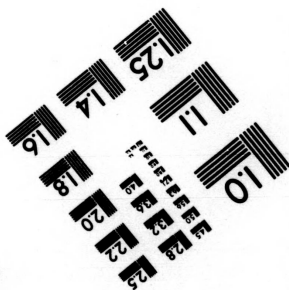
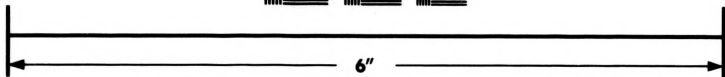
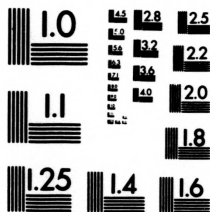


**IMAGE EVALUATION
TEST TARGET (MT-3)**



**Photographic
Sciences
Corporation**

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

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1983

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.

- 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
- 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
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- 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	14X	18X	22X	26X	30X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12X	16X	20X	24X	28X	32X

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

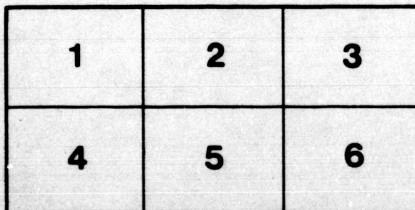
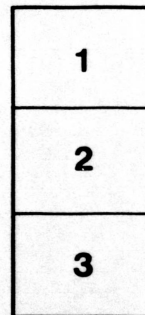
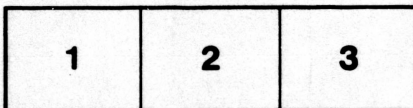
University of Regina

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 \rightarrow (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:

University of Regina

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 \rightarrow 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.

The Historical and Scientific Society of Manitoba



THE LAKE OF THE WOODS

ITS HISTORY, GEOLOGY, MINING AND MANUFACTURING

BY

GEORGE BRYCE, LL.D.

A Life Member of the Society

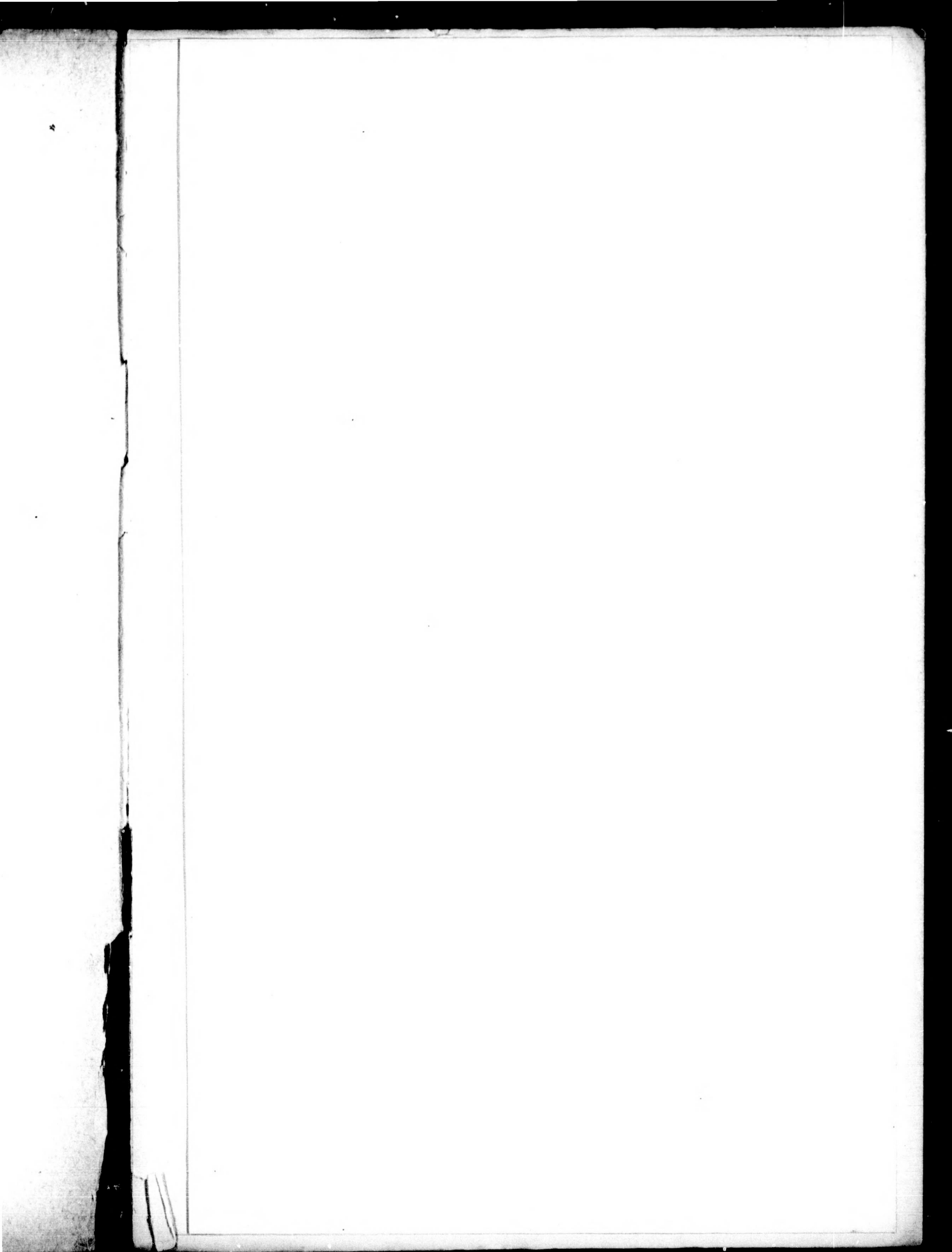


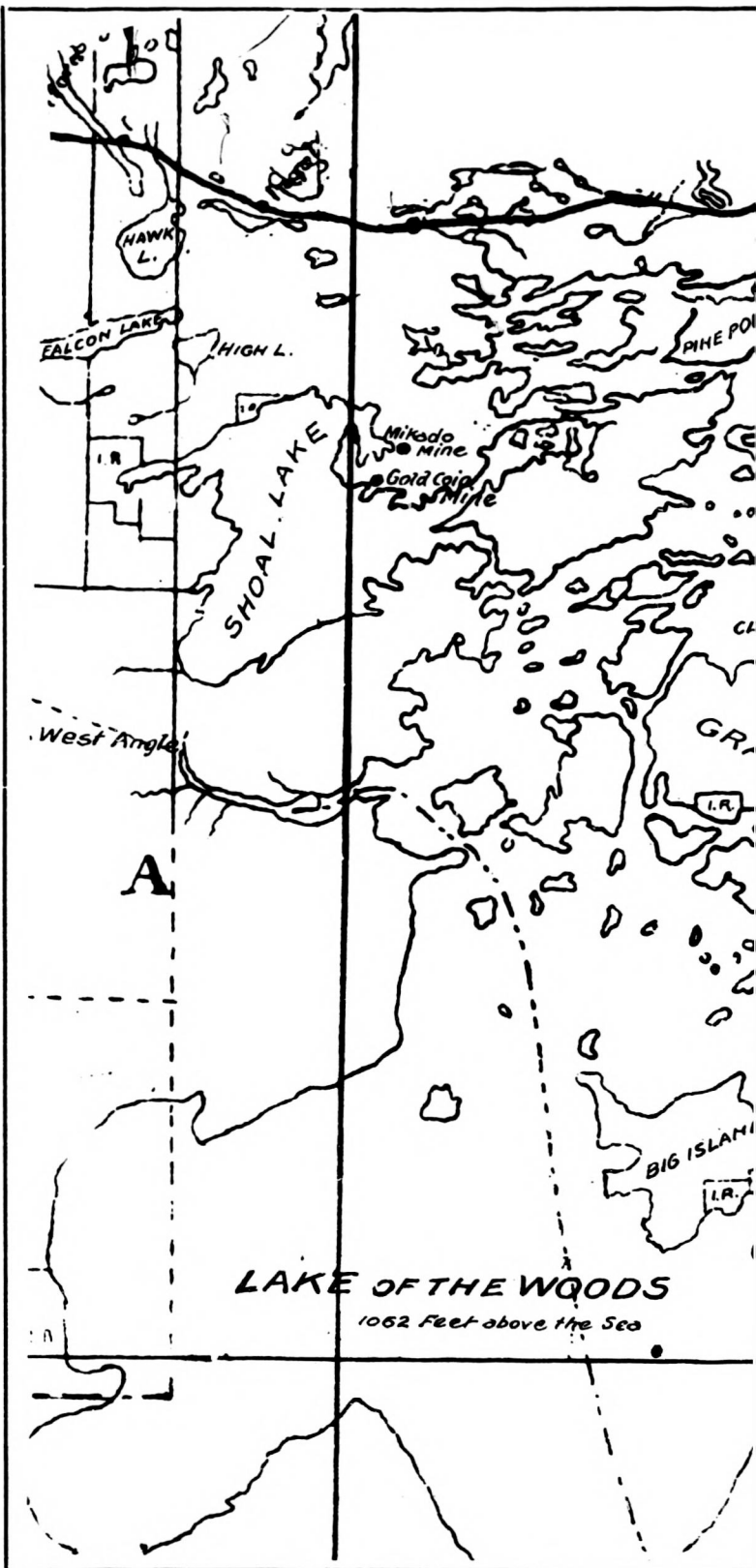
WINNIPEG:

THE MANITOBA FREE PRESS COMPANY.

1897

125





MAP OF THE LAKE OF THE WOODS



WOODS DISTRICT

THE LAKE OF THE WOODS

Its History, Geology, Mining and Manufacturing.

The annual meeting of the Historical and Scientific Society of Manitoba, Feb. 23rd, afforded an excellent opportunity for bringing before the citizens of Winnipeg the resources of the Lake of the Woods region. This falls within the scope of the Society's work, as "north and west of Lake Superior," and the general interest of the people in mineral deposits of the Lake was sufficient reason for the lecturer of the evening, Dr. Bryce, undertaking it. The doctor stated that the way in which to meet over speculation was to give definite and accurate information as to mining and its conditions. Ignorance, as he remarked, is not only the mother of superstition, but also the nourisher of feverish speculation and impracticable schemes. Undoubtedly our mineral resources on Lake of the Woods are of great value, and will give good returns if carefully and judiciously developed. The lecturer was assisted by Dr. Laird, president of the Society, in showing specimens of the rocks of the Lake of the Woods, and also gangue from several of the gold producing mines. The lecture was well illustrated with maps and diagrams. The attendance in the city council chamber was large and influential and the interest well maintained. Dr. Bryce said:

"The Lake of the Woods has now for more than a century and a half been known to voyageurs who came by way of Lake Superior to the Northwest. Connecting as it does by water courses to within a few miles of Lake Superior and communicating with all the inland waters of Rupert's Land, it is not surprising that it became famous as an objective point in northwestern exploration. In late years the Lake of the Woods has become well known as a great lumbering centre, supplying as its tributaries do large quantities of pine for this industry. It has also an enormous water power in its fall into Darlington Bay, which has been utilized to some

extent in supplying power for mills. For a number of years the lake region has been coming steadily into notice as a mining district. All these reasons justify us in considering it to-night at the annual meeting of our Historical and Scientific Society.

NAME.

The earliest name we find the lake known by is that given by Verandrye in his journey in 1731. He says it was called Lake Minitie (Cree Ministik) or Des Bois. (1) The former of these names, Minitie, seems to be Ojibway, and to mean Lake of the Islands, probably referring to the large number of islands found in the northern half of the lake. The other name (2) Lac des Bois, or Lake of the Woods, seems to have been a mis-translation of the Indian name (Ojibway) by which the lake was known. This name (3) was "Pikwedina Sagaigan," meaning the "inland lake of the sand hills," referring to the skirting range of sand hills running for some thirteen miles along the southern shore of the lake, to the east of the mouth of the Rainy river, its chief tributary.

Another name found in a map prepared by the Hudson's Bay Company in 1748 is (4) Lake Nimigon, probably meaning "the expanse," referring to the open sheet of water now often called "la traverse." Two other names, (5) Clearwater Lake and (6) Whitefish Lake, are clearly the extension of the Clearwater Bay, a northwestern part of the lake, and Whitefish Bay, still given by the Indians to the channel to the east of Grande Presqu'île.

HISTORY.

The Lake of the Woods, though sometimes referred to by French Canadian authorities at an earlier date, was first reached by Verandrye in 1732. The earliest references were no doubt obtained from stories of Indians heard on Lake Superior. Verandrye's notable voyage has been often described. In 1731 Verandrye's party, as late as the month of August, was ready to leave Lake Superior to find their way inland. The journey promised to be severe, and a part of the

company mutinied. Verandrye himself spent the winter at the Kaministiquia, on the shores of Lake Superior, but his nephew, La Jemeraye, pushed through and built a fort at the head of Rainy River, which runs into the Lake of the Woods. This fort was called St. Pierre, and traces of it were found a few years ago by the writer at Coutchecheng, three miles southeast of the village of Fort Francis.

In June, 1732, the party urged on their explorations, and descending Rainy River, reached Lake of the Woods. They directed their way now to the southwest shore of the lake, where they built Fort St. Charles. Passing on to the interior from the Lake of the Woods, they explored with great energy the water courses of the west. The Lake of the Woods was the scene of a great tragedy so far as the Verandryes were concerned. The Sioux, or Dakotas, of the west were in the habit of coming at times to the west side of the Lake of the Woods. Stealthily they lay in wait for a part of the expedition that was returning from the interior in 1736. This party was led by Sieur de la Verandrye, eldest son of the veteran Verandrye. A little island, still pointed out between Hay Island and Cornfield Island, is said to be the scene of the disaster. Attempts have been made lately by interested parties to place Massacre Island near Rat Portage. For this there is no evidence.

The Verandrye party consisted of the Sieur, a Jesuit priest, Father Anneau, and twenty men. According to the report of a voyageur named Bourassa, the bodies were discovered on Massacre Island five days after the murder. "The heads of the dead Frenchmen were placed upon beaver skins, the greater number of them scalped. The missionary had one knee on the ground, an arrow in his head, his breast cut open, his left hand upon the earth, and his right uplifted. The Sieur de la Verandrye lay face downward, his back hacked with a knife, a hoe buried in his loins, and his headless body ornamented with porcupine garters and bracelets." The Crees and Assiniboines, allies of Verandrye, offered to enter upon a war with the Sioux, their hereditary enemies, to avenge the

massacre, but Verandrye feared the consequences of such a movement and declined the offer.

Charles Lindsey in his "Report on the Boundaries of Ontario" says: "The Lake of the Woods is memorable in geographical and diplomatic history. It has been the starting point in every treaty of the boundary line between the Dominion of Great Britain and the territories of the United States.

No doubt in this statement Lindsey had reference to the settlement of the boundary by the treaty of 1783. At that time the British commissioners in Paris had few maps, and these very imperfect, of the country west of Toronto. The American commissioners had at their elbow a fur trader, Peter Pond, an American by birth, who had been in the employ of the Montreal fur merchants, and had charge of a post in the far distant Athabasca. It is said that Pond "designated a boundary line through the middle of the upper St. Lawrence and the lakes and through the interior countries to the northwest corner of the Lake of the Woods, and thence west to the Mississippi." The northwest angle of the Lake of the Woods has consequently ever since been a notable point.

The impossibility of a line westward from the northwest angle of the Lake of the Woods to the Mississippi led to the agreement in Jay's Treaty of Amity and Commerce of 1794 "to survey the upper Mississippi in order to fix the boundary in that region." In 1816, at the Treaty of Ghent, promise was made for a commission to settle the boundary to the Lake of the Woods, east and west. At the convention of London, in 1818, the commissioners appointed under the terms of the Treaty of Ghent succeeded in closing the matter. It was agreed to draw a line north and south from the northwest angle of the Lake of the Woods until it met the 49th parallel. An unexpected and amusing result of this mode of settlement is that a small peninsula of Canadian territory has a portion of the extremity cut off by this line, and this small section is American territory, being surrounded by American waters.

The Lake of the Woods became the highway for almost all

the expeditions and journeyings of voyageurs from the Lake Superior district to the interior of the Northwest. The usual course was to cross from the mouth of the Rainy river to the head of the Winnipeg river, and, descending it, to reach the interior. In the winter of the year 1817, Lord Selkirk's band of De Meurons, in order to outflank the Nor-Westers, left Lake of the Woods, probably about Buffalo Bay, on the southwest side of the lake, crossing somewhere along the boundary line of 49 N. and reached Pembina, from which place they came down the Red River and surprised and captured Fort Douglas.

The Hudson's Bay Company, in course of time, found it advantageous to have a post at the exit of the Lake of the Woods. They accordingly built a post on the narrow neck of land, probably not far from the present town of Keewatin, at a spot where was the original and true Rat Portage, but the company is still represented in the town of Rat Portage by its place of business.

The circuitous and difficult route by which the prairies were reached down River Winnipeg and by the stormy sheet of Lake Winnipeg led to the use of the natural entrance on the west side of the lake known as the northwest angle some thirty or forty years ago. The expedition conducted by Dawson and Hind, in 1857 and succeeding years, led to the desire to open this more direct connection between Lake Superior and Red River. In 1867 the Canadian government built six miles of a wagon road from Thunder Bay to Dog Lake. In 1868 the Red River end was begun with the purpose not only of opening up communication, but also of giving relief to the people of Red River, who were suffering from the ravages of grasshoppers. Mr. John A. Snow was the contractor in charge. He undertook to build the portion from Red River to Pointe de Chene—the prairie section—over a distance of about 30 miles. The continuation of this road was made to the northwest angle of the Lake of the Woods, and the road, some 110 miles in length, was known as the "Dawson Road." This road was afterwards a part of the

famous "water stretches" route by which Mr. Mackenzie for several years brought settlers to Lake Superior through Lake of the Woods to Red River. The Wolseley expedition, in 1870, followed the Winnipeg River, instead of the Dawson route. Thus has Lake of the Woods, from its position, again and again become an important factor in the geography and history of the Northwest.

GEOLOGY.

The Lake of the Woods, which has an area of 36,000 miles, is divided naturally into two parts, the southern, which is largely an open sheet of water and somewhat shallow, the northern filled with a multitude of rocky islands. This division arises from the geological features of the basin in which the lake lies.

The southern portion rests on the Laurentian strata, which are the oldest stratified rocks with which we are acquainted. The Laurentian rocks consist chiefly of gneiss rocks changed by metamorphic action, and these are lined along the lake shore with beds of sand, which in the neighborhood of the mouth of Rainy River, the chief tributary of the lake, rise up as dunes and are seen for a considerable distance.

The northern division of the lake is made of rocks which are much softer and are cut up into innumerable islands. They belong to the geological period known as Huronian, although Mr. Lawson, of the geological survey, to whom we are indebted for many of our facts, states that they are not quite identical with the Huronian of the shore of Georgian Bay. He proposes to call our western formation the Keewatin. The general inclination seems to prevail, however, to hold to the name Huronian, and we may follow it.

This formation is notable as being found superimposed in long bands, or stretches, upon the Laurentian. The Huronian is generally regarded as a shore line formation. It is besides very much contorted and disturbed, and it is generally supposed that it has been thus affected by the intrusion

of masses of granite rock, and by the natural crumpling or folding of the earth's surface, which is still going on, and which in former times assumed very great proportions.

The rocks of the Huronian are the mineral-bearing rocks, or at least contain veins of various kinds, having gold and other minerals of value. It has been the custom to connect these veins in some way with the changes resulting from the intrusion of the granite near by.

A study of the rocks of the Huronian on the Lake of the Woods shows that the belt of rock has been crumpled up into five ridges, which the geologists call anticlinals, and that these run either northeast or southeast across the upper portion of the lake.

1. The most southern of these anticlinals is shown in a series of Laurentian islands, such as Bigsby, Big, Massacre and Cornfield islands, and leading over to Driftwood point on the west shore.

2. The second great ridge, enormous indeed in proportions, includes the great dividing peninsula of the lake, known as the "Grande Presqu'île," which, leading through Falcon Island, passes to the opening made by the northwest angle.

3. The next anticlinal was that formed by the eastern peninsula, pointing northwestward, and connecting by islands with the western peninsula at Crow Rock channel.

4. The fourth anticlinal, or ridge, was that traced along Pipestone Point and three islands, viz: Hay, Middle and Scotty Islands, and it may be mentioned in passing that this is an important neighborhood. This line of direction leads to Point Aylmer, on the outer extremity of the northern peninsula.

5. The fifth and most northerly of the original ridges is a short distance from the town of Rat Portage, starting from the well-known Devil's Gap, and leading by islands across to Dispute Point.

These four most northerly ridges diminish in size from south to north, and each time become smaller in width until

at the north the end of the lake is reached by the farthest north extent in this district of the Huronian strata. This forms a narrow rocky neck, having the waters of the Lake of the Woods on the southern side and on the north the beginning of the Winnipeg River, known as Darlington Bay. This is at a level considerably lower than that of the lake.

Between the western and northern peninsulas a long, narrow strait runs through the Huronian strata. It is called Ptarmigan Bay; this again leads by passing Ash Rapids and through the narrow Shoal Lake channel to Shoal Lake, a body of water somewhat higher than Lake of the Woods. Shoal Lake is triangular in shape with a greatest north and south measurement of thirteen and a half miles, and a greatest breadth of seventeen miles. This has as we shall see become famous as having mineral deposits of value. An eastern extension of the lake, named Whitefish Bay, shut in by the base of the Grande Presqu'île, lies almost entirely in the Laurentian basin, though its northern and eastern shores are Huronian and contain mineral deposits.

ROCKS.

1. The rocks of the Laurentian formation of the south end of the lake are, as has been said, hard gneissoid rocks.
2. The softer schist rocks of the north end of the lake are much more varied in species. Like the Laurentian they are all stratified rocks, which have gone through the process of metamorphism by heat. If there ever were any fossils in them all traces of these have been removed. Near Rat Portage these rocks are slaty quartzites and siliceous schists. The greenish rock known as chloritic rock of hornblende and feldspar is found at different points. Talcoïd schists and siliceous diorites are come upon, but in general the rocks of the whole series are made up of coarse laminated schists. The arrangement of the rocks made by Lawson is: 1. Mica schist on the surface; 2. Agglomerate schist below this; and, 3. Hornblende schist lowest down, resting on the Laurentian gneiss. The thickness of these beds varies much; but an

estimate is made by Lawson that the average thickness of the whole Huronian formation may be set down at 23,750 feet, or four and a half miles.

3. The presence at various points in the Huronian of intrusive granitic rocks is very noticeable and significant. This rock is found at ten main centres through the area of the Lake of the Woods district, such as Rossland station, Yellow Girl Point,, the Northwest Angle, Portage Bay, etc.

The occurrence of granitic intrusive rocks is of prime importance in considering the bedding of the Huronian formation, in finding the direction of metalliferous veins and in dealing with the question of metamorphism.

SURFACE ACTION.

The rocks of the Lake of the Woods region would seem to have been always somewhat level in their general outline. There were no precipitous cliffs and great valleys such as are found in mountainous regions. No doubt the soft rocks of the northern section would be much worn away by the denuding agencies occurring during the long periods of time which have elapsed since their formation and elevation above the sea. The glacial action is, however, very clearly followed on the surface of the existing rocks. Lawson says: "The Lake of the Woods and surrounding country may be considered essentially as a partially flooded area of 'roches moutonnees,' " i.e., rounded hummocks and even large islands. The whole country is scraped bare, polished and grooved. The rocks everywhere bear evidence of this general action. Striae showing the direction have been found in upwards of 200 locations on the islands and rocky shores of the lakes, and these have a general southwest direction.

A curious question has arisen as to the origin of certain limestone boulders found along the shores of the Lake of the Woods. No rock of this kind is known east or north of this region, at least on the southern slope. These limestone boulders are a peculiar feature of the south end of the lake. Three different theories have been used to account for this.

1. It has been suggested that there may be a limestone floor for this part of the lake.

2. The limestone might have been derived from the Hudson Bay slope, where such rocks occur.

3. The limestones are erratics from the Red River Valley.

As to these views there is no evidence of a limestone floor for Lake of the Woods; in fact, there is every probability against it. In regard to No. 2, it would seem impossible to imagine any agency by which the great region of rocky country between this region and Hudson Bay could have been overcome. The third supposition is plainly most reasonable. In the glacial period we know that a great glacial lake covered the Red River Valley and extended to the east shore of the Lake of the Woods. The glacial action in the Red River Valley was very great, and no doubt fragments of the limestone were carried southeastward from it to the basin of the Lake of the Woods.

MINING.

The contorted strata of the Huronian rocks, thrown about as they have been by granitic intrusions, naturally had many crevices, faults, fissures, broken seams, cracks and openings in their structure. The intrusive rocks would liberate in their upheaval great bodies of lava, steam and boiling water from the vast depths below. These would have the metals in a state of solution. The crevices and faults of the Huronian would be filled and gorged with the gaseous, or liquid, heated matters.

From the wide-spread character of the mineral substances, such as sodium, potassium, manganese, iron, copper, and even gold and silver in sea water, and in many sea animals and plants, it may be learned what the waters thrown up from the great depths would contain. The cooling down of the materials thus carried in by water and steam makes the veins. The kind and character of the vein depends on the shape of the crevice or opening when the intrusive solid matter is deposited and solidified.

Four chief varieties of veins have been named depending on these conditions :

1. Rake or fissure veins. These are perpendicular, or nearly so, in direction, and vary little in width as they descend.

2. Pipe veins are much like fissure veins in direction, being often nearly perpendicular but they are irregular in width, and are subject to great variations, being now very wide and then very narrow in diameter.

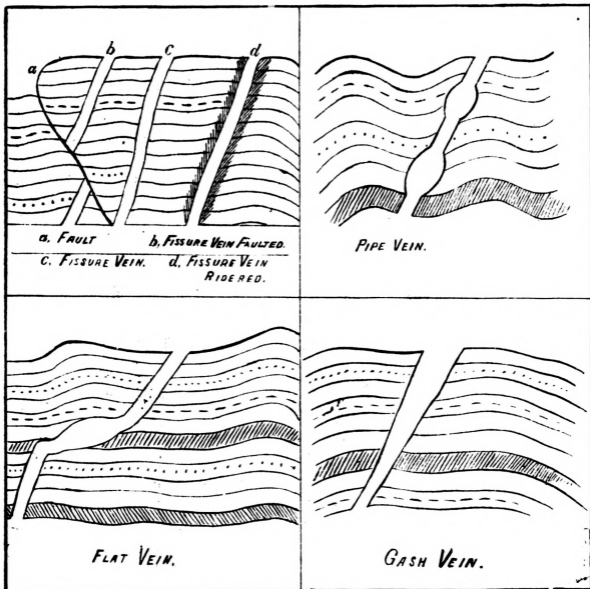
3. Flat veins or straks. These are a variety of fissure veins which change their direction and run along parallel to the beds.

4. Gash veins are those which resemble fissure veins, but are wide at the top and gradually narrow to a point until they disappear.

The vein is from its nature shut in by walls. These walls, if cracked when the vein matter or gangue was deposited, were often penetrated by portions of the liquid intrusive matter, and so the wall rock contains at times, many feet from the vein, traces of the vein material. When strings of the vein material thus penetrate the wall rock, the rock is spoken of as "ridered," though miners wrongly call these strings "feeders." Sometimes the same mineral as that of the vein may be found in pockets or nests adjoining the vein.

In some veins the richer part of the vein is in the centre, and there seems a regular arrangement of the different minerals according to the specific gravities of the minerals.

When veins cross one another it is found that the place of junction is very rich in mineral deposit. This is really not accounted for, but is said by some to depend on thermal or even on electric conditions. Contents of veins are often found to vary with their depth. The length of a vein is hardly ever known. The richest veins are productive for a while, but their fissures may be filled with other materials than those desired, or may cease altogether. Some, however, are known to extend for several miles. Veins vary greatly in



MINERAL VEINS.

width. One twenty feet wide would be considered quite remarkable; most veins are less than six feet in width.

"Gold is always native, always alloyed with silver, and contains small quantities of copper and iron. Iron pyrites almost always contains gold. Gold usually occurs in quartz veins, which are sometimes in granite."—*Phillips*.

MINE CENTRES.

The geological conformation gives indications in many cases where the mines are likely to be. The following points are worthy of consideration :

1. Generally on or near the Huronian deposits the mines are found.

2. Usually in the neighborhood of granitic intrusive rock.

3. Almost exclusively in the Lake of the Woods region in quartz rock.

4. According to Lawson, in many instances the granitic cores of rock are overlaid on the shore of the lake by skirts of Huronian rock.

5. (a) The localities seemingly most developed with success are the districts a few miles southeast of Rat Portage where the Sultana, Pine Portage and other mines are found.

(b) Rosslund station, some eight miles east of Rat Portage, is the centre of a number of mines of which the Scramble, Sweden, and others are spoken of.

(c) Big Stone Bay has in its neighborhood a number of localities, and the Master Jack is being worked.

(d) The neighborhood of Whitefish Bay, to the east of the Grande Presqu'île, has the Regina, La Mascotte and many other locations.

(e) The Shoal Lake, on the west side of the Lake of the Woods, where the Mikado, Gold Coin and many others occur, has received attention.

The Wabigoon district lies on Huronian horizon, and is being explored and examined. Though belonging to the Rainy River, as being one of its tributaries, yet the Seine

river, running along a stretch of Huronian rocks, lies very little south and is within two degrees east of the south end of the Lake of the Woods.

These are but very few of the many points taken up by companies and prospectors. That some of them are well-paying properties does not say that they are the only rich mines. The districts quoted are miles apart and are scattered over no less a region than of fifty miles square. There seems no good ground for saying that all the good locations are taken.

6. The possibilities of failure are :

(a). The circulating of false or misleading information about localities.

(b) The substitution under the name of one mine of assays from samples of ore taken from recognized rich mines.

(c) The returns made by incompetent analysts, not to speak of fraudulent agents.

(d) The running out of veins which may prove good for a time.

(e) The lack of money to develop.

(f) The difficulty of guarding against dishonest employees, even when gold is secured.

Un doubtedly there is room and much need for the governments of Ontario and Manitoba, which are interested in this matter, having laws on mining, organizing competent scientific departments, under which precautions may be taken to protect the public from deceit, and giving true assays of ore, with certificates of the localities and the like. A government certificate should be issued only under the strictest regulations

MANUFACTURING.

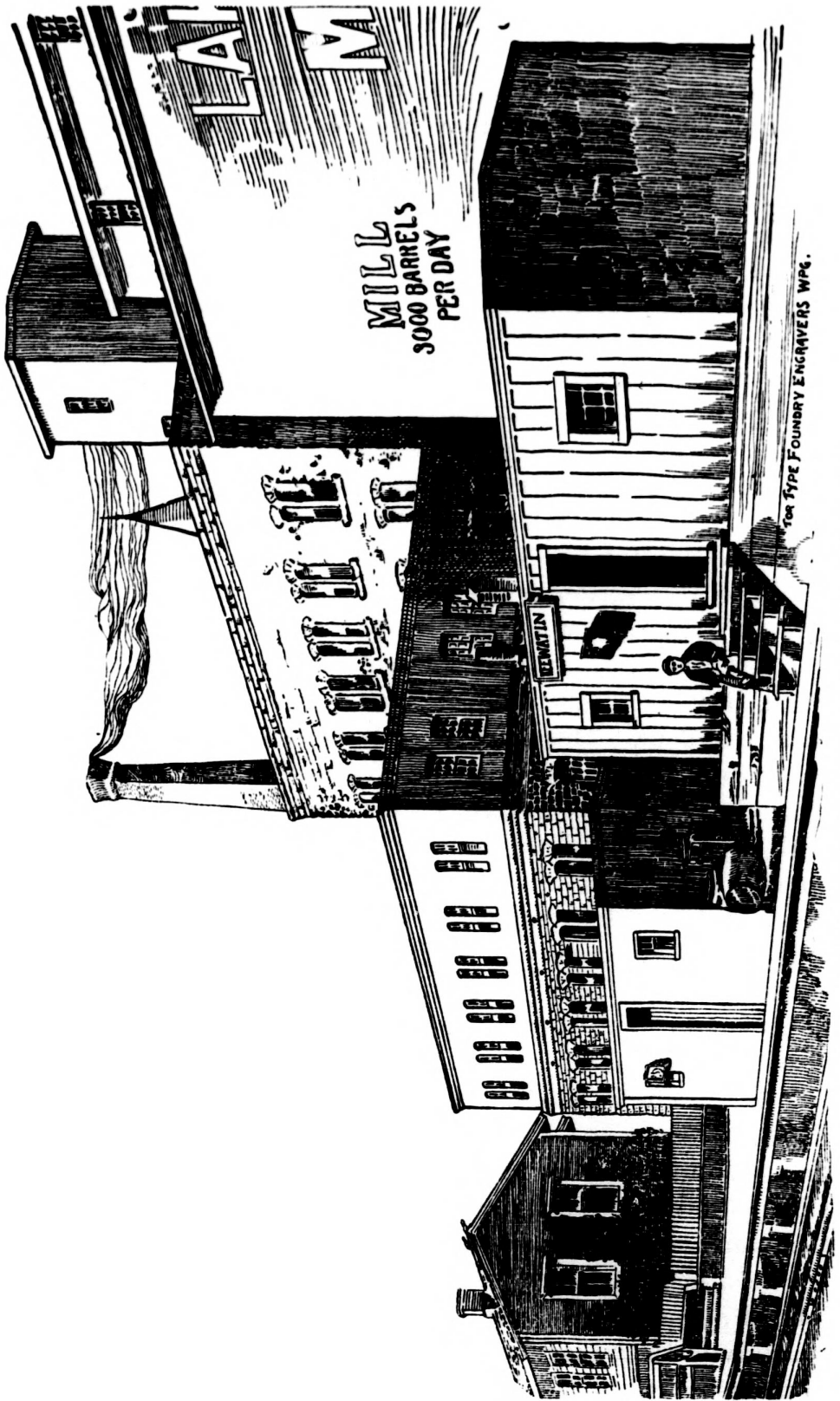
1. The splendid sheet of water found in Lake of the Woods, with its important tributaries, has for years given opportunity for the important industry of lumbering. Excellent timber is obtained from the banks of the streams leading into Rainy River. Great numbers of logs are every season brought down to where the Lake makes exit into Winnipeg

river and manufactured for the uses of the prairie settlers. The saw mills of Messrs. Cameron, Mather, and others are dotted along the edge of the lake for some three miles.

2. The presence of large quantities of spruce, birch and poplar upon the feeders of Lake of the Woods, along with the splendid water power of the lake, has suggested the making of pulp for the manufacture of paper. The timber can be cheaply obtained and delivered, and the passage of the railway through the neighborhood of the water-power gives every facility for advancing this important industry. It has also been suggested that the nearness of the prairies might well be utilized to grow flax for the manufacture of high grades of paper. It is said that 1,281,354 bushels of flax seed were produced in Manitoba in 1895. To be able to use the straw would be an addition to the farmers' income. The manufacture of barrels and woodware is also a feasible industry.

3. The first advantage, other than in the working of wood, has been taken of the water power in the manufacture of flour. This must ever be a chief industry in the Northwest. The Lake of the Woods Milling Company, which began operations about ten years ago, has since, along with the Ogilvie Milling Company, of Winnipeg, been doing an enormous business. To those of us who remember the suspicion with which our Manitoba wheat was looked upon as a flour producer twenty-five years ago, it is a great gratification to know the high place which Manitoba flour has taken in the markets of the world. The output of this mill last year was very large.

4. As the basis of these manufactures, which may render the Rat Portage and Keewatin district worthy to be called a great manufacturing centre, there is certainly to be mentioned as important the service rendered by the Keewatin Power Company. In order that the full power might be utilized, it has been found necessary to dam one of the outlets of the lake at a considerable cost. We are fortunate through the courtesy of the "Flag" newspaper, of Ottawa, in being able to publish a cut of the dam of the Keewatin Power Company.



LAKE OF THE WOODS FLOUR MILL, KEEWATIN

This will show the magnitude of the work already undertaken and accomplished. As is well known this company proposes to supply electric power not only for local purposes, but also for places at as great a distance as Winnipeg.

Looking at the resources of the Lake of the Woods district, we may well wonder at the richness of our Northwestern heritage. While discouraging all booming and unnatural development of our resources, it is but right that we should encourage legitimate work in making use of the treasures of nature belonging to us. We shall be glad if Rat Portage and Keewatin grow to deserve the name already given by some, of the "Minneapolis and Denver of the Canadian Northwest."





KEEWATIN POWER COMPANY'S DAM

