J. H. Lefroy, President of the Geographical Section of the British Association, in his address at the Swansea meeting (1880) said: "Hudson's Bay itself cannot fail at no distant date to challenge more attention. Dr. Bell reports that the land is rising at the rate of five to ten feet in a century, that is possibly an inch a year. Not, however, on this account will the hydrographer notice it, but because the natural seaports of that vast interior now thrown open to settlement, Keewatin, Manitoba and other provinces unborn, must be sought there. York Factory, which is nearer Liverpool than New York, has been happily called by Prof. H. Y. Hind the Archangel of the west. The mouth of the Churchill, however, although somewhat further north, offers far superior natural advantages, and may more fitly challenge the title. It will undoubtedly be the future shipping port for the agricultural products of the vast North-West Territory, and the route by which immigrants will enter the country." Sir Henry Lefroy is a well-known authority on matters relating to these regions, having resided in the interior of the country, and being also personally acquainted with Hudson's Bay.

In the spring of 1880 the Parliament of Canada granted a very liberal and comprehensive charter to the Nelson Valley Railway and Transportation Company, which was formed for the purpose of opening up the Hudson's Bay route. This charter gives the Company power to construct a railway from Churchill Harbor to the foot of Lake Winnipeg, with a branch, or continuation, south-westward to connect with the Canadian Pacific Railway; also power to construct telegraph lines and common roads, to run steamers on the lakes and rivers and ships on the sea, together with various other privileges. During the summer of 1880 the Company sent out an engineer to run a line over the route of the proposed railway. His report and profile shew the country to be very favorable as far as tested. The whole length of the line will be about 350 miles. The ground has a general and gradual descent of 710 feet from Lake Winnipeg to the sea-level, or about two feet in the mile. The Company's chief engineer and a staff of assistants are again in the field the present summer, and it is expected that the preliminary survey of the whole line will be completed before the close of the season, when the project will be brought before the public in a practical shape.