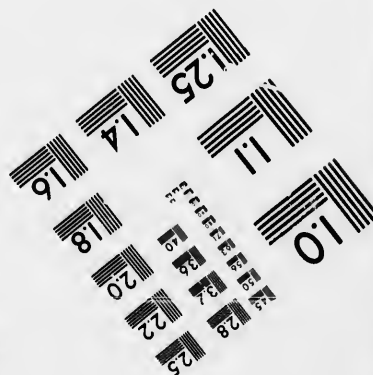
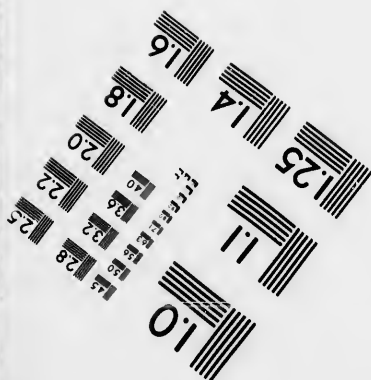
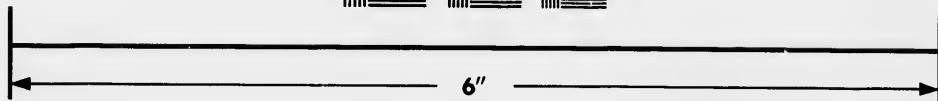
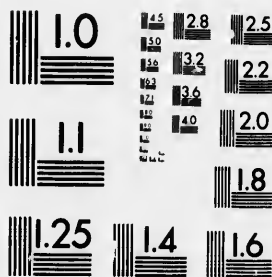


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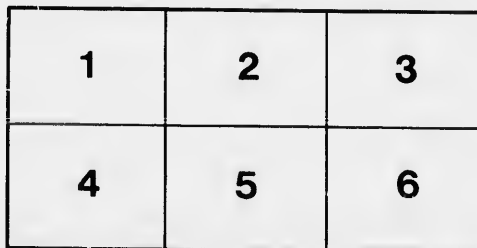
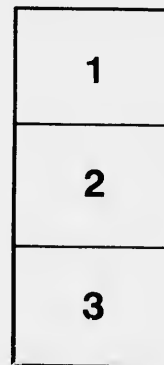
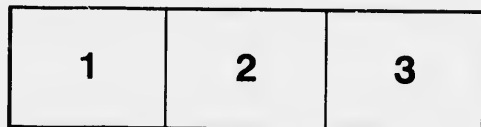
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Misc Reports

REMARKS
ON
UPPER CANADA SURVEYS,
AND
EXTRACTS FROM THE SURVEYORS' REPORTS,
CONTAINING A DESCRIPTION OF THE SOIL AND TIMBER OF
THE TOWNSHIPS IN THE
Ottawa River and Georgian Bay Section,
AND BETWEEN THE
SPANISH RIVER, ON THE NORTH SHORE LAKE HURON, AND
GOULAY'S BAY, ON LAKE SUPERIOR.



Ottawa:
PRINTED BY HUNTER, ROSE & CO.
1867.

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REMARKS

ON

UPPER CANADA SURVEYS, &c.

The principal Surveys performed during some years past in Upper Canada were chiefly confined to that section of the country lying between the Ottawa River and Georgian Bay, and between the Spanish River, on the north shore of Lake Huron, and Goulais Bay, on Lake Superior. The rapid settlement of the lands along the free grant or colonization roads, has induced the Government to subdivide, into farm lots, some of the new townships adjacent thereto; and to explore the country for new lines of communication connecting those roads with one another, and with the most eligible harbors on the shores of Lakes Huron and Superior.

The townships surveyed in the Huron and Ottawa territory during the past year, as well as those enumerated in former Reports, will be found correctly represented on the accompanying map. The system of subdivision is quite the same throughout the entire territory, and the surveys have been so projected as to accord, in some degree, with that of the older surveyed townships lying to the south thereof, consisting of Concessions, Lots, and Road allowances. With the view of facilitating the granting of licenses for timber berths, the townships on the north shore of Lake Huron have been surveyed into sections and quarter sections, each regular section containing an area of 640 acres of land, without any allowance for roads.

In order to explain more fully the system of surveying carried out, and the subdivisions represented on the accompanying maps, a *résumé* of the general instructions issued by the Department to Provincial Land Surveyors, for their guidance in conducting surveys in the Ottawa and Huron territory and on the north shore of Lake Huron, respectively, may be usefully introduced.

INSTRUCTIONS FOR SURVEYS OF THE OTTAWA AND HURON TERRITORY.

1st. Ascertain the bearings of all the lines you survey or verify by astronomical observations, and note the variation of the magnetic needle at the places of observation, and whenever there is any remarkable change in its amount. Enter the details of all your astronomical observations in your field book.

2nd. Clear your lines well, and blaze the adjacent trees distinctly, on three sides, *i. e.*, one blaze on each side in the direction of the line, and one on that side by which it passes.

3rd. You will take a backward observation at each station.

4th. Verify the length of your chain previous to commencing operations, and frequently during the progress of the survey; and pay particular attention to accuracy in your measurements and to the correct marking of your posts, to ensure which, you will select your chain-bearers with strict regard to good conduct and fitness for duty, employing those only on whose honesty and capacity you can rely. In all measurements the horizontal distances must be returned.

5th. Your Theodolite must be often examined, to prevent errors which would arise from the derangement of its adjustments.

6th. Trace all the lines in the middle of the road allowances, planting posts at the distance of fifty links from the lines—on both sides thereof; make the posts of the most durable wood you can find, squaring about two feet of the top, and cutting the numbers of the lots, concessions, &c., with a proper marking iron. The posts at the corners of the Township to be at least six inches square; those at the ends of Concessions five inches; and the lot posts four inches—all planted firmly in the ground. From the post you plant take the course and distance to the nearest tree, which you will blaze in a conspicuous manner, and mark B. T. (Boundary Tree). You will enter the courses and distances of those trees from the posts, and their kind and apparent diameter, in your field book. Where a tree stands in the place for a post, blaze it on four sides, and mark it as you would the post. Where they can be had, place stones round the posts at the corners of the Township.

7th. The regular farm lots are to be 20 chains in breadth by 50 chains in depth, containing 100 acres each; an allowance for road of one chain in width between each alternate concession and every fifth and sixth lot.

8th. If your survey contains an eligible site for a town plot mark it on your plan, and report on its capabilities.

9th. Make a diligent search for, and adhere to, the boundary lines drawn and posts planted in the original survey of the adjacent townships, to prevent encroachments.

10th. Traverse any Lakes you may find within the limits of your survey, in order to ascertain the areas of the lots adjoining them. Lay out road allowances round those lakes which your road lines intersect, and along the banks of rivers, where necessary.

11th. No lines embraced in your survey are, in any case, to be run or surveyed by any person but yourself or some other duly admitted Provincial Land Surveyor, whom this Department may authorize you to employ.

12. Ascertain the names of all the squatters on the lands you survey, and the position, extent, and value of their improvements, with such other particulars as will enable you to make a Return of Inspection of all the lots, in the accompanying form, which you will transmit apart from your field book.

13. As soon as possible after completing your field work you will furnish the Department with a plan thereof, on a scale of forty chains to an inch, exhibiting the natural features of the country, such as hills, swamps, marshes, meadows, lakes, streams and waterfalls, and the clearings and buildings of the settlers; also, the proper sites for mills, town-plots, harbours, and other public improvements. Mark on your plan the lengths and bearings of the outlines of all the irregular lots, and their contents in acres, with the total area of your survey.

You will also furnish a plan exhibiting the Township in colored sections, according to the various descriptions of timber you meet with in the course of your survey, and write on such sections the various kinds of timber in the order of their abundance. Mount your drawing paper on thin linen or cotton, well stretched on your drawing table, previous to drawing your plan, and roll—not fold—it when you send it to this Department.

14th. You will keep a diary, in the form transmitted herewith, containing a detailed account of your proceedings; the number of chains surveyed each day

when you hired and when you discharged your men; and their names, the kind of weather, &c.

15th. Your field book is to be kept in the accompanying form, comprising the astronomical courses of all the lines you have run or verified, the magnetic variation, the distances in chains and links from the points and departure in the Lot, Concession, &c., to each object noted; the kind and quality of the soil and timbe,—entering each kind of timber in the order of its relative abundance; the general nature of the face of the country, whether level, rolling, broken, hilly, or mountainous; all marshes, swamps and meadows; all lakes and ponds, with a description of their banks, and whether their waters be deep or shallow, pure or stagnant; all springs, all brooks and rivers,—with their width, depth and course; rapids and falls, giving the estimated difference of the level in feet, and stating whether they afford mill-sites; all mines and minerals; all travelled roads; the tracts of hurricanes—as shewn by the fallen timber; all offsets or Trigonometrical observations by which you have obtained the measurement or distance of any line or part of a line which could not be actually measured, or the distance of any object from a line; the distance at which you met and at which you left any lake, bay, pond, marsh, meadow, stream, windfall, precipice, hill or mountain,—stating whether the slopes of the two latter be steep or gradual, and their inclination; all posts planted, the kind of wood of which they are made, their dimensions and marks, with courses and distances to bearing trees; and the details of all your astronomical observations, *i. e.*, the place, day, hour, altitude, azimuth, &c.; methods of working, and results.

16th. Your Report of Survey must contain a concise summary of your proceedings, with a few general observations on the physical geography of the country, its capabilities, and the best mode of developing them. Write it on paper of the same size as the printed forms of field notes and diary, as it will be bound with them.

INSTRUCTIONS FOR SURVEYS ON THE NORTH SHORE OF LAKE HURON.

1st. When you have determined, by a series of observations of the meridian altitudes of the sun and of several of the stars, the latitude and variation of the needle at the point of commencement, you will proceed to survey the principal meridian, from the south-west corner of ———, marked A on the enclosed map, on a course south, astronomically. At 40 chains from point of commencement on your line you will plant a post, marked quarter section; and at 80 chains, or one mile, plant another post, marked corner of sections Nos. — on the right, and Nos. — on the left, and so continue your line until you arrive at the 6th mile, or south-east corner of Township No. 1, west of principal meridian, marked B on accompanying plan; and proceed in like manner with the other boundaries and division lines of the entire township. The corners of townships, sections, quarter sections and fractions, are to be established, and marked in the following manner:—On the exterior township lines corner posts must be erected at the distance of every mile and half mile from the township corner. The mile-posts are for the corners of sections, and half-mile posts for the corners of quarter sections. These posts are always to be made of the most durable wood that can be had, and should be very securely set or driven into the ground, and the sides of the posts are to be neatly squared off at the top,—the angles of the square to be set in the direction of the cardinal points of the compass. All mile-posts on the township lines must have as many notches cut on them, or on one of the angles thereof, as they are miles distant from the township corner where the line commenced; but the township corner posts shall be notched with six notches on each of the four angles of the squared part. The mile-posts on the section lines shall be notched, on the south and east angles of the square, respectively, with as many notches as those posts are miles distant from the south and east boundaries of the township.

2nd. Wherever a tree may be so situated as to supply the place of a corner post, it is to be blazed on the four sides facing the sections to which it is the corner, and will be notched as the corner posts are, and at least one bearing tree must be taken in addition thereto, and marked in the usual manner, &c.

When the survey of a township is completed, and the returns thereof, comprising plans, field notes, diary, report and accounts, are transmitted to the Department, they are carefully examined, the plans being compared with the field notes and the accounts with the diary. Should any errors or omissions be discovered in the examination of these documents they are returned to the Surveyor, who must furnish the required corrections and supply the necessary omissions before obtaining a settlement of his account.

The next step in the surveyor's branch of the Department is to prepare a list of the lots in the several concessions, or, if the township is on the north shore of Lake Huron, a list of the sections and quarter sections, with the area of each entered opposite, and, if settled upon, the quantity of land cleared, and value thereof; as also copies of the plan of survey, which are required for the use of the sales branch, the local agent, and the Registrar of the county in which such survey is situated.

The accompanying maps of the Ottawa and Huron territory, and the north shore of Lake Huron, have been compiled chiefly from the surveyors' township plans, and laid down according to a scale, the one of five miles to an inch, the other of six. The projection is constructed from the tables of the United States coast survey, as conducted by Professor Bache. These tables were reduced to the Canadian standard measure of length made by Messrs. Troughton & Simms, of London, for this Department, in 1850, and which is now in the care of the Secretary of the Board of Examiners of Provincial Land Surveyors, at Toronto, for the special use of the surveyors of Upper Canada. Messrs. Troughton & Simms state that they compared the Canadian standard with the Tubular standard scale of the Royal Astronomical Society, and finds it .000008 of an inch longer than the middle 3 feet or standard yard.

It is hoped that these maps and extracts will not only be found useful to the immigrant and party seeking lands for settlement in the sections of the Province they represent, but that they will also afford some valuable information to the lumberer and explorer. Until the territories are subdivided into farm lots, comparatively correct maps cannot be constructed from river surveys; but, in the meantime, much additional information may be procured to swell the available data, and to expose any errors that may have crept into the recent surveys. For this reason, the Returns are placed in their present form before the public.

It is much to be regretted that the method of surveys by contract, in certain parts of Upper Canada, was ever adopted by former Governments, as it has been found to be productive of unlimited evils, from the loose and careless manner in which such surveys were performed. Between the years 1819 and 1827 about fifty townships, of 64,000 acres each, were surveyed after this system, and it has been discovered, by examination of the ground, that the lots, in some cases, fall as much as 20 acres each short of the quantity patented, while in others an overplus of a like quantity is found. In consequence, re-surveys of the townships of Burleigh and Harvey, and part of Portland, have been made during the past year.

Not only was the work on the ground erroneously performed, but the returns exhibit the utmost ignorance with regard to proper order and system. The notes in many of the field books are commenced at the top of the page, the chains and links at the left hand margin and the remarks entered at the right. These field books are of all shapes and dimensions, from $2\frac{1}{2} \times 6$ inches to foolscap size, without information to direct either the settler or the surveyor at any future period how to discover the lots on the ground they represent.

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description written across the entire page; the chains and links are entered at random, and the bearings or courses of the lines left out altogether; and no mention or description is given of posts planted to mark the limits of the lots or concessions. It is highly probable that a re-survey, on correct principles, of these loosely-surveyed townships will be found expedient; the extent and importance of the interests concerned justifying the increased expense which the work of correction will necessarily entail.

The errors of the old surveyors would in many cases be much easier dealt with, in the performance of municipal and private surveys of the present day, had detailed statements of their proceedings been given in their Reports of field notes furnished to this Department, especially as regards their celestial observations. No details are given beyond the mere mention, that the variation of the magnetic needle was found to be some certain quantity, by the meridian passage or an azimuth of the polar star, without stating how the time of such meridian passage or the quantity of such azimuth was determined. From such defects in the Returns it is impossible to form any opinion as to the correctness of the results of such observations. Another source of error with the old surveyors was the false assumption that the magnetic needle had the same amount of variation at different periods and at places remote from one another, that the pole star (which is generally used in establishing meridian lines) passed the meridian at the same time with certain other stars. Hence, if the observations were correctly made, the results would vary several minutes of a degree from the truth. To the above may be added the practice, then in general use, of allowing for the azimuth of *Polaris**, neither adapted to nor calculated from the true latitude of the place of observation, nor having been reduced from the actual polar distance of the star. From the year 1842 to the present time important improvements have been made, both in the system of surveying and in the qualification of the Surveyors. In the year 1848 an Act (22 Vic., c. 29) was passed, appointing a Board of Examiners, to see that no person be admitted to the profession without having served a probationary period, as an apprentice to a duly qualified surveyor, and without having undergone a final examination in the first six books of Euclid, plain and spherical trigonometry, mensuration of superficies, plotting and map drawing, and be sufficiently conversant with practical astronomy to enable him to ascertain the latitude and to lay down a true meridian line. The candidate must also be acquainted with the rudiments of Geology, so as to qualify him to recognize, when met with in the course of his practice, the ordinary economic minerals of the country. The Act above cited provides proper direction for establishing governing and boundary lines of townships, concessions, &c., which have been defaced by time, or which have not been run in the original survey.

Although it is impossible to frame an Act to meet every case arising from erroneous survey, the Bill above referred to, now in force, has done much to rectify the blunders of the early surveyors, and at the same time save the early settlers from expensive law suits and trouble.

Another special improvement in Surveyors' Returns is the new form of field book recently adopted by the Department, by which it is intended to represent the features of the country through which the surveyed lines pass. Every swamp, lake and river, and every remarkable object, the rise and descent of the land, are sketched therein, in the relative position they occupy on the ground with regard to the line of survey, the posts and boundary trees, and the bearings and distances thereof. The surveyor is required to place in the field book a small diagram of the township, which serves as an index to the volume. With a view to facilitate

*The phrase "azimuth of *Polaris*" is used, albeit technical, because it conveys a precise idea to the mind of a surveyor. For the information of others, it may not be amiss to explain that the "azimuth" of a celestial object is the arc of the horizon, intercepted between the meridian and a vertical circle passing through the object.

REMARKS ON UPPER CANADA SURVEYS.

the operation of finding the detailed description of any lot or line therein, observe on the diagram the number of the page, where such description will be found, with the kind and quality of the timber and soil written thereon.

The chains and links are entered from the bottom of the page to the top, in a column running up the centre thereof, with the position of the posts and boundary lines marking the limits of the various farm lots on each side of the line surveyed.

At the end of the volume, the observations for latitude, time, and variation of the magnetic needle, and the necessary detailed calculations, are entered; as also the diary, or journal of proceedings, and sketches of the lakes, with the traverse lines laid down.

It may not be inappropriate to remark, in conclusion, that the progress accomplished in the accuracy and completeness of the surveys of Upper Canada has been most satisfactory. In the accompanying pages are given extracts from Reports furnished to the Department by surveyors employed in opening new fields for settlement during the last year and years immediately preceding; and it is believed that an examination of the statements thus conveyed will serve to exhibit the increased care that is exercised in the departmental supervision, and the increased particularity of the surveyors themselves in the discharge of the duties entrusted to them. Details are omitted; because, though valuable to the profession, they would possess no interest for the general public, whilst they would swell the bulk of the matter published to an inconvenient extent. Enough has been selected to reveal the general progress of the Government surveys in Upper Canada, and to indicate the variety and extent of the ground that has engaged the attention of the Department during the period covered by the Report.

DEPARTMENT OF CROWN LANDS,
Ottawa, 28th June, 1867.

THOS. DEVINE,
Surveyor in Chief, U. C.

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EXTRACTS

FROM

UPPER CANADA REPORTS OF SURVEY.

ALLAN

Is situated on the Manitoulin Island. It is bounded on the north by the Georgian Bay, on the east by Mudge Bay and the township of Billings, on the south by Kagawong lake and the township of Campbell, and on the west by unsurveyed land.

The most of this township was surveyed during the present year (1867), by Provincial Land Surveyor Francis Bolger.

The surveyed portion of the township contains an area of 40,125 acres, including water and roads.

The following is an extract from Mr. Bolger's Report of Survey:—

"I will now proceed to lay before you a few general observations, relative to the physical geography of the country, its capabilities for settlement, &c., as far as came within the range of my own observations.

"The general geological features of the Manitoulin Islands have been very fully described in Mr. Bell's report to Sir William Logan. He has been lately examining that portion embraced within my survey; I shall not, therefore, enter upon this subject, merely stating, *en passant*, that I found vast quantities of silicified corals and heads of cystidians scattered loosely over the ground on lots 15 and 16, and concessions 10 and 11.

The township of Allan, throughout its entire area, is very level, broken, however, at intervals by ridges of limestone, which rise abruptly to a height varying from 100 to 120 feet above the level of the lakes. These ridges are thickly covered with a second growth of pine and cedar.

"The portion of the township best adapted for agricultural purposes lies to the south of the line between the 8th and 9th concessions, containing an area (exclusive of water and of about 4,000 acres at the south-west corner, which has been run over by fire and is very rocky) of 11,000 acres. In the remaining northern part the greater portion has been seriously damaged by fire, which has consumed the greater part of the timber, burning away the soil to the rock. The large portion of this tract I did not deem it necessary to subdivide, acting according to your instructions, that no lands unfit for settlement were to be surveyed.

"In the hardwood lands the soil consists generally of a sandy or gravelly loam, overlying clay; in other parts of a light vegetable soil. The timber found in this last division is generally stunted in growth, and consists principally of pine, poplar and spruce. Maple is the prevailing timber in hardwood lands, but nearly every variety of hardwood is to be found scattered through the township, such as birch, basswood, ironwood, beech, elm,

white and black oak, with large red and white pine intermixed. An abundance of very fine cedar is to be found in the swamps, some of them measuring from 2 ft. 6 in. to 3 ft. 6 in. in diameter.

"The greatest variety and the best quality of timber, as also the richest agricultural lands, are invariably to be found around Kagawong and Ice lakes. A belt of very excellent hardwood land runs through the central portion of the township, having the side line between lots 15 and 16 for its eastern limit, and extending from Kagawong lake, in a northerly direction, to the line between the 10th and 11th concessions, and having an average width of 80 chains. This tract is used by the Indians as a sugar-bush. I understand they make large quantities of sugar every spring, which they sell to the traders on the Island.

"Kagawong lake, of a very irregular shape, is of considerable extent. The portion of it within this township comprises an area of 7,058 acres, or about 11 square miles. It abounds in white-fish, bass, herring, and other varieties of fish, affording the Indians living on its shores an inexhaustible supply of food. This lake is considerably above Mudge bay,—on a rough calculation I should say 150 feet.

"Kagawong river—the only stream of any significance in the township—discharges itself (after running a distance of about two miles from its head at Kagawong lake) into Mudge bay, at the Indian village of Kagawong. It forms the outlet to Kagawong lake, and is of considerable size, varying in width from $1\frac{1}{2}$ to 2 chains. For a distance of a mile from where it receives the waters of the lake it is exceedingly shallow; a canoe of ordinary size finds much difficulty, in some portions of this distance, in navigating it. At about 90 chains from its head it falls over successive ledges of rocks, the entire fall I estimate at about 80 feet, affording good water power, which, I have no doubt, will be turned to profitable account by the incoming settlers.

"Ice lake, situated in the south-west part of the township, contains an area of 1,867 acres, or about 3 square miles. It is connected with Kagawong lake by a stream of considerable extent, flowing in a north-easterly direction. This lake is very shallow; there are some fine fish to be found in it, and some excellent and timbered land bordering its eastern and western shores.

"On parts of lots 16 and 17, concession A, the Indians have cleared out an area of about 13 acres of very excellent hardwood land; they have not, however, established a settlement there. Judging from the appearance of the choppings they must have abandoned it some years ago.

"The village of Kagawong contains about four houses; there are only three families residing there at present, and those, I have been told, propose removing to the village of Michigawdenong, situated at the head of Honora bay. From its exposed position and the shallowness of Mudge bay, at the head of which it is situated, I do not anticipate that that village will rise to any importance, in a commercial point of view."

ASSIGINACK

Is situated on the Manitoulin Island.

It is bounded on the north by Lake Manitou and the township of Sheguiandah, on the east by Manitowaning Bay and the Indian Reserve, on the south by South Bay, and on the west by the townships of Tehkummah and Sandfield.

Provincial Land Surveyor John Grant subdivided part of this township in 1864. The surveyed portion contains an area of 22,081 acres, including water and roads.

The following is an extract from Mr. Grant's report of survey:—

"The portion not surveyed was omitted, on account of its total unfitness for cultivation; it being, as a general thing, a rough, broken, and rocky surface, covered with rolling boulders, interspersed with swamps and a few hardwood ridges; the eastern portion, being the larger part,—swamp, with cedar, balsam, tamarac, spruce and pine.

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"On the balance, up to portion surveyed on 11th concession, small ridges of hard-wood land, and the balance rock and swamp. From the 12th concession to the south-west angle of township, most of the land has been burnt over, little soil being left—it being left nearly a bare surface, covered with stone, except some swamp on the extreme south-west angle, and some high ridges of hardwood on South Bay. The portion between the 1st concession and 11, 12, 13 and 14 is high and broken limestone rock, interspersed with mixed timber, principally cedar, balsam, birch and maple.

"There is not much dissimilarity in the soil; the eastern part, up to the west side of Sucker lake, is a clay loam incumbent on a limestone rock, ranging from one to eighteen inches deep; from thence, on the 1st and 2nd concessions, it is a clay loam, of a lighter quality, approaching to a sand loam on the extreme west, considerably mixed up with stone, and many rolling boulders on the surface. That portion of the township on the south side of Manitou lake, extending to the 11th concession and west boundary, is of a light clay loam, considerably broken up with ridges of rock, and large quantities of rolling stone mixed with it.

"The parts of concession (from 11 to 14) surveyed, is very much broken up with rock, and with very little soil—a large portion entirely bare rock. The timber from Manitowaning, west of Sucker lake, is principally maple, ironwood, basswood, and elm of light growth.

"The balance of the survey is mixed timber, composed of balsam, tamarac, poplar, hemlock, birch and maple, and a few scattered pine, except the portion surveyed on south side of concession 1, the greatest part of which is burnt, only a few ridges of maple, beech, and ironwood left.

"The only waters on the survey, except the lake, are a few streams of little importance, none of sufficient volume for mill purposes.

"The geological feature of the survey is broken with ridges of limestone rock, ascending from South Bay in bold and abrupt ascents, and from Manitowaning until it attains the maximum height on lots 18 and 19 in the 1st and 11th concessions, apparently 300 feet high. The contour from thence to Manitou lake is broken and irregular, with rapid and precipitous descents. There is also a considerable fall from the lots above-mentioned, to the side road 8 and 9 on the 1st and 11th concessions, where a limestone cliff rises nearly perpendicular. From thence to the west boundary does not differ much from a level in its main feature, but is much broken up with limestone rock.

"On the extreme northern boundary there are some small ridges, and less frequent.

"There are no minerals that I could discover, and little difference in the geological formation of the survey, with the exception of occasionally a little shale and some metamorphic rocks.

"The season of the year was greatly to my disadvantage in the prosecution of such researches, as, during most part of the time of the survey, several feet of snow was on the ground.

"The concession and side roads are so much broken up, that it is not practicable to open them as roads capable of travel.

"There are some portions of the survey which offer fair inducements for settlement, probably one-third of the survey, the greatest portion being between Manitowaning and Sucker lake, and around said lake, as far west as 19 on concessions 1 and 2, and the balance in strips between the several ridges.

"There are about 400 acres of clearing, in scattered patches, some of which are pretty well cleared up, and others only partially cleared.

"It is the village situated on the eastern portion of the survey, at the head of Manitowaning Bay. It is composed of about 18 residences, four frame dwellings and the rest log houses; population probably about 120. There is a good frame Episcopalian church, mission house and school, and a good frame store-house on the beach."

AWERES

Is situated to the east of Coulais Bay. It is bounded on the north by the township of Vancouvernet, on the east by unsurveyed land, on the south by the township of Tarentorus, and on the west by the township of Pennefather.

It was subdivided in 1859 into sections and quarter sections; each regular quarter section contains an area of 160 acres. The township of Aweres contains 21,544 acres of land.

The following is an extract from Provincial Land Surveyor A. P. Salter's report of survey:—

"In the township of Aweres but little land fit for arable purposes was met with, its general character being rough and rocky. Many of the sections are well timbered, and, in places, mineral; specular iron was observed in the rock.

"As a whole, this township offers few inducements to settlers."

BIDWELL

Is situated on the Manitoulin Island.

It is bounded on the north by the township of Howland, on the east by the township of Sheguiandah, on the south by the waters of Lake Manitou and unsurveyed land, and on the west by the township of Billings.

This township was surveyed in 1864 by Provincial Land Surveyor Joseph Hobson, and contains an area of 36,816 acres, including roads and water.

The following is an extract from Mr. Hobson's report of survey:—

"I regret to say that I cannot speak very favorably of this township. By far the greater part of it consists of swamps, and poor, sandy and very rocky tracts of land, covered with a dense growth of timber, principally evergreen. In many places it is broken by high and very steep hills and out-crops of rock, the positions of which are represented on the accompanying plan.

"The country to the north and west of Pine Lake is rough and hilly, although in some places it supports a very fair growth of hardwood; but the soil is poor and stony, and far from being well adapted for agricultural purposes. To the south of Pine lake the land rises in terraces and the hills recede some distance from the shore, while upon the north they approach close to the water's edge. There is a small piece of most excellent farming land, timbered nearly altogether with large maple to the east of the lake. The south-eastern part of the township is not nearly so hilly as the north-eastern portion, and contains a number of small pieces of hardwood. There is likewise a large tract of burnt land, the position and approximate extent of which may be seen by reference to the timber map. We also found a good deal of burned land at the south-west corner of the township. Portions of lots Nos. 26 and 27 in concession 6, of lots Nos. 29 and 30 in concessions 4, 5, 6 and 7, are timbered with an excellent growth of hardwood, principally maple. The last-mentioned tract is a singularly beautiful undulating plateau, about 300 feet above Lake Huron, and about one hundred and fifty feet above those parts of the township to the north and east of it. It slopes towards the south, which is the only side from which it is possible to make a road to it. There are also small groves of maple, used by the Indians as sugar bushes, on lot No. 30 of the 3rd concession, and on lots Nos. 26, 27 and 28, concession 11. In addition to the above-mentioned parcels of hardwood there are some others of small extent to the north and west of Lake Manitou; all the rest is, I think I may safely assert, nearly, if not altogether, unfit for farming.

"Some parts of the north and east shores of Lake Manitou, from the line between Sheguianda and Bidwell to that between concessions 7 and 8, rise to an elevation of from about twenty to forty or fifty feet above the water. In these places it is fringed with cedar, at the back of which there is a narrow belt of hardwood, which would cause any one travelling on the lake to suppose that there was a tract of very good hard land extending inland, which is really not the case, as will be learned from the field notes. The wet land comes

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to the water's edge in some places. The shore of the most northerly part of Lake Manitou is low and swampy. Part of the west shore consists of a perpendicular rock, varying in height from forty to seventy feet.

"As before stated, the greater part of the township is covered by a dense forest of evergreen timber, principally cedar, balsam, spruce, small pine, &c., with an intermixture of birch, poplar and, in some few places, hemlock. Generally speaking the timber is small. There is none possessing an exchangeable value except a very limited quantity of pine along a portion of the line, between Sheguiandah and Bidwell. The trees are large, straight, and of great height, but every one that we had occasion to cut in clearing out the lines was hollow. They are, however, sound, probably at some distance above the butt.

"There is not enough for local purposes if the country becomes settled; of course the cedar will be capable of economic application, for rails and building purposes, although it cannot be said to possess a money value.

"I may here remark that I did not see a beech tree on any part of the island that I visited.

"Owing to the great depth of snow, I could only ascertain the quality of the soil from the varieties of timber which it supported and from the roots of trees which had been blown down. In no single instance did I discover any clay—always sand and stones. In those parts of the township which I have described as really good, I did not observe any uprooted trees, but the timber was of such a large size and so thrifty in appearance that I have no doubt that the conclusion at which I have arrived in reference to the soil is the correct one.

"The streams are generally very small. The only one upon which there is any probability of a mill site being found, is that which falls into Honora Bay, near the north-west corner of the township. This stream must, in its course, have a fall of not much less than two hundred feet. I think there is a small stream connecting Lake Manitou with Pine lake, but, owing to the almost unprecedented depth of snow, I failed to find the point at which it leaves the former. It must, however, if it exists at all, be a little south of the Portage.

"Lake Manitou, Pine, and Bass lakes, abound with salmon trout, white-fish, herring, bass, &c., &c. There are two small lakes not far from the west boundary of the township. The water of the most northerly one had a very offensive smell; it is more like a flooded marsh than a lake.

"There is no place in this township, in my opinion, suitable for a town plot, nor do I think any is required. Supposing that the township is settled, "Little Current" and Sheguiandah are not too remote for the settlers to visit in the way of business. The former, being upon one of the main lines of travel in Lake Huron, would probably be the best market on the Island, while the excellent water privileges at the latter are enough to make it a good site for a town, and one that would be likely to draw a good deal of business from a township which possessed no water-power within its own borders. I have little hesitation in saying that the two above-named places would interfere most seriously with the prosperity of any village in Bidwell.

"It is deeply to be regretted that I have been obliged to give such an unfavorable account of this township. I have stated already that there are some pieces of excellent land, but there are not any of them large enough to form a good settlement. The land may, perhaps, be sold by auction; but I cannot think that any one who has a knowledge of agriculture, will purchase if he has previously seen the country.

"The formation of the township is limestone."

BILLINGS.

Is situated on the Manitoulin Island. It is bounded on the north by the waters of the Georgian Bay, on the east by the township of Bidwell, on the south by the township of Carnarvon, and on the west by the townships of Allan and Campbell.

A portion of this township, embracing an area of 23,321 acres, including water and roads, was surveyed in 1864 by Provincial Land Surveyor Alexander Niven.

The following is an extract from Mr. Niven's report of survey:—

"The part of this township surveyed naturally consists of high table lands on its east and west parts, running northerly along the shore of Lake Huron at an elevation of from 200 to 400 feet above its waters, and descending by precipitous cliffs to a valley several miles in width, occupying its central portion, and extending from Honora Bay to Minde-Moya Lake.

"The soil of this central portion, bounded by the aforesaid cliffs, as shewn upon the plan, is in general a sandy loam underlaid with clay, and timbered chiefly with maple, basswood, ironwood, &c. The land and timber around Minde-Moya Lake is of excellent quality. The sugar made from the fine maple groves around this lake affording the Indians one of the principal means of subsistence.

"A tract of excellent land occurs on the east boundary, extending from concession 6 to concession 9, and is timbered chiefly with maple, basswood, &c. Lots 1 to 3, concession 1 are also good lots.

"With the exception of a few detached pieces, the remainder and by far the greater part of the portion of this township surveyed, is of a poor, rocky description, and timbered chiefly with cedar, spruce, balsam, &c.

"A tract of land along the east boundary, extending across concessions 2, 3, 4 and 5, has been completely burnt over by fire, leaving the rock exposed.

"With regard to the timber, I may say that the good land is timbered chiefly with maple, basswood, birch, ironwood, &c. Along the eastern shore of Honora Bay, covering the face of the hill rising from its waters, is to be found some very good red or Norway pine.

"A good deal of white pine is to be found throughout the western portion of this township, this being the principal timber on lots 22 to 27, concessions 4 and 5, as shewn by the timber map. I should think, however, that the supply would not much exceed the demand by the settlers.

"The remainder of the timber is chiefly evergreen, cedar, spruce, balsam, &c., interspersed with maple.

"This township is well watered by lakes occupying about one fifth of the area surveyed, abounding with whitefish, bass and other varieties of fish. Numerous streams are found traversing it in nearly all directions. On the high lands, however, or westerly part, these are very seldom met with.

"This township is strikingly marked by bold promontories and precipitous limestone cliffs descending from the east and west towards the centre and Honora Bay, having a gentle dip to the south, and exhibiting in many places for miles together an exposed face, varying from 20 to 50 feet in height.

"I did not succeed in finding traces of any minerals.

"With regard to the agricultural capabilities of this township, I have to remark that a splendid settlement of about 5,000 acres can be made around Minde-Moya Lake, and extending northerly towards Honora Bay. This tract of land is by far the best that I have seen upon the Island, and would, I think, be settled soon after it comes into market.

"The piece of good land mentioned on the east boundary, taken in connexion with an adjoining tract in Bidwell, might make another settlement. Of the 18,000 acres of this township surveyed, I should say that not more than 7,000 acres will make good farming land.

"About 190 acres have been cleared by the Indians at different places between Honora Bay and Minde-Moya Lake, the largest clearing being at Michigawadenong village—the principal crops raised being potatoes, corn and wheat. These with maple sugar, form the principal means of subsistence to the Indians.

"The inhabitants of Michigawadenong are about 150 in number, or about thirty families.

"It will be observed that I have marked upon my plan a reservation for a town plot, containing 695 acres. The eastern portion or that part at present improved is of little importance in an agricultural point of view, the soil being a light sand.

"By reference to the notes it will be seen that quite a village already exists here, consisting of well-built hewed log-houses, including a church with bell, and priest's house, &c., quite a number of these being enclosed by cedar post fences. There is also a mill privilege here on the creek shewn upon the plan.

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The residue of this township, being an area of 4,466 acres, including water and roads, was surveyed during the present year (1867) by Provincial Land Surveyor Francis Bolger.

The following is an extract from Mr. Bolger's Report of Survey:—

"I find some excellent land on the line between the 16th and 17th concessions, consisting of a deep clay loam, but no timber; such was the scarcity of this article that I found difficult to procure material for posts.

"The extreme north part of this township (that embraced within my survey) is a high table land, rising up from Mudge bay—on its western limit—to over 100 feet above the waters of that Bay, and gradually descending towards the north till it reaches the Bay in a gentle incline.

"The whole of lot 29 and a portion of 28, in the 12th and 13th concessions, constituting what is termed the Indian gardens, is occupied by the Indians living at the village of Kagawong. It covers an area of 104 acres. Here they grow potatoes and corn, which flourishes luxuriantly. I have seldom seen finer agricultural land than is to be found in this locality."

BROWN, WALLBRIDGE, AND WILSON.

These townships are situated east of, but near, the Georgian Bay.

The Maganetawan river runs through Brown and Wallbridge.

The east, south, and west boundary of Brown, the east, south, and part of the west boundary of Wallbridge, and the west boundary of Wilson, were surveyed in 1867 by Provincial Land Surveyor M. Deane.

The following is an extract from Mr. Deane's Report of Survey:—

"The land, generally, is similar in character and description, being rocky, barren and unproductive. The surface throughout is rolling, or very uneven, and, in many places, rugged crags are alternated by intervening swamps and marshes.

"A most ravaging fire ran through this part of the country about three years ago, destroying the timber, burning the scanty soil, and exposing the gneissoid rock, in most places, to the surface.

"The land, generally, is unfit for cultivation or any other agricultural purposes, but will, doubtless, prove rich in mineral wealth.

"It would be presumption on my part to attempt a description of the geological features or formations of the "Maganetawan District," as the same has been already examined by the Provincial Geologists, and fully described in Mr. Murray's printed Report for 1854.

"The Maganetawan river flows, westerly, through the townships of Brown and Wallbridge, on which there are many excellent mill sites, and water-power to an unlimited extent.

"These townships will not afford much scope for lumbering operations, as there is but little pine of a good quality to be found; much has been destroyed by fire, and most of what has escaped is scrubby or punkey. However, the extent of country surveyed by me will yield a large quantity of saw-logs; but, as far as I could see, there is no merchantable timber."

BURI H.

Is situated in the county of Peterborough. It is bounded on the north by the townships of Anstruther and Cavendish, on the east by the townships of Methuen and Chandos-

on the south by the township of Dummer and Stoney Lake, and on the west by the township of Harvey.

This township was re-surveyed in 1864 by Provincial Land Surveyor J. W. Fitzgerald, and contains an area of 79,402 acres, including water and roads.

The following is an extract from Mr. Fitzgerald's report of survey:—

"The township forms, I regret to say, an unfavorable exception to those lying to the rear of it, and is not likely to offer much inducement to settlers, the greater portion of it being of so barren and sterile a character as to render it totally unfit for agricultural purposes.

"In the part of the township lying south of the base line, dividing the old from the new surveys, a tract of fair arable land extends from the west boundary to concession No. 8, having an average width of about one mile.

"The Burleigh Road passes through this tract, which is covered with a stout growth of hardwood timber, composed chiefly of beech, maple, basswood and elm. The soil is fertile and of a dark loamy character resembling clay, in places it is shallow while at others it attains considerable depth.

"The rock underlying this area is a fossiliferous limestone in horizontal beds varying from one to three feet in thickness, assuming occasionally, where it crops out, the appearance and character of a coarse description of marble. As no limestone in any abundance occurs in the newly surveyed townships north of this, it will doubtless, as settlement progresses, become exceedingly valuable for building and other purposes. The greater portion of the tract is, I am informed, already patented by the Government to non-residents who are now demanding for it an enormous price, viz: five to six dollars per acre, notwithstanding that it has been almost totally denuded of all the timber on it of any commercial value. This acts as a very serious check to settlement, and interposes a formidable barrier between those who are obliged to settle on lands in the interior and the old settled townships in the front.

"South of this tract and immediately north of Stoney Lake is a narrow belt of granite rock which forms the north shore of this chain of lakes for a considerable distance. The surface is broken and interspersed with swamps and patches of bare rock totally destitute of vegetation. A large proportion of flooded land occurs along the shore of the lake, caused by the dam erected at the foot of Clear Lake, which throws back at least from three to four feet of water.

"Beyond the limestone exposure northwards the granite again appears and continues to the north end of the township. In the neighborhood of Big Cedar Lake, and extending westward to the boundary, an extremely broken and rocky granite tract occurs from sharp irregular ridges entirely destitute of soil and timber. This tract covers an area of about three thousand acres. East of Big Cedar Lake on concessions 6 and 7, the country although considerably broken, is somewhat better, the timber is large and healthy, but has been lumbered on regularly for square timber and saw logs since the year 1857. A few scattered trees of fair white and black oak are met with on this tract.

"Eels Creek flows through this part of the township, and within the limits of its water shed the pine timber, both red and white, is generally of a fair quality. This stream is navigable for saw logs, and square timber is occasionally driven down during the spring freshets.

"East of Eels Creek the country contains very rough and broken land, particularly in the vicinity of Stoney Lake, where it presents a very bleak and desolate appearance. The timber is generally poplar, small white pine and birch, but a few isolated groves of good white pine nevertheless occur in this area, and on the concessions 3, 10, 11 and 12 good red pine is tolerably abundant.

"In the neighborhood of the boundary line between the townships of Burleigh and Methuen from lot No. 3, old survey, north of Jacks Lake, the red pine is very plentiful, large groves composed exclusively of it occurring in several places.

"The land in this section is of no value for agricultural purposes, the surface being rocky and broken, and the soil poor and unproductive. In this part of the township no lakes occur, and streams and creeks are also few and rarely met with. It is however plentifully interspersed with swamps, chiefly of tamarac, alder, &c. That portion of the

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"Along the water shed of Deer Bay Creek a number of small lakes occur, the largest of which, Long Lake, is about four miles in length, very deep in places, and varying in width from three to fifteen chains.

"Its shores are generally high and precipitous, and the country surrounding it barren and sterile in the extreme. Along the borders of the creek, however, occasionally patches of fair white pine are found, but the remainder of this barren tract is scantily covered with a stunted growth of small pine, oak and soft maple, and the surface much broken by bare granite knolls, deep ravines and gorges, interspersed with swamps and beaver ponds.

"The country through which the Burleigh Road passes, from where it intersects the base line to lot No. 11, concession No. 11, new survey, is broken and unfertile. It has been partially lumbered over, and there still remains a large yield of small white and red pine. North of this the country presents a more favorable appearance, and many of the lots along the road are settled upon and partly cleared.

"On concessions 11 and 12 there is a good tract of hardwood land extending from lot No. 11 to 14, the soil of which is of a very fair quality, and the timber, of a mixed character, is large and healthy. Upon concessions 14, 15 and 16 also, a piece of good hardwood land occurs. It extends from lot No. 18 to 24, the soil is of good depth and quality, and the surface gently undulating and covered with maple, beech, basswood, birch, hemlock, &c. There are along this section of the Burleigh Road clearings varying from 10 to 25 acres, which have this year produced good crops of fall and spring wheat, barley, oats, potatoes, turkeys, &c. Upon lot No. 16, concession 12, a good saw mill has been erected by Mr. James Golborne, and has been for some time in full operation sawing lumber for the settlers.

"In the north-east part of Burleigh the granite rocks are occasionally interstratified with masses of crystalline limestone which entirely disappears on entering the township of Chandos. In all the small lakes connected with Deer Bay Creek fish is very abundant, particularly in Long Lake, where salmon-trout and bass abound and are caught in large quantities by the settlers.

"Salmon-trout and bass are also very plentiful in Jacks Lake and in the southern part of the township. Stoney Lake abounds in salmon-trout, bass and maskelonge. The Cedar Lakes too are well supplied with bass.

"Throughout the township deer are very plentiful; beaver, mink, martin, &c., are much hunted for in the spring and fall.

"Notwithstanding the unfavorable character of this township for agricultural purposes, the arable proportion of which does not exceed 15 per cent., it is to be deplored that the settlement of the good tracts in it, as well as the fine township lying to the north, receives no encouragement whatever.

"The Burleigh road, the only avenue at present into this country, was contracted for and commenced four years ago, is still in the most unfinished state, and owing to the gross carelessness and neglect of the Superintendent by not causing the contractor to remove the fallen timber from the bridges and crossways a certain distance, every one of them along the road was, during last summer, destroyed by fire, entailing a serious loss to the Department, causing great inconvenience to the settlers and materially retarding the progress of settlement generally in this section.

"In conclusion I would beg to suggest as a means of promoting the settlement of the country opened by the Burleigh Road the construction of a branch road from lot No. 7, concession 6, old survey, across the Boshing Narrows into the township of Dumner. This would turn out an inlet of great importance to the people, and would contribute very considerably to increase the settlement and prosperity of the country."

CARDIFF.

The following is an extract from the report of survey of the east part, or residue of the township, in 1863, by P. L. S. Fitzgerald:—

"That tract of country lying between the south boundary and concession No. 6, and sideline 20 and 21 and the east boundary, is undulating, and in places considerably broken by low ridges of granite, only partially covered with a shallow soil; in the valleys, however, occasional tracts of fair land occur, sufficiently extensive to induce settlement thereon. The prevailing timber in this section is white pine of a good quality, and from its proximity to the North River, which runs obliquely through this tract, could, with advantage, become marketable. The river, however, though possessing sufficient water and being comparatively free from sudden abrupt bends, would require a good deal of blasting, and small packs of drift wood to be cut away to make it profitably available. Hemlock, maple, beech, birch, &c., of average size, are also frequently met with in this tract.

"Between concession 6 and Paudash lake is a tract of land possessing a much more favorable appearance; the surface is gently undulating, gradually sloping towards the lake; the soil is composed of sandy loam of good depth, resting generally on a bed of gravel and coarse sand, and covered with a healthy stout growth of hardwood timber. On the west shore of this lake, from concession 6 to concession 11, is also a tract of land of very good quality, and covered with heavy beech, maple, hardwood, birch and hemlock. Small isolated patches of healthy average-sized pine are also met with.

"With the exception of a part of the east shore of the north bay and a portion of the north shore of the east bay, the land around Paudash lake offers every inducement to the settler; the soil is rich and fertile, and the situation in every way a desirable one for settlement—from its proximity to this large and beautiful lake, abounding in salmon-trout, and smaller varieties of fish, and also being within easy access of the Buckleigh road.

"To the north and north-east of the lake, extending to concession No. 13, the land again is broken by low granite ridges, the soil is shallow, and the timber of a stunted growth. To the west of this section, and along side line 15 and 16, is an excellent tract of land, extending northwards to concession 14. The surface is gently undulating, and grows stout beech, maple, and basswood; the soil is of great depth, and of a rich, loamy nature.

"The land through which side line 25 and 26 passes, in concessions 10, 11, and 12, is partly broken; but further east it improves very much, and towards the boundary presents a promising aspect.

"In concession 12, on side line 25 and 26, the land improves. Eastward of this line is a small lake, surrounded by land of a very fair quality, covered chiefly with hardwood timber. Some excellent white pine also surrounds the shore of this lake, though not in great abundance.

"In concession 14, the line crosses a neck of this lake, beyond which the land is rather hilly, but the soil of good depth, and the country in every other respect well suited for agriculture.

"The land on concession line 14 and 15, from lot 16 to the east boundary, is of nearly the same fair character—a very large proportion of this part of the township being well fitted for settlement.

"On side line 25 and 26 the land is rolling, about three-quarters of a mile north of concession line 14 and 15, where it begins to become more uniform and level in concessions 16 and 17, a very large proportion of which is beautiful land, sloping eastwards; the soil is a rich sandy mould, and is covered with very large beech, maple, basswood, birch, and swamp elm. This hardwood tract extends to the north boundary, and eastwards to the township of Herschel; it comprises about eight or ten thousand acres, and is drained almost entirely by tributaries of the York branch of the Madawaska. Along side line 15 and 16, from concession 15 to 20, the land is not quite so good, and is chiefly covered with small pine, hemlock, balsam, &c. This part of the township is well watered; a number of small lakes immediately north of Paudash lake, and connected with it by a good creek, affording some good mill sites.

"Paudash lake is a large body of water of a very irregular form; its banks are generally low, and in places rocky and stony. Some very pretty islands are also scattered through it; its outlet is in the township of Faraday, butting on the Hastings road, and flows very gently for a long distance.

"This part of the township of Cardiff comprises very nearly 40,000 acres, and is well worthy the attention of Government; and until it can be conveniently reached (although several thousand acres are now claimed), it cannot possibly be settled. West of this township is Monmouth, the survey of which I have also just completed. It contains at least 60 per cent. of good land and I would respectively beg to recommend, a new road be opened

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through this tract, in an easterly and westerly direction, connecting the Bobonygeon with the Hastings road—thus affording access to both these roads, together with that afforded by the Burleigh road to the interior."

CARDWELL.

Is situated in the county of Simcoe. It is bounded on the north by unsurveyed territory, on the east by unsurveyed territory, on the south by the township of Watt, and on the west by the township of Humphrey. It was surveyed in 1866, by Provincial Land Surveyor F. A. Baldwin, and contains an area of 50,065 acres.

The following is an extract from Mr. Baldwin's report of survey:—

"The country through which the old Parry Sound road passes being composed of ridges of rock with swales intervening, the soil red sand, and timbered with hemlock and alder. I consider it to be altogether unfit for settlement. The remaining portion of the township with the exception of the thirteenth and fourteenth concessions, from lot number five to lot number thirty-five, is fit for agricultural purposes, and especially along the easterly boundary, which is very fine land extending eastward to Vernon River and Lake. Also along the banks of a small stream called by the settlers Rosseau River, and by the Indians Riniwahhiking, which is from thirty to forty links wide.

"The valley along this stream, up to the ninth concession, is extremely good land, having a heavy clay soil, which is flooded by the creek every spring. This stream is used by the Indians as a canoe route in the spring, when there is plenty of water, but during the summer is abandoned owing to the want of water. It drains the whole of the township of Cardwell, and is principally fed by large swamps, the water is very dark and offensive during the warm weather. The lakes of this township, for this section of country, though few in number, abound with fish, principally salmon-trout, and the woods are well stocked with deer and partridges.

"The fur bearing animals have become nearly extinct. The timber in the township is composed of hardwood and hemlock, with some small pine, the pine not being in sufficient quantity or of quality to admit of being retained for lumbering purposes though ample for local requirements.

"Owing to the parties constructing the Parry Sound Road having burnt the brush cut on the line of road, the fire has extended some distance on either side, for about two miles in width, which practice, I think, should at once be stopped, as it is the means of doing an immensity of harm both to the timber and soil, as well as destroying the fur bearing animals.

"I have carefully noted all mill-sites in my field notes; there are several in the township, principally along Rosseau River, having a good supply of water for the greater part of the year.

"The geological features of this part of the country are wholly of the gneissoidal or primary formation, specimens of which I have secured to send to Sir W. Logan.

"I have not noticed any point in the township of Cardwell, which would be suitable for a town plot, owing to the town plot in the township of Humphrey being close to the town-line, and at the head of Lake Rosseau, which is the most suitable place for it."

CARLOW

Is situated in the county of Hastings. It is bounded on the north by the township of Bangor, on the east by the township of Raglan, on the south by the township of Mayo, and on the west by the township of Montegale.

It was surveyed in 1866, by Provincial Land Surveyor Charles Fraser Aylsworth, and contains an area of 48,308 acres, including water and roads.

The following is an extract from Mr. Aylsworth's report of survey:—

"The greater portion of the township is composed of excellent farming land. The soil is principally sandy loam, and the timber chiefly maple, beech and basswood (that is, on the best land).

"The south-east corner of the township, as shewn on the timber map, about 2,500 acres, is rough and in some places very rocky, the timber principally pine and hemlock; the pine timber has been culled and very little left fit for market in the way of square timber, although a large quantity of saw-logs could be had of a very fair quality; the soil on this portion is light and sandy, and not suitable for agricultural purposes.

"The central portion of the township (as shewn on the timber map covered with hardwood), bounded on the north by the York branch of the Madawaska River, is composed of excellent farming land, the soil sandy loam with a clay sub-soil, very little rock or stone in this section.

"The timber is chiefly maple, beech and basswood, with sufficient pine for local purposes, but not in large enough quantities to make it profitable for lumbering operations, as this township has been all culled by lumber-men for the last 35 years.

"That portion to the north of the York branch (as shewn on the timber map, covered with pine and hemlock), and bounded on the north by the line between the hardwood and the pine and hemlock, is light sandy soil, and a large amount of rock and stone in many places, to such an extent as to render it unfit for settlement, in fact the very best part of this section can only be called second class land.

"Along the margin of the river, however, and scattered over the whole of this tract, there is still some fair pine remaining, better suited for saw-logs than for square timber. There is also birch and poplar on this portion, but of very small growth.

"The northern part of the township (that portion shewn on timber map as being covered with hardwood), is of the same quality as the central portion, and well suited for agricultural purposes, soil sandy loam, and timber maple, beech, basswood and pine, enough for local purposes.

"About 200 acres in the north-west corner of the township are very rough and rocky. The timber (pine) nearly all dead, owing to fire having passed over it some years ago.

"At the time I completed the survey there were in the township twenty clearings, comprising in all 270 acres, and the settlers all appear to be doing well, and in very good circumstances; the crops last year, 1865, were very fine, and the fall wheat, 20 acres altogether, gave an average yield of 30 bushels per acre, oats about 40, and hay from 2 to 2½ tons per acre. Roots and vegetables of every description do well in this township, and in several instances as many as 200 bushels of potatoes per acre have been raised, turnips, &c., in like manner have yielded abundantly.

"The township is well watered by lakes, rivers and creeks, the lakes and rivers being plentifully supplied with fish, such as salmon-trout, pike, bass, perch, and speckled trout.

"The York Branch of the Madawaska River, which runs through the township, is a splendid stream of water, on which are two good mill sites marked on plan, with a plentiful supply of water all the year. There is also a good mill site on the Papineau Creek marked on plan.

"I did not collect any specimens of rocks, as nothing worthy of note came under my notice, the formation (granite) being the same throughout the township without any variation."

DUNGANNON

Is situated in the county of Hastings. It is bounded on the north by the township of Montegale, on the east by the township of Mayo, on the south by the township of Limerick, and on the west by the Hastings road, and the township of Faraday.

This township contains an area of 64,337 acres, of which 11,535 acres were surveyed in 1857, by Provincial Land Surveyor Quintin Johnstone.

The residue of the township, being an area of 42,802 acres, including water and roads, was sub-divided in 1864, by Provincial Land Surveyor John L. P. O'Hanly.

The following is an extract from Mr. O'Hanly's report of survey:—

"This township is naturally divided by York River and its main tributary, Egan's Creek, into three sections, viz: the north-western, south-western and eastern.

"The north-western section is in the form of an irregular trapezoid, and contains in round numbers 16,000 acres. It is generally rugged and hilly. Some of its hills attaining the magnitude and continuity of mountains, and the surface in many places consists of bare rocks. The soil is a red sandy loam, and where free of boulders is tolerably productive. Some patches of pretty fair land are here and there to be found. About a fourth of this section is fit for settlement, and I have no doubt that at least that proportion will in time be settled. The prevailing timber along the York River is greenwood, principally pine of a very fine quality. The remainder is covered with hardwood, pine and hemlock, one or other predominating according to soil and situation, excepting the swamps, and the alluvial flats along the river, which are mostly timbered with elm and ash. Crystalline limestone in this section is almost entirely confined to the south side.

"The south-western section is in the form of an oblong with two serrated sides. It contains about 16,000 acres. The surface is rolling, here and there abruptly broken by narrow ravines and steep rocky declivities. The soil is a deep sandy loam, generally free from stones, capable of yielding very fair crops. The timber of this section, swamps excepted, is principally hardwood mixed with pine, in some places only scattering, in others bearing a fair proportion, and along Egan and L'Amable's Creeks, almost exclusive on the high lands. I consider that about one-half of this section is fit for settlement. Crystalline limestone is very abundant throughout.

"The eastern section is in the form of an upright millsaw, irregularly worn, and with broken teeth. It contains, unsubdivided portion included, about 14,000 acres. It consists of low, flat hills, alternating with narrow swamps and marshes along the principal streams. It is less elevated and more nearly approaching a level surface than either of the other sections. The soil consists of sand and gravel, bare rocks in many places protruding. The prevailing—almost only timber, is greenwood, consisting of red and white pine of superior quality, hemlock and balsam on the high lands, and cedar, spruce and tamarack on the low lands and swamps. This portion is mostly if not altogether, unfit for settlement, and in my opinion should not be offered for sale. For whilst I doubt not but it would command a readier sale than any other section, I am satisfied that it would be purchased by pretended settlers for the sake of the pine, to the great injustice of the limit-holders, and loss to the revenue.

"In this connection I may remark, that continued observation and considerable experience have convinced me that the exclusively pine districts are more regular or level than either the hardwood or mixed timber countries in the Ottawa and Huron territory. I have found no trace of crystalline limestone in this section.

"Of the whole residue of this township, about a fourth consists of middling or fair land very well fit for settlement, and the remaining three-fourths are rough, rocky and barren, and therefore wholly unsuited to agricultural pursuits. This may appear a small proportion, but I have seen enough to convince me that it is equal to that of any other township on the Hastings Road; nay, that many townships in the Ottawa and Huron territory, supposed to have much good land cannot boast of a like ratio.

"The prevailing timber is pine, which is to be met with in more or less quantities throughout the whole township.

"This township is well watered, the principal streams being York River, Egan's Creek, and L'Amable's Creek. York River, a tributary of the River Madawaska, itself a tributary of the Ottawa, a tributary of the St. Lawrence,—so that York River may metaphorically be styled a great grand-child of the mighty St. Lawrence,—enters the township on the west side in gift lot No. 54, and flowing north-easterly, in a circuitous and very serpentine course, leaves it in lot No. 4, in the 16th concession. Its bed is deep and narrow, current swift, and high banks generally to Egan's Farm, where it becomes broader and less swift, with low banks and large marshes adjoining, which in high water present the appearance of a long, irregular lake. Its navigation, suitable for the canoe, skiff or punt, is interrupted by three rapids, composed

of a series of chutes or cataracts of great hydraulic power, and forming excellent mill sites. A slide and dam have been constructed on one of them, and side dams on the others by Messrs. Harris, Bronson & Co., to facilitate the descent of timber to market. A considerably quantity of saw-logs and square annually go down this stream, the former for the Ottawa City Mills, and the latter for the Quebec market.

"Egan's Creek, a tributary of York River, enters this township in the 10th lot of 1st concession, flowing northerly in a zigzag course, falls into York River in lot 12 in 11th concession. This stream is for the most part deep and sluggish, with low swampy banks, and large marshes at its confluence with L'Amable's Creek. Its navigation is obstructed by three rapids, on one of which a slide and dam are constructed, and on another a dam by the party and for the purpose referred to above. The two larger are well fitted for mill sites.

"L'Amable's Creek is also deep and sluggish with low swampy banks. Its navigation is likewise used for the descent of timber.

"The lakes are few and small, shallow and muddy, gradually filling up by the *débris* of the adjacent hills, swamps and marshes are numerous, and some of considerable extent. I have no doubt that many of these are extinct lakes, as they bear unmistakable traces of their aqueous origin.

"There are also some wild meadows, the hay from which is eagerly sought by lumberers and new settlers, as it affords an excellent fodder for oxen and cattle.

"This township offers many inducements and advantages to new settlers not possessed in a like degree by other localities. It is accessible from the old townships on the south by the Hastings Road, and from the Ottawa by the Opeongo and Peterson Roads. Extensive lumbering operations in the circumjacent country cause a great demand for labor with high wages, and a ready market at hand for the redundant produce of the settler, at prices far exceeding those of the frontier townships.

"There is a post office (York River) in the adjoining township of Faraday, separated from this only by the breadth of the Hastings Road. There are a grist and saw-mill on L'Amable's Creek; there are also a general store, two smaller stores, and three taverns in the township."

FISHER

Is situated on Batchewanung Bay, on the north shore of Lake Superior. It is bounded on the north by the township of Palmer, on the east by the township of Tilley, on the south by Batchewanung Bay and the projected township of Ley, and on the west by the township of Herrick.

This township was subdivided into sections and quarter sections in 1865 by Provincial Land Surveyor G. B. Kirkpatrick.

Each regular quarter section contains an area of 160 acres.

The township of Fisher contains an area of 12,241 acres of land, 400 acres of which had been previously patented.

The following is an extract from Mr. Kirkpatrick's report of survey:—

"The land throughout the township generally is of good quality, sandy loam, and well situated for agricultural purposes, there being scarcely any rock visible except in the east boundary. The swamps shewn on the plan are generally dry in summer and would make excellent meadow land. The land on the island is level and swampy, but as it is considerably above the level of the lake, I think there would be no difficulty in draining it. The two northern ranges of sections are most deserving of notice, being for the most part splendid looking hardwood land, and nearly free from stone. Round the shore of the bay the soil is lighter and more sandy. On section 9 and part of section 8 the timber has been lately burned.

The timber in the township is principally composed of maple, birch, balsam, ironwood, cedar, spruce and tamarac, and a few pine scattered over most of the sections, not in

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sufficient quantity, however, for lumbering purposes, but affording good building materials for settlers. The only fixed rocks to be met with are greenstone and trap, in the former of which iron ore is found in abundance in the locations of Mr. Mansfield and others, situated to the north of the township. There are no mill sites within the limits of Fisher, but immediately to the north of it there are falls on the Batchewanning River and Carp River, which both enter Batchewanning Bay, in this township. The rivers as well as most of the smaller streams are plentifully stocked with speckled trout.

"There are half a dozen families of Indians living on section 14, who get their living by fishing and hunting. They do not cultivate any of the land, except a little for potatoes round their houses. There are several maple bushes on section 12, where they all go in the spring during the sugar-making season.

"The Hudson Bay Company have a trading post near the village, on section 13, and I am much indebted to the officer in charge for his kindness and courtesy during the winter.

"This township presents unusual advantages to settlers, from its proximity to the iron mines before referred to, which, I understand, are being opened up at the present time, as affording a ready market for everything that could be grown by them.

"The climate, to judge by last winter, which I have been told was an average one, is not more severe than in the latitude of Kingston, though more snow falls than in the latter place.

"In conclusion I would say that the whole of this township is fit for settlement, and I have no doubt, when the land is open for sale, that the greater portion of it will be speedily settled."

FOLEY

Is situated in the county of Simcoe. It is bounded on the north by the township of McDougall, on the east, south and west by unsurveyed land, the north-west corner of the township touching on Parry Sound.

It was surveyed in 1866 by Provincial Land Surveyor George A. Stewart, and contains an area of 42,497 acres, including water and roads.

The following is an extract from Mr. Stewart's report of survey :-

"The Parry Sound Colonization Road passes diagonally through the township from south-east to north-west, thus facilitating in the best possible manner the settlement of the township. This road, through Foley, is of very superior quality and will compare most favorably with any of the colonization roads with which I am acquainted and reflects great credit on the parties employed in its construction.

"Physical Features of the Country.

"A large proportion of this township is occupied by water, a characteristic common to this portion of the province. The lakes throughout this township are generally very irregular in outline, presenting bold rocky shores and great depth of water. An examination of the map will shew the position and extent of these lakes. It will be observed that towards the western part of the township they become more numerous and irregular as we approach the Georgian Bay. These lakes present scenery of singular beauty and variety, and possess many attractions to the sportsman and tourist.

"The hills throughout the township are generally rugged and rocky, presenting in some cases impassable barriers.

"The rivers are of small dimensions, connecting the several lakes. The principal river, after passing through several lakes, continues its course westerly along the tenth concession, and empties into Parry Sound near the western boundary of the township. It has several falls in its course which might be made available for manufacturing purposes. The position of these falls are indicated on the plan and field-notes.

"A lake of some magnitude occupies a considerable portion of the centre of the township. It is named by the Indians Nig-ga-go-bing, and extends its numerous bays in

several directions from the main body, its shape being very irregular. Its waters are discharged through a short river into a small lake on lots 130, 131 and 132, in concession A, and from thence into Lake Pot-tah-cah-wiu-wa-na, and from thence through a longer stretch of river into the Sound at lot number thirty-five in the ninth concession. Where this river crosses lots 139 and 140, in concession B, are falls of some twenty feet head.

"The only other rivers of any consequence are, that running from Pah-she-gong-ga Lake into a small lake on lots six and seven, on the third concession, and another from Lake Che-pah-gua-ne-ne-na across lots 128 and 129 in concession A. The former is sluggish in its course and contains no falls, but the latter is precipitated over several ledges of rocks, and affords some mill power for manufacturing purposes. It falls probably some twenty-five feet.

"I have endeavored to indicate on the timber plan accompanying these returns the general divisions of the timber throughout the township. The difficulty of rendering anything like a correct representation of all the various characters which the country presents, is well known to those who have made the attempt, so that only the general sub-divisions are attempted as being all that is deemed necessary. It will be found, therefore, that in many places throughout the portion shewn as hardwood land, rough precipitous barriers of rock present themselves, and low wet swamps incapable of drainage; but on the other hand, there are small patches, containing perhaps several hundred acres, to be found throughout the portion shewn on the plan as rough rocky land.

"Land of excellent quality will be found in several places along the southern boundary, particularly from lot number one to number eight, and from fourteen westward to lot twenty-four. Towards the western end of this boundary the land becomes rougher and more broken, although still containing small patches of good land. At the south-west angle of the township a very extensive marsh occurs, which rendered it difficult to continue the survey to that corner.

"Along the line between the second and third concessions are considerable tracts of very excellent land, more particularly at lots seven, eight, nine and ten in those concessions, and westward from lot number twenty-eight may much good land be found. In the north-eastern part of the township are large tracts of good land, particularly from lot three to lot ten, in the tenth and eleventh concessions. Also from lot fourteen to twenty-three, in those concessions. So that generally throughout the township large tracts may be found well suited for settlement. Indeed I have no hesitation in saying that the whole township will compare most favorably with any other that has come under my observation throughout the surveyed lands in what is commonly known as the Ottawa and Huron tract.

"I surveyed the township of Stanhope in the winter of '59 and '60, and it was considered one of the best townships in that portion of the country, and it was not long in being taken up to a great extent, notwithstanding the difficulty of getting into it for many years, yet I consider the township of Foley much superior to it, independent of the greater facilities the latter possesses of getting to it by steamer on Lake Huron.

"The numerous lakes throughout this country offering difficulties to transit from one part of a township to another are often the cause of reported tracts of good land not being taken up, and the township of Foley will be found to be no exception in this respect, containing, as it does, a more than usually large water surface; but the position of the Parry Sound Road counteracts in a great measure the evils arising from that source.

"There are no large tracts of good pine found in the township, though occasional groups of very excellent red pine may be met with throughout the hardwood tracts worthy of the attention of the lumberman. Oak of good quality may be seen in various parts of the township, and birch is very abundant generally.

"Geological Features.

"All rock exposures throughout the township bear the strongest evidence of its being situated wholly within the Laurentian formation, enormous masses of gneiss rearing their faces like perpendicular walls are constantly met with. These rocks bear the usual characteristics of the gneiss. Stratified beds, varying in thickness from an inch or less to many feet, composed generally of quartz, feldspar and mica, and sometimes hornblende. I looked in vain for any indications of a higher formation, or for any tracings of crystalline limestone, and for that reason I did not think it necessary to transmit any specimens

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of the rocks to the Department, as they appeared to be ordinary gneiss, differing only in the proportions of the constituents quartz, feldspar and mica.

"There were strong indications, however, in many places of iron ore, and the effect on the magnetic needle was very troublesome, at times causing a variation of as much as fifteen or twenty degrees. I was not able to discover anything resembling ore on the surface, or samples would have been forwarded with these returns to the Department."

FRANKLIN

Is bounded on the north by unsurveyed lands, on the east by the Bobeaygeon road and the township of McClintock, on the south by the township of Ridout, and on the west by the township of Brunel.

It was surveyed in 1865 by Provincial Land Surveyor Henry Lawe, and contains an area of 41,191 acres, including water and roads.

The following is an extract from Mr. Lawe's report of survey:--

"Along the east side of the township, between concession A and side-road 5-6, the surface of land is very hilly and broken, and very much cut up with small lakes and swamps, the hills—or ridges—rising some hundred feet above the general level of the township. The soil is of a sandy character, shallow on the tops of the ridges, where, in many parts, the rock, which is chiefly of the gneiss formation, comes to the surface. In the valleys, however, the soil is deep, and is covered with a rich black mould.

"The timber is chiefly beech, maple, ironwood, elm, black birch, and basswood; there are also pine, hemlock, cedar, balsam and spruce.

"The same may be said of the west side of the township, between the west boundary of Peninsula Lake, the Lake of Bays, and a line running from the extreme north-east point of the Lake of Bays to the extreme south-east point of Peninsula Lake; with the exception that the ridges are not so high, the soil is deeper, and it is more thickly timbered.

"On the central peninsula and on Bigwin's Island the surface is more rolling, the land is stony, the soil sandy loam, and it is thickly timbered with maple, beech, black birch, ironwood, elm and basswood.

"On the north side of the township, between the north boundary, concession road 10 and 11, Peninsula Lake, and side road 10 and 11, the surface is rolling.

"In the north-west part the soil is clay and the timber chiefly beech and maple. In the south-east part the soil is sandy and the timber very mixed, containing some very fine white pine.

"Between the south boundary and the Lake of Bays the surface is rolling, the soil clay, and the timber chiefly beech and maple.

"The Muskoka river is a deep, clear stream, averaging about a chain in width. In parts it is falling and rapid, affording several good sites for mill privileges. After passing lot No. 4, till it enters the lake, it flows through a dry, sandy plain, extending half a mile south and two miles north of the river, timbered chiefly with red and white pine; many of the former would make fine spars, but the latter are of an inferior quality, scarcely fit for merchantable purposes. It abounds with speckled trout.

"The Lake of Bays, which takes up about a fourth of the area of the township, is a deep and clear lake, abounding with white-fish, lake trout and speckled trout.

"In conclusion, I would state that this township is well watered, contains sufficient amount of pine, cedar, &c. for the wants of settlers, and water-power to drive grist and saw mills.

"There is a considerable amount of arable land scattered through it. Fish and game are plentiful, and it is easy of access, both by way of the Bobeaygeon and Muskoka roads.

"The lots along this latter road, I understand, are getting settled-up fast; as it passes within a few miles of the north boundary of Franklin, along which there is some very good land. Probably the township will get settled along that side first."

HARVEY

Is situated in the County of Peterborough.

It is bounded on the north by the townships of Galway and Cavendish, on the east by the township of Burleigh, on the south by Buckhorn Lake, and on the west by the township of Verulam.

This township was re-surveyed in 1865 by Provincial Land Surveyor Theodore Clementi, and contains an area of 107,990 acres, including water and roads.

The following is an extract from Mr. Clementi's report of survey :—

"It affords me great pleasure to be able to report of this township very much more favorably than previous statements, made by persons who could have had but a slight knowledge of the land comprised within the limits, would have led me to expect.

"I will speak first of the western portion of the township, or of that part lying to the west of Mississagua Creek :

"Along the shores of Buckhorn and Pigeon Lakes the land does not present an inviting appearance, and, indeed, is generally very rough and broken ; but after proceeding inland a lot or two the hardwood timber appears, and the tall, clean trees of maple and beech which are seen are a sure indication of the richness of the soil which supports them. The latter, the upturned roots of fallen trees show to be usually a fine sandy loam, with sub-soil of clay. Going a little further north the hardwood is thickly interspersed with hemlocks, which run to a very large size ; here the soil is rather lighter and the land generally more undulating, but, at the same time, more free from stone ; and I would not have you to believe that even the lots which are the best timbered with maple and beech are by any means without a very fair share of stones, but, as in the adjoining township of 'Smith', this will, no doubt, with labor and perseverance, prove to be the very best of land for wheat.

"Along the northern boundary of the township the character of the land changes, as the granite ridges appear, and of this I can only say that I have scarcely ever seen a rougher country. There has been at one time a large quantity of pine timber there, but the fire has, of late years, destroyed all that the lumbermen had left, and a dense second growth of hemlock and birch has sprung up, so thick that in places it is almost impenetrable ; this commences at the 16th and 17th concession line, running into the township about the breadth of three lots, and gradually increases in width as you proceed eastward.

"Around the shores of Sandy Lake the land is very good, with the exception of some few lots ; there are several partially cleared farms in the vicinity, and many people are anxious to take up land there as soon as it is available. The lake itself is a very handsome sheet of water, with a beautiful sandy bottom, and abounds in bass and perch ; but not in maskinonge, which is a peculiarity, the latter being almost invariably found in the lakes in this section of the province.

"You will observe in the accompanying plan that there is a connection between Pigeon and the two Bald Lakes, where, as in the original survey, this fact seems not to have been discovered. All through the summer months a steamboat traverses these waters, taking lumber from the mills known as 'Burton's mills,' on lot 15 in the 8th concession, to Lindsay, through the Bald Lakes. The shores of these lakes are very bold and picturesque, but not calculated to impress favorably the intending settler ; and, indeed, I attribute greatly the bad opinion which has hitherto been formed of this township to the fact that hunters and trappers, whose interest is by no means identical with that of the farmer, have reported of the township generally, from what little they may have seen of it on their expeditions on and in the immediate vicinity of these lakes.

"The 19th concession of the township may be said to be tolerably well settled, and that, too, with an industrious class of men, who seem well satisfied with the land of their choice, and look forward to a prosperous future for themselves and their families. The western boundary of this concession is the well-known Bobcaygeon road.

"I regret much that I cannot speak in the same terms of that portion of the township which lies to the east of Mississagua Creek, it being almost entirely useless for agricultural

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purposes; but, although year after year the lumbermen have been despoiling it of its splendid pine timber, even this year there are no less than four shanties erected—some for square timber and others for saw-logs—in that section; and there is little doubt but that for many years to come the facilities to navigation will induce the lumbermen to take out saw-logs from land which, a few years ago, would have been considered worked out, in so far as pine timber is concerned.

"There is a block of land on the 3rd, 4th and 5th concessions, and about the 10th, 11th and 12th lots, comprising some 600 acres, which, although stony, is worthy of notice, as being fit for farming purposes; than the beech and maple which are seen standing on it I have never seen finer, and this is the only portion of what can be termed hardwood land in the eastern section of the township. As soon as you leave this, on either side, the granite crops out, and the pine ridges are merely diversified with tamarac marshes and beaver ponds.

"On the north ends of the 1st, 2nd and 3rd concessions, to the breadth of about three lots, there is a good deal of pine still standing, and that, too, of a first-class quality; and I imagine that now (through the energy of Mr. W. A. Scott), the Mississagua Creek having been improved to such an extent that even masts may be taken down with safety, all this timber, which it has been hitherto considered impracticable to take out, will find its way to Quebec.

"Throughout the township generally there is still a great deal of scattering timber, which will be taken to the mills as saw-logs; and even this year a great many thousand feet of timber are to be seen on the ice of Pigeon and Buckhorn lakes.

"With respect to the waters in and around the township, I can only say that, were a person travelling in a canoe to form an opinion of the country from what he there saw, it would be but vague indeed, and the more so, now that the erection of the dam at Buckhorn mills—which has flooded several thousand acres—and the dead timber now standing, presents an unsightly appearance, excepting where the shores are very bold, and here, of course, they have not been similarly affected.

"Of the principal creeks, commencing from the west, Nogies Creek is available for running timber, but there are several falls or rapids on it, which would prevent its being made use of for extensive navigation. On lot 22 in the 17th concession is a large tannery, now in operation, and the great quantities of hemlock bark which are close at hand give unusual encouragement to the proprietor to proceed with his undertaking. The average width of this creek is about sixty feet, and the depth about four feet.

"Squaw River, in size and depth, resembles Nogies Creek. After you get up the stream some three or four miles the banks on either side are low, and great quantities of butternut are seen. These flats extend to a width of some four or five chains, and the land would, with draining, become very rich. On this stream, on the 16th lot of the 12th concession, a fine saw-mill has been erected; it is, however, only available during the spring months, the water being too low at other seasons of the year.

"On Mississagua creek great improvements have been made, which facilitate materially the bringing down of timber. This creek is somewhat larger than the two afore-mentioned ones, and the water more rapid on it. On lot 15 on the 8th concession there is a saw-mill, better known as 'Burton's mill,' capable of cutting thirty thousand feet of lumber a day. Mr. Burton has also erected a commodious house close by, and there the traveler, weary with his day's exploration of the country, will always find a comfortable bed and a hearty welcome. A tramway has been constructed from this mill to Bald Lake, some $\frac{3}{4}$ of a mile, and by this means the lumber is conveyed (per steamboat) to Lindsay. At the head of this creek Mr. Scott has erected a large and substantial dam, by means of which he can raise the water in Gull or Mississagua Lake several feet; he has also put up smaller dams down the creek, so that he has now an almost entire command of the water.

"Of Deer Bay Creek little can be said; it traverses a very rough country, but is still useful in bringing down timber. Small temporary dams are annually constructed on this creek by the lumbermen, but, with these exceptions, no improvements have been made. It is, perhaps, the most crooked stream in the township, its average width being about thirty feet, and its depth three feet. The numerous little ponds and marshes which feed this creek afford, in the spring and fall of the year, shelter and comparative security to the thousands upon thousands of wild ducks of all descriptions which repair to them during the day time, coming in every evening to feed on the rice-beds in Deer Bay, and returning in the morning before sunrise.

"I must not, however, omit mentioning the improvements made at Buckhorn, on lot 9 in the 8th concession. Here a very large saw-mill is in operation all the year round, and a very extensive business is carried on, giving employment to many families who live close by; and indeed there are almost enough houses there to entitle the place to be called a village. At the Narrows, which here divide the townships of 'Harvey' and 'Smith,' a dam was erected some years ago by the Government, and a good substantial bridge forms the means of communication between 'Harvey' and the Front.

"Of the township generally I should estimate that there is about 40 per cent. fit for agriculture; and although the land—through the prevalence of stone—may not be properly classified with the very best, still, the hardy and persevering settler will find that, by the exercise of patience, he may hew out for himself and his family a comfortable home, and have (which after completion it will be) a good level road whereon to convey his produce to the market."

HERRICK

Is situated on the North shore of Lake Superior.

It is bounded on the north by the township of Ryan, on the east by the township of Fisher, and on the south and west by the waters of Lake Superior.

This township was subdivided into sections and quarter sections in 1867, by Provincial Land Surveyor, Quintin Johnstone. Each regular quarter section contains an area of 160 acres.

The township of Herriek contains an area of 7,210 acres of land. The following is an extract from Mr. Johnstone's report of survey:—

"The surface of the township is very little broken, there being neither hills nor mountains in it, and no fixed rocks. There is a ridge, nearly all of which is south of the line between sections 3 and 10. It stretches away to the south-east, and is nearly parallel to the lake shore, and about half a mile to the east of it.

"The descent to the valley lying between the ridge and the lake is abrupt in places, particularly on the line between sections 15 and 10, where it is about 75 feet. This ridge falls away almost imperceptibly to the east and south-east, breaking into patches of swamp, and semi-swampy mixed timber land.

"The soil is sandy loam, and where not overly stony or swampy, is well suited for agricultural purposes, and will produce hay, roots, and cereals, suitable to the latitude, abundantly. The timber upon the dry land is chiefly hardwood, birch and maple. No beech nor basswood, and not over a dozen of pine trees in the township. The swampy land produces, when very wet, tamarac; otherwise, cedar, balsam, and spruce, from all of which, timber for fencing and building purposes can be obtained. The cedars, in the valley between the ridges above written and the lake, are chiefly of a very thrifty growth, being large and straight.

"This valley is, in places, very stony. What I have seen of the land lying north of the first west line that I surveyed in this township, is in general tolerably good. The tamarac swamp at the east end of that tract could be easily drained into some of the small streams adjacent to it. With the exception of the maple timber land, the growth of underbrush in this township is more dense than any I have yet seen, being in places almost impenetrable.

"Neither lakes nor ponds came under my observation; and I do not think that there are any in the township.

"The streams are few and small, and with the exception of the 'Sable River' (the western boundary of the township), could not be made available for machinery. The waters of the latter can, by erecting dams almost anywhere from the north boundary to its mouth, be made available for milling purposes. This stream is very meandering and sluggish, with the exception of one spot about thirty chains from its mouth, where the water passes over a stony bed a little more rapidly than anywhere else that I have observed in the river. Here the east bank is nearly level with the water.

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"The banks of the river are dry and firm, and average about eight feet in height; however, in many places they are much higher. They are, as well as the soil of the adjacent lands, sandy loam of good quality. The depth of water will average from two to four feet, and width of river, from bank to bank, about one chain.

"I have shown on the map a site for a town plot lying on both sides of the river and adjacent to where it enters the lake. This is the only place in this township and in the adjacent township west of the river, that I have observed suitable for a town plot, and even here I cannot recommend it as being very eligible for that purpose, on account of the shallowness of the river and lake, or more properly a bay.

"This bay being exposed to south-west winds and storms from that quarter, would not be overly safe, even for vessels of light draught to enter during a storm from the quarter before written. However, the advantage of a town here would be to induce settlers to erect mills for gristing, and machinery for crushing ores, &c.

"The advantages for settlement are good. First, for during the summer months access to and from the township is easy. Next, the whole, or greater part of this township can be made available for agricultural purposes, at ordinary expense. A ready market for all kinds of produce will be found at the mines now being wrought in the adjacent township of Fisher, as well as at the several mines about being opened in that section of country.

"During the summer months, settlers in this township will have but little trouble in conveying their produce by boats the greater part of the distance to the several mines that will eventually be wrought in that region.

"There is an excellent harbor and wharf at the upper, or north end of Batchewanaug Bay in the township of Herrick, and from which settlers can move in their furniture and provisions to the northern portions of Herrick, at little expense.

"There are no squatters in the township of Herrick. When traversing the lake shore I observed boulders extending out from the shore for several chains, nearly the whole way round to the river. About seventeen chains before reaching the river, the bank becomes sandy, and continues so round the head of the bay, where, I think, good fishing stations might be located."

HERSCHELL

Is situated in the county of Hastings. It is bounded on the north by the township of McClure, on the east by the Hastings road and the township of Monteagle, on the south by the township of Faraday, and on the west by the townships of Cardiff and Harcourt.

This township contains an area of 58,405 acres, including water and roads, of which 11,002 acres were subdivided in 1858 by Provincial Land Surveyor Peterson; the residue of the township, containing an area of 47,403 acres was subdivided in 1865 by Provincial Land Surveyor A. B. Perry.

The following is an extract from Mr. Perry's report of survey:—

"The general aspect of the township is undulating, considerably broken with lakes, ponds, swamps, marshes, and granite hills; the latter, in some instances, are very steep and rugged, and often rise to a considerable height. The rocky portions are principally timbered with white and red pine and hemlock. The pine is of a superior quality.

"York River passes through this township, entering it on lot number thirty-four in the thirteenth concession, running in a south-easterly direction through Long Lake, and leaves it on lot number five in the first concession. This affords ample privileges of water power, for milling and manufacturing purposes, particularly that in the allowance for road between the fourth and fifth concessions, lot number six, where the water falls perpendicularly thirty feet. Along, and upon either side of this river, from Hay Bay to the twelfth and thirteenth concession line a large swamp and marsh occurs, timbered with ash, cedar and alder; in the more marshy places cranberries are found. Salmon and speckled trout are found in abundance in Long Lake, the latter are also found in the other principal lakes of the township.

"The remaining swamps are generally timbered with cedar, ash, and tamarac of a good quality; the soil is a black loam. The upland is chiefly timbered with maple, beech, birch, basswood, hemlock, ironwood, and pine, with an occasional rock elm. Save the rocky portions thereof, the soil is of a good sandy loam, with clay subsoil, well adapted to the growth of all our staple products.

"In conclusion, I would say that fully two-thirds of the land in this township is well adapted for agricultural purposes. That part heretofore surveyed adjoining the Doyle settlement is rapidly filling up. The access by the Hastings road, together with the Peterson road, a ready market for the surplus produce of the settlers, and employment for themselves and teams during the fall and winter months, seem to render this township a desirable one for the settler."

HOWLAND

Is situated on the Manitoulin Island. It is bounded on the north and west by the waters of Lake Huron, on the east by Sheguiandah Bay, and on the south by the townships of Sheguiandah and Bidwell.

This township was subdivided into farm lots in 1864, by Provincial Land Surveyor Alexander Niven, and contains an area of 31,373 acres, including water and roads.

The following is an extract from Mr. Niven's report of survey:—

"The township of Howland in its central portion consists of a high undulating table land, and descends to the west, north and east by abrupt terraces strikingly marked by bold promontories to the waters of Lake Huron.

"Around the shore of Lake Huron and as a general rule extending to the base of the first terrace, a distance varying from one to two miles, the soil is of a poor sandy description and the timber generally spruce, balsam, cedar, tamarac and poplar, much blown down by the wind, and with a great deal of swamp existing to the north and east.

"The south-west part of the township, or all west of side road between lots 25 and 26, with very little exception is unfit for settlement, the greater portion of it being rough, rocky land and timbered with cedar, spruce, balsam and red and white pine; the remainder of this tract is swampy and covered with cedar, balsam, black ash, birch, poplar, &c.

"Along the south boundary from lot 23, easterly, and around Perch Lake, some very good tracts of rolling hardwood land occur, consisting of sandy loam and clay soil with maple, basswood and ironwood timber.

"The south-east corner of the township is very rough and rocky, covered chiefly with scrubby maple, birch and poplar.

"The 2nd and 3rd concessions here passes chiefly through swampy and rocky land timbered with cedar, spruce, balsam, poplar, birch, &c. There is however on this line a piece of tolerably good land, extending from lots 16 to 20, the greater part of it being windfall.

"On the 4th and 5th concessions a good tract of hardwood land with fair soil, timbered chiefly with hard maple, extends from lot 10 to 26, intersected occasionally by swamps of cedar, tamarack, balsam, &c.

The 6th and 7th concessions here runs through by far the best tract of land in the township. This is a sandy loam, with clay sub-soil in parts. Timbered chiefly with very fine maple, used as a sugar bush; basswood, ironwood, &c. This tract may be described as lying along the base of the hill crossing this line, varying in width from 20 to 80 chains, and extending with an occasional break by a swamp from lot 22 to lot 2, and thence running southerly to the 3rd concession. Some tolerably good land also occurs on the 11th and 12th concessions or Manitowaning road, between lots 9 and 13, part of this being windfall.

"With the exception of a few detached pieces, I have particularized all the really good land in the township, and the remainder I may say is swampy and rocky.

"Large tracts of this township have been blown down by wind. The most noted windfalls occurring on the 2nd and 3rd concessions from lot 14 to lot 20, north of Perch

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Lake, and along the west, north and east boundaries, embracing altogether an area of nearly 5,000 acres, of which large portions have been burnt over.

"With regard to the timber, I may say that on that part of the township designated good land, the timber is chiefly maple, birch, basswood, ironwood, &c., and the swamps are timbered chiefly with cedar, spruce, tamarac and balsam, while the rocky land is covered with balsam, poplar, white birch, &c.

"A few scattering pines are found here and there through the swamps, and in the south-west part of the township along the south boundary, and near Honora Bay considerable red or Norway pine exists, but not sufficient for lumbering purposes. In some of the swamps the cedar is of excellent growth.

"It is to be remarked that no beech is found in this township.

"Numerous small streams are to be found traversing this township, but in the high lands or central part few are to be met with.

"Perch Lake having an area of 510 acres, is a fine sheet of water, abounding with perch from which it takes its name, having a depth of about 60 feet on the south side but rather shallow to the north and east; the outlet is at the west, a fine creek fifteen inches in depth and 30 links in width, flowing with gentle current to Honora Bay.

"As before stated Howland is strikingly marked by promontaries and precipitous cliffs, running around its west, north and east boundaries. These cliffs are as a general rule formed of a very good limestone for building purposes, belonging to the silurian formation, and often exhibit for miles together an exposed face of from 20 to 30 feet, the rock having a slight dip to the south.

"Towards the south-east corner of the township occurs several mountains of quartz rock presenting a jagged, uneven surface.

"I failed to discover traces of any minerals, indeed the season of the year during which the survey was carried on was unfavourable to discoveries of this nature. Snow lying on the ground to the depth of from three to four feet.

"It is to be regretted that the capabilities of this township for settlement are not of the best description, still there is enough good land to form settlements in parts. A great portion of that designated low land and swamp will make tolerably good farming land when cleared. I should say that not more than 30 per cent of the entire township is fit for settlement.

"With regard to the Manitowaning Road I have only to say that the position selected is the best that I could get, and one upon which a good road can be made with very little difficulty.

"About 100 acres have been cleared in different parts of the township by the Indians, the largest clearing being at Little Current.

"The inhabitants of Little Current number 52, or nine families; they subsist chiefly by fishing, growing Indian corn and potatoes, and by making maple sugar.

"By reference to my plan it will be observed that I have, as instructed, marked thereon a reservation for a town plot, containing 596 acres. The land is of little importance in an agricultural point of view, being chiefly of a light sandy description. The situation, however, is an eligible one for a town, the harbour being a good one and its position such that all vessels passing east or west along the north shore must pass within a short distance of the dock."

HUMPHRY

Is bounded on the north by unsurveyed land, on the east by the township of Cardwell, on the South by Lakes Rosseau and Joseph and unsurveyed land, and on the west by unsurveyed land.

This township was subdivided during 1866 and 1867, by Provincial Land Surveyor Gibbs, and contains an area of 49,596 acres, including water and roads.

The following is an extract from Mr. Gibbs' Report of Survey:—

"The township of Humphry embraces an area of 49,596 acres, about 12,496 acres lying under the waters of Lakes Rosseau, Joseph, and sundry others of less size. The two

first-named extend across a considerable portion of the south part of the township, and are, in great part, environed by hilly banks, with here and there high and precipitous rocks of gneiss, syenite, and others of granitic and quartzose character, which kinds prevail pretty generally throughout the adjacent country.

"The surface, although a good deal broken in this manner, is finely diversified, with rolling hills, and land more slightly undulating, covered with a growth of heavy timber, consisting of maple, beech, birch, bass, ironwood, hemlock, white pine, and other kinds common to this section of country; also tamarac, balsam, spruce, cedar, black ash, and alder swamps. Beaver meadows, with an exuberant growth of grass (the "blue joint"), cranberry marshes, and some portions too rocky for cultivation; the whole interspersed with lakes and small streams, in the greater number of which flows clear and limpid water.

"The streams, being inconsiderable in size, do not afford very permanent privileges for machinery; but the falls situated on both sides of the north boundary of concession B, upon "Oak Creek," which is the largest stream in the township, I have no doubt will be found a great convenience for mill purposes to the settlers. Skiffs and canoes have access for upwards of about two miles from the mouth of the creek, at low water; and it could be made available for driving pine logs and timber, several miles from Lake Rosseau, in the spring of the year.

"The lakes and streams abound with fish, in various kinds and speckled trout, white-fish, pickerel, bass, perch, suckers, &c.; and the woods afford scope for the sportsman along their banks and in the adjacent woods, in particular game, deer, rabbits, and partridge are especially plentiful. In the forest, the beaver, the wolf and the fox, are frequently met; and furred animals, such as the beaver, mink and muskrat, although long sought after by the Indian trapper, are yet to be found.

"A portion of the tract of high land situate between the north-westerly bays of Lake Rosseau and Lake Joseph, together with a strip of land extending along the easterly boundary line, northward from the Parry sound road, and along the north boundary, next the north-east angle of the township, comprising about 8,000 acres, being much broken with rock affords little inducement for settlement; but, after making this deduction, I believe the township generally contains more good land than most others recently surveyed, with which I am acquainted. The rich loamy soil of the higher land, not rocky, is well suited for agriculture, and will, doubtless, produce excellent crops of the different kinds of roots and cereals adapted to the climate, and the low lands produce most luxuriant grass, — a great advantage to the early settler in feeding and raising stock.

"During the past season, pease, oats, Indian corn, potatoes, turnips, tobacco, melons, and sundry productions, were cultivated by the few settlers present, with much success.

"Since I left the township I have been informed that several respectable families have moved in; and I believe that, with the increased facilities of access, by the opening of the Parry Sound road and the Nipissing road line, together with the Muskoka lake steam navigation, through the enterprise of A. P. Cockburn, of Gravenhurst, during the past season, it will be speedily settled."

JONES

Is bounded on the north by the township of Robinson, on the east by the township of Sherwood, on the south by the township of Bangor, and on the west by the township of Lyell.

It was surveyed in 1863 by Provincial Land Surveyor Forrest, and contains 40,016 acres, including roads and water.

A line for a road to connect the Opeongo and Hastings roads was also surveyed at the same time by Mr Forrest.

The following is an extract from the report of survey:—

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Jones and Lyell. Following the deviations shewn on the *tracé*, a very fair road could be located and made, notwithstanding the exceedingly rough and hilly country through which it would have to pass, but as the country along the entire line, (with the exception of a small tract of hardwood land commencing at lot No. 24 in the township of Lyell, and extending to the Hastings road line), is unfit for settlement, that is, for farming operations, such a road would be useless for the purpose of locating settlers. There appears to be a belt of rough hilly country varying from half a mile to a mile in width, skirting the level red pine plains of the immediate valley of the river Madawaska, and separating them from the rolling hardwood uplands of the middle and southerly portions of the township of Lyell. It is through, or, more properly speaking, along this belt of rough country, that the proposed road runs, to a great extent in the township of Lyell, and hence the most important objection to that route. From my own observations, and also information obtained from reliable men, who have explored through the township from Bark Lake to the Hastings Road line, I am of opinion that a good road available for settlement can be made through the township of Lyell to the Hastings line by locating it about two miles south of the line of the proposed road. That portion of such a road, connecting it with the Opeongo Road, through the township of Jones, would be unfit for settlement.

"The accompanying timber map shows with considerable accuracy the division of the township into pine and hardwood lands. The pine lands may be considered as generally unfit for settlement, consisting of red pine plains, with a soil of coarse sand or gravel, and rocky or broken hills of irregular shape, covered with red and white pine, and other green timber. Here and there a lot may be found with a tolerably good soil, but in general the reverse is the case.

"The hardwood lands may be generally considered fit for settlement, the soil being a rich sandy loam, although in many places stony. Maple, birch, basswood, beech, elm, and ash, are the chief woods met with, and here and there a white pine of superior growth and quality.

"Of the whole township, 15,000 acres are available for settlement.

"There are several lakes in the township, of which Bark Lake is the largest and by far the most important. This lake is an expansion of the River Madawaska, which forms its inlet and outlet; its waters are in general very deep and clear, and abound with various kinds of excellent fish, such as several varieties of trout, black bass, pike, pickerel, maskinongé, and other descriptions, valuable to the settler as a material aid to subsistence.

"The Ottawa and Opeongo road runs through the north-east corner of this township."

KORAH AND AWENGE

Are adjoining townships, on the River St. Mary's.

Korah is bounded on the north by the township of Pennefather; on the east by the township of Tarentorus and Hudson Bay Company's property; on the south by the township of Awenge; and on the west by the township of Prince.

Awenge is bounded on the north by the township of Korah; on the east by the township of St. Mary; on the south by the river Ste. Marie; and on the west by the township of Parke.

They were subdivided in 1859 into sections and quarter sections; each regular quarter section contains an area of 160 acres.

The townships contain respectively, Korah 22,336 acres; and Awenge 2,647 acres.

The following is an extract from Provincial Land Surveyor James Johnston's report of survey:—

"The quality of the land in these townships is generally good. For an average width of a mile along the shore of the River Ste. Marie it is low and marshy, then, gradually rising, it becomes more dry, and is principally a good clay loam for a distance north of two

miles. The surface then becomes rolling, the soil a fair sandy loam, and the timber chiefly maple for a distance north of three miles. On this section are several sugar bushes, frequented in the spring by the inhabitants of the Sault village. From thence to the northerly limit of the township it is more or less broken with ridges of rock, chiefly granite.

The timber on a considerable tract in the southerly part of these townships has been destroyed by fire, but it is otherwise well timbered. The timber consists principally of hardwood."

LIMERICK

Is situated in the county of Hastings. It is bounded on the north by the township of Dunganon, on the east by the township of Cashel, on the south by the township of Tudor, and on the west by the Hastings free grant road. It contains 54,139 acres, including roads and water, and was partly surveyed in 1857 by Provincial Land Surveyor Quintin Johnston; the residue of the township (40,539 acres) was surveyed in 1863 by Provincial Land Surveyor MacLeod.

The following is an extract from Mr. MacLeod's report of survey:—

"I have classified the soil under three heads, viz., good, fair and poor, about one-fifth of the land may be placed under the head of good, and is well fitted for the purpose of agriculture; three-tenths may be classed as fair, and is rather indifferent for farming purposes, being shallow and rocky; the remaining half may be put down as poor, being light, sandy and rocky, quite unfit for farming. There are some extensive heaver meadows, from which the settlers and lumberers mow quantities of hay, and which with a little cultivation would become excellent meadows. Many of the marshes might also be made productive at a small outlay by draining.

"The largest part of the township is covered with hemlock, pine, and cedar; more of it with mixed timber, such as hemlock, beech and maple; and the remainder with hardwood, beech, maple, &c.

"Lumbering has been carried on to a considerable extent in the north eastern part of the township, adjoining Egan's river.

"There is still, however, a good deal of valuable pine in many parts, particularly about Salmon lake, where I understand Messrs. Gilmour & Co., intend to lumber this year. They have now a large dam at the outlet of Gull lake which raises the water in it and Salmon lake about six feet, to save water for the flushing of rapids on Beaver Creek when running their logs.

"The township is well watered with streams and lakes, the largest of them, Salmon lake, covers 1,539 acres, and is a very fine sheet of water. The tributaries of Beaver Creek are beautifully clear and pure, those of the Madawaska are dark colored. The total water area is 2,902 acres.

"Generally throughout the township the rock is near the surface, and principally composed of crystalline limestone, dipping on the average say 30° West, strike say N. 20° E. In many parts the strata are considerably broken, but they generally lie pretty evenly.

"At the same time my survey was in progress, land was occupied by twelve families, who had possession of 1,135 acres, they had cleared 62 acres and estimated the value of their improvements at \$1,885. Their crops last year were as good as the average throughout this country. Spring wheat and oats seemed to flourish well, and potatoes were remarkably fine; a few of them had maize and pumpkins; turnips appeared to be a good crop. Large quantities of salmon trout and bass are caught in Salmon lake; deer are also very numerous, and are a great assistance to the settlers. There is also a good deal of trapping on the lakes and rivers. I have heard of trappers making \$300 in one season by their furs.

"Since completing the survey, I have heard of more lands being taken up by settlers, near those at present occupied. The route which those in the south eastern part of the township use, for getting in supplies, &c., is by Wadsworth lake and south west diagonally across Tudor to Millbridge. If the road surveyed by Mr Snow last autumn, which I un-

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derstand comes within two miles of the centre of the south town line of Limerick, were opened out and improved, it would help the settlement of Limerick very much, and the settlers would tap it at the nearest point. A good site for a road can easily be found to connect it with the south part of Limerick."

MATTAWAN

Is situated at the junction of the Ottawa and Mattawan Rivers, and about 200 miles distant from Ottawa City.

It is bounded on the north by unsurveyed land and the River Ottawa, on the east by the River Ottawa, on the south by the River Mattawan, and on the west by unsurveyed land.

This township was surveyed in 1864, by Provincial Land Surveyor Lindsay A. Russell, and contains an area of 51,878 acres, including water and roads.

The following is an extract from Mr. Russell's report of survey:—

"The present and also future place of business in the township is Fort Mattawan, at the mouth of the river of same name. The reserve made there for a town plot, is one of the most suitable and picturesque sites for that purpose to be met with in the province.

"There are already at the Fort a large Catholic chapel, two good hotels, the Hudson Bay Company's general store, and on the Antoine, a couple of miles distant, Mr. McConnell's saw-mill. The nearest post-office at present is the Joachim, to which place there is a weekly mail from Ottawa. The lumberers, however, feeling much the want of a mail to Fort Mattawan, are endeavoring to get a post-office established there also. There is as yet no grist-mill, the high prices for hay and oats stated above leading the few settlers there are, to cultivate hardly anything else; it being more profitable to buy flour for their own use, and devote all their land and time to growing the before-mentioned crops.

"The general characteristic of the country about Fort Mattawan and elsewhere in the township is roughness; the hills being of the Laurentian formation, there is a great deal of rocky and light sandy land; but in the low grounds, on the banks of streams, and in some cases on the hills, it is of better quality.

"It is wooded with alternating tracts of soft and hardwoods, viz., pine, hemlock, spruce and birch, beech, maple, &c.

"This township resembles much, in general features of surface, timber and soil, those on the Opeongo Road. Nearly all its square timber has been taken to market, a few saw-logs remain of what was once a very fair timber limit.

"The climate is much the same as that of Ottawa, with perhaps some seasons a little deeper snow in winter. The steamers commence running from Joachim downwards, at from the 1st to the 5th May. They cease running in fall about the 25th November, but boats and canoes are used till the middle of December.

"This township is not naturally inviting to settlers, but when a farmer receives four times the ordinary price for his produce, he can well afford to live on second rate land.

"Its position at the future confluence of Upper Ottawa, and western lake trade, gives it importance. The time will come soon, when scarcity of timber, and the encroachments of settlers on the lumberers, where they now are, will lead to the bulk of the lumbering being divided between the country above this and that on the northern tributaries of the river lower down. The three or four hundred miles yet unexplored and almost unknown course of the Ottawa, may yet furnish much, both in timber and minerals, to a trade of which Fort Mattawan will be the dépôt, when that ultimate necessity—the Ottawa and Georgian Bay Canal—is made; the lake vessels, laden with supplies for the Upper Ottawa lumbering, will there discharge their cargoes, and will receive a return freight for the western people, of the manufactured wood goods of all descriptions required by them, and of the material for which their country is so deficient. Mattawan is particularly suited for such a trade, on account of its abundant water-power and its facilities for getting wood of various kinds, much of what would be required for such manufactures being in the vicinity of its water-powers, small timber generally answering the purpose sufficiently well, such as will always be left by square timber and saw-log makers."

MATTAWAN AND PEMBROKE ROAD.

During the year 1863, a survey of a tier of lots on each side of that part of the Mattawan and Pembroke road, lying between the boundary line between the township of Maria and Clara and the mouth of the Mattawan river, was made by P. L. S. Sinclair.

The following is an extract from the report of survey:—

"The timber is what is usually known as mixed wood; pine, either red or white, predominates, but it has been nearly all burned, from the commencement of the survey to the middle of the second township. This has been a very valuable section in its pine timber, but there is not much remaining that is valuable, within the limits of this survey. There are not any large streams entering the Ottawa, in the country embraced in this survey.

"Its geological features are uninteresting; it is what is denominated a boulder country, except a belt of fossiliferous limestone crossing to the south of the Ottawa river, at the head of the Seviellier rapids, which gives a small tract of very good land, at and around Bell's farm.

"The facilities for settlement along this road are certainly considerable, although the road is far from being what the public interests require, it being the main thoroughfare along the joint frontier of the United Province, which must be the highway for the transport of supplies from the east to the lumbering districts along the Upper Ottawa country, as well as for the ingress of settlers to the various sections where arable land may be found."

 McDOUGALL

It is situated in the county of Simcoe. It is bounded on the north by unsurveyed territory, on the east by unsurveyed territory, on the south by the township of Foley, and on the west by the Georgian Bay.

This township contains an area of about 70,000 acres, of which 43,864 acres (water and roads included) were subdivided in 1866, by Provincial Land Surveyor J. L. P. O'Hanly.

The following is an extract from Mr. O'Hanly's report of survey:—

"This township has considerable diversity of surface and soil. The surface is generally flat, having few elevations 100 feet above the level of Georgian Bay. Yet it is much broken both by hills and lakes. The hills for the most part are abrupt and precipitous, falling and rising by steps like a terrace, gradual slopes being rare. The land in many places is of the worst kind, being almost destitute of mould or verdure, while in other parts it is well adapted for settlement.

"On the accompanying trace I—by different colours, in a general way—indicated the land fit for settlement, as well as the bad land. Not that I would be understood to mean that no part of that shewn bad is fit for settlement. I have no doubt but small patches here and there will be found intermixed with it of a very fair quality, and so of the other, as some spots will be found in it very inferior. But for a general and comprehensive classification I think it may be relied on as pretty accurate, indeed as correct as it is possible to do it without a special inspection.

"The timber consists of birch, maple, pine, hemlock, beech, balsam, ironwood, oak, cedar, basswood, spruce, tamarac, ash, elm, poplar and white birch. This is the order of predominancy. There is a great deal of white pine, but much scattered, and therefore very difficult to fix its limits, except along the valleys of streams and the margins of lakes, and of Parry Sound. Along the latter there is much of inferior quality and stunted growth. It is nowhere to be met with in groves, and not often in clumps, yet there is scarcely a spot without it; and the country, viewed at a distance, would be probably considered as a vast pinery. Red pine is entirely unknown.

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" This township is principally watered by the River Seguin, which enters it from the east by two branches, the northern at lot No. 1, in the 8th concession, flows southerly a distance of about five miles, and the southern branch at lot No. 1, in the 4th concession, flows westerly a distance of three and a half miles, uniting at lot No. 11, in the 5th concession, flows westerly a distance of three miles, makes an acute angle with its last course, flowing south-easterly enters Mill Lake at two miles, then forming the outlet of Mill Lake flows south-westerly one and a half miles into Parry Sound.

" At its mouth is situated the nucleus of the town of Parry Sound, and lumbering establishment of Messrs. J. & W. Beatty & Co. There is a church, a post and customs offices, a hotel and two stores and several mechanics. There are about 20 houses, principally occupied by the employees of Messrs. Beatty & Co.

" Between the village and foot of Mill Lake there are three rapids, to obviate which there is a very fair portage road. At the foot of Mill Lake there is a fine water privilege and an excellent site for a mill, on which the Messrs. Beatty have erected a dam, and made other improvements to facilitate the descent of saw-logs, and husband the spring's flood for the summer's consumption, of which Mill Lake is the reservoir. This chute is about 18 feet high.

" Mill Lake, the largest inland lake in the township, is very picturesque with its deep bays, bold bluffs and pretty islands. From Mill Lake to the forks there is very little obstruction to the navigation, except in the dry season that it becomes very shallow and unsafe for bark canoes.

" From the forks, for about two miles, the north branch is composed of a series of rapids and cataracts, alternating with small basins of still water. The navigation here is wholly impracticable. The scenery is extremely wild and romantic. There are many water privileges, which are not likely to be useful within a reasonable time, and therefore for the present, at least, absolutely worthless. To obviate this there is a canoe route by Trout Lake, and two smaller ones, and entering the north branch at the head of these rapids. From this to the eastern boundary, the river may be called three narrow, shallow lakes divided by three short rapids, where it crosses at the foot of the Chutes from Manawabi Lake.

" The south branch, from the forks to the eastern boundary, has but one small rapid, but nearly the whole way it is swift and shallow. This stream, as far as I have seen it, is well adapted for the descent of saw-logs and timber.

" There are primarily two conditions essential to the success of a new settlement. The first is good land, and the second cheap and expeditious access to markets or centres of trade, without both these conditions new settlements cannot flourish, and it is unfortunate they seldom go hand in hand. The former to raise abundant crops, and the latter to dispose of them at remunerative prices. I have seen new settlements where the land was of good quality in a very languishing condition for the want of the other. For without competition the redundant crop is sold at a sacrifice, whilst purchasable necessaries are exorbitantly high.

" Though this township has not the first condition in a prominent degree, yet it has a good deal of land well calculated to recompense industrious labour, and has very superior advantages in the second condition. As a steamer weekly plies between Parry Sound and Collingwood, and thence by rail to Toronto, so that Parry Sound, in the summer season is in direct communication with all the civilized world. Besides the route is both cheap and expeditious, leaving Parry Sound in the morning and reaching Toronto in the evening, about 180 miles for \$4.85 cents.

" Such facilities of communication are of vast advantage to the settler, and cannot fail to give a great impetus to the speedy and successful settlement of this section of the new country, a progress, without which, it would not make in another quarter of a century."

MCKENZIE, FERRIE, CROFT, CHAPMAN, AND RYERSON.

These townships are situated some distance to the east of the Georgian Bay, and near the Lake Rosseau and Lake Nipissing road line. Their outlines were surveyed during the present year (1867) by Provincial Land Surveyor A. B. Perry.

The following are extracts from Mr. Perry's Report of Survey :—

McKENZIE.

"The land in the south and west parts of this township is hilly and undulating, of a good sandy and clay soil, some parts stony, well timbered with maple, beech, birch, pine and hemlock.

"The Maganetawan River runs through this township from east to west, along which there is very good land and considerable good pine; the river affords a large amount of water-power. The northerly part of this township is rocky, timbered with a growth of small red pine and spruce. About forty per cent. of the land in this township is good for agricultural purposes."

FERRIE.

"This township lies immediately east of the township of McKenzie, and is hilly and undulating, but has some very good land, particularly along the south boundary, south-east of the Deer river, which runs in a south-westerly direction through the township, and affords every advantage for lumbering purposes.

"The land in this township is of a sandy and clay soil, timbered principally with maple, birch, basswood, pine and elm. The north part of this township is rough and rocky, timbered with maple, birch, hemlock, pine and balsam. About fifty per cent. of the land in this township is fit for agricultural purposes."

CROFT.

"This township is situated immediately south of the township of Ferrie, and is considerably broken by the waters of the Maganetawan river, which passes through Ah-Mik lake. The land along the shores of this lake and river in some parts is rough and rocky, otherwise of a good quality. The soil is of a rich sandy loam, with clay subsoil, and well timbered, principally with hard wood. Along the north boundary of this township there is a section of good white and red pine. Fully sixty per cent. of the land in this township is well adapted for agricultural purposes."

CHAPMAN.

Situated east of the township of Croft,—is hilly and undulating. Along the eastern boundary there is a large tract of good land, well timbered with maple, beech, birch and balsam—clay soil. The westerly portion is well timbered with maple, beech, birch and hemlock—sandy soil. About sixty per cent. of the land in this township is fit for agricultural purposes.

RYERSON.

"This township lies south of the township of Chapman, and is similar to it in regard to timber and soil. About sixty-five per cent. of the land in this township is good for agricultural purposes. To the east of this township and the township of Chapman there appears to be an extensive tract of good hardwood land. The Nipissing road line passes through the north-west corner of this, and also through the township of Chapman; and, when opened, will afford great advantages for settlers in this locality."

MONCK.

Is situated in the county of Simcoe. It is bounded on the north by the township of Watt, on the east by the township of Macaulay, on the south by the township of Muskoka and on the west by Muskoka Lake.

It was surveyed in 1864 by Provincial Land Surveyor W. H. Deane, and contains an area of 29,182 acres, including water and roads.

The following is an extract from Mr. Deane's report of survey:—

"The Muskoka Colonization Road, made as far as practicable on the eastern boundary of this township, presents the means of easy access thereto at all seasons of the year, the distance from Seven Mills, on Lake Couchiching, being about twenty-four miles.

"In order to more fully describe the land, timber and capabilities of the township, I have divided it into six sections, on the timber tracing accompanying the returns.

"Section No. 1 is a narrow belt of tolerably good land, extending along the shore of Muskoka Lake, from lot No. 19, in the 6th concession, to the northern limit of the township. The soil is sandy loam, with clay sub-soil in places. The granite rock cropping out on the sides and tops of the hills and occasionally on the shore of the lake. The timber is composed of maple, beech, hemlock, elm, birch, balsam and some white pine of a superior quality.

"This is the only part of the township in which the pine timber is of any value. In the other sections it is not at all of a merchantable character.

"Section No. 2 is much broken by rocks and hills, the land generally being of a very inferior quality, and on the whole affording no attractions to the intending settler. Patches of good land, however, are to be met with in the valleys, but not to an extent to merit special remark. The timber is composed of hemlock, pine, maple, birch, beech, cedar and balsam.

"Section No. 3 is a large tract of land extending from the Muskoka River to the northern boundary of the township, and from the Muskoka Road to Muskoka Lake. The settlement of this tract, commenced in the spring of 1861, has progressed steadily to the present time. There may be large tracts of very excellent land found in it, and there is scarcely a lot that does not contain a fair proportion of good land, and free from rock, which is occasionally to be met with on the slopes and summits of the hills. The soil is sandy loam, with maple, beech, hemlock, birch, ironwood, elm, balsam and some pine and white oak.

"Sections No. 4 and 5 are small tracts of very inferior land, being high, rolling and rocky, and not at all suitable for settlement. The timber is composed of hemlock, maple, birch and pine.

"Section No. 6 is a small tract of good land on the north bank of the Muskoka River. The soil being sandy loam, with clay sub-soil, and timber chiefly hardwood.

"Every lot on this tract is taken up and more or less improved by actual settlers.

"With regard to the capabilities of the township in an agricultural point of view, I have much pleasure in being able to state that the crops of wheat, oats, corn, peas, potatoes and turnips grown by the settlers in the year 1863, I have not seen surpassed in the most favored parts of the country.

"There is only one lake worthy of notice in the township, it is situated on the 8th and 9th concessions, and contains about four hundred acres. The water is clear and abounds with excellent fish.

"Muskoka Lake, being dotted with numerous islands, presents many charming views, and during the season of navigation it is much resorted to by tourists and sportsmen. It abounds with fish—salmon-trout and bass being the most valuable.

"Deer and fur-bearing animals are numerous in this section of the country, and are taken at the proper seasons by Indians and others engaged in the trade."

MONMOUTH,

In the County of Peterborough, is bounded on the north by the township of Dudley; on the east by the township of Cardiff; on the south by the township of Anstruther, and on the west by the township of Glamorgan. This township contains an area of 57,705 acres, including water and roads, and was surveyed by Provincial Land Surveyor Fitzgerald, in 1862 and 1863.

The following is an extract from his report of survey of the western portion of the township in 1863:—

"The country along the boundary from lot No. 15 to the lake, which commences on lot No. 22, presents a favorable appearance, for, with the exception of an occasional swamp, the land is almost exclusively covered with hardwood timber, the surface gently undulates, and the soil is deep and of a rich loamy nature. Side line between lots 20 and 21 commences in a swamp, which continues along the line for one-quarter of a mile; the line then enters a fine tract of land, gently undulating, and covered with maple, beech, basswood, and large hemlock. The line runs through a country presenting the same features, to the middle of concession 6, and on concession line 2-3, the land is of the same undulating character from lot 16 to lot 25. On concession line 4-5 the land is broken and rocky westward of lot 20, but eastward to lot 25 the hardwood tract still continues. About the middle of concession 6, side line 20-21 crosses Burnt river, the south shore of which is steep and rocky, the north shore is low and level for a short distance, and beyond, the land is high and rolling.

"In the 7th concession the line crosses a large tributary of Burnt river called Otter creek. In the 8th concession the land improves again, and from this concession to the north boundary is a fine tract of land covered with maple, beech, basswood, and elm of a very large growth, this tract extends from lot 10 to lot 25 in all the concessions from the 8th northwards. The soil in this section is of excellent quality, of a dark colour, great depth, and very free from stone; in some places granite boulders appear at and above the surface, but rocks are not prevalent in this locality except in some hardwood ledges which occasionally traverse the country.

"It is remarkable that in many places partial windfalls occur, although the soil throughout this tract is of great depth. The timber here is of large size, maple, beech, elm, and basswood predominating, pine being rarely met with. The surface of the country is undulating, but in some places rather hilly, the country is well watered by large streams and interspersed with swamps of cedar, black ash, and spruce; beaver ponds are frequently met with; beaver, otter, and mink are very plentiful, and deer are also in abundance. There is a large lake, called by the hunters Otter Lake, towards the north of this township; it is of a long, narrow shape, and the shores, in most places, rise abruptly from the water's edge—in some instances in almost perpendicular escarpments, the waters from it flow into Burnt river by a large stream, called Otter Creek. In the vicinity of this lake is an excellent tract of farming land, the soil being of the most fertile nature, composed of a dark, rich, sandy loam; it is everywhere of great depth, and generally rests on a substratum of gravel or coarse sand. Large, healthy elm is very abundant in this section, and the other timbers also grow to a great size.

"Along concession line 14-15 the land presents the same favorable aspect, as far as lot 9, where it becomes more broken and rocky.

"On lots 9 and 10 is a small lake, through which a large creek flows in a northerly direction; and at the south of the lake where this stream flows in there is a very good site for a mill—a fall of from 12 to 14 feet could easily be obtained, and the situation is in every way admirably adapted for the erection of a mill. There is some good pine in the neighbourhood, not in great abundance, but in sufficient quantity to supply all the wants of a settlement. The land from lot 9 to lot 4 is rather broken and stony, and on side line 5-6 is very much broken—to the north boundary it being nearly all windfall.

"Along the west boundary, from concession 15 southwards to concession 11, is a tract of good hardwood land, which extends eastward in some places as far as lot 6; the soil here is very fair, and the surface undulating.

"Between this and the large tract of good land to the east there is a rough, granite vein, covered with hemlock, pine, birch, and balsam. In concession 10, side line 5-6 enters a very broken country, which continues to the south boundary; this tract is traversed by rocky ridges, and interspersed with cedar and spruce swamps—the timber is small and stunted, hemlock, pine, birch, balsam and maple predominating. The pine in some places is of considerable size. On concession 6, side line 5-6 crosses Burnt river a little to the eastward of a high fall, and further south the line passes within a few feet of another fall, where the waters rush over an almost unbroken descent of between 20 and 30 feet. The river here is very large, averaging about 80 feet in width; between the falls the current is rapid, and the banks are steep and rocky. Pine is abundant in the neighborhood. The

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land continues rough and broken, and on concession line 4-5 this rocky tract extends eastwards as far as lot 18. Swamps and beaver ponds are thickly interspersed over the country, and the soil is very light; indeed, in that section lying between lot 11 and the west boundary, the flat rock is within a few inches of the surface, and in some places visible. With the exception of this rough tract to the south-west, the land in this township is well adapted for settlement, a greater portion of the area being one unbroken tract of hardwood land, through which the soil is rich and fertile. The country is well watered by lakes and large streams, and there are numerous mill privileges on Burnt river and its tributaries. Pine is in sufficient quantity to supply all the wants of the settlers, and large healthy elm is very abundant throughout the township."

NEE-BING AND PAI-POONGE

Are adjoining townships, situated to the west of Thunder Bay, Lake Superior. They are bounded on the north, south, and west by lands as yet unsurveyed; the Indian reserve and Hudson Bay Company's post are on the east.

They were surveyed in 1860 by P. L. S. Herrick, and contain respectively:—Nee-Bing, 19,781 acres of land: Pai-Poonge, 43,846 acres of land. The Kaministiquia river flows through both townships. The following is an extract from Mr Herrick's report of survey:—

"The townships of Nee-Bing and Pai-Poonge are bounded on the south by high ranges of trap rocks, rising in perpendicular precipices some hundred feet high on their north sides, the most prominent point of which,—McKay's mountain—reaches an elevation of 1,000 feet. The summits of these mountains are in general covered with white and red pine, while on the sides may be seen a thick growth of birch, poplar, and spruce, and in a few spots sugar maple. At the base of these mountains we get into a comparatively level plain, forming the valley of the Kaministiquia river, and at an average elevation of 30 or 40 feet above the level of the river. The soil in this valley consists in general of a reddish, clayey loam, well adapted for cultivation, and producing a good growth of poplar, spruce, balsam, birch, with an undergrowth of hazel-nut, cherry, &c. In some places also, white and red pine of good quality, though not in any great abundance, are met with.

"Between the long windings of the river, the lower part of which is exceedingly tortuous in its course, are flats of rich, dark alluvial deposit, rising 6 or 8 feet above the level of the river, and giving growth to large elm, ash, balm of gilead, &c., with an undergrowth of wild hops and flowering plants of various descriptions.

"On the north as well as on the south bank of the river, rising from these flats, are banks of red clay, gravel, or sand, 50 to 80 feet in height.

"The land, for a short distance from the north side of the river, is in general pretty good, and covered with poplar, spruce, birch, balsam, &c. However, proceeding further north from the river in Nee-Bing, the land in general becomes wet, and the prevailing timber is tamarack and spruce; while in Pai-Poonge, most of the country north of the river for some distance, presents a dry, sandy appearance.

"Along the northern boundary of both townships the soil again improves, and continues to do so, until the range of granite and trap rocks bounding Thunder Bay on the north and ranging towards the south-west is again met with.

"The country on both sides of the river is well watered by numerous creeks, affording excellent mill sites. Slate river flows with rapid current between high banks of dark argillaceous slate, lying in horizontal layers, and containing limestone in interlying masses, as well as in large rounded nodules. This slate in some places is of good quality, presenting a hard, compact appearance, while in other places it is soft, and decomposed readily—nearly pure alum being found on the surface in considerable quantity.

"This formation of dark slate, intersected in places by dykes of trap, is found all through the southern portion of Pai-Poonge.

"On the north side of the river are also several creeks or small rivers, very rapid in their course, and supplying easily available water power to any extent. The rocks on the

north side of the river are chiefly of slaty trap, with layers of red jasper, and intersected by veins of quartz, with traces of lead and copper ores. At the Paresseux rapids, a vein appears about three feet in width, chiefly of fluor spar, with particles of lead and copper ores. A small deep river flows through the north of Nee-Bing, about one chain in width, and navigable for small boat or canoe for about $4\frac{1}{2}$ miles from its mouth.

"Further up this river, in the north-west corner of Nee-Bing, are falls 30 to 40 feet in height. Here appears a vein running nearly east and west, 12 to 15 feet wide, chiefly of white calc spar, and containing a considerable quantity of the ores of lead and zinc.

"The only impediment to navigation of the river Kaministiquia by lake steamers consists of a bar of soft mud or sand, a couple of hundred feet wide, at the mouth of the river; over this bar in the channel there is about five feet of water. This trifling difficulty overcome, the river is navigable for good sized steamers to Point de Meuron, or about 11 miles from the mouth—there being an average width of about 5 chains, with a depth of from 8 to 10 feet.

"While coasting along Thunder Bay, I had a good opportunity of examining the north shore of the Bay with reference to harbors, and found that at Lambert Island to be the only one worth notice.

"This bay, sheltered completely by Lambert Island, formed a beautiful harbor, about half a mile wide by three quarters of a mile deep—the water varying from two to six fathoms in depth. The island which protects it on the south is divided from the main land by a channel a few feet in width, and affords on its inner side a secure anchorage alongside of the island, which rises from ten to twenty feet in perpendicular basaltic columns from the water.

"As far as my own experience goes, the climate at Fort William in winter is not more severe than that in the neighbourhood of Montreal."

PALMER

Is situated north of Batchewanung Bay, on the north shore of Lake Superior.

It is bounded on the north and east by unsurveyed territory, on the south by the township of Fisher, and on the west by the township of Ryan.

This township was subdivided into sections and quarter sections in 1865 by Provincial Land Surveyor G. B. Kirkpatrick.

Each regular quarter section contains an area of 160 acres.

The township of Palmer contains an area of 18,984 acres of land, of which 3,714 acres had been previously surveyed and patented as mining locations.

The following is an extract from Mr. Kirkpatrick's report of survey:—

"The surface of the township is hilly, and in some places rocky. Many of the hills, however, though attaining a considerable height, have a very gradual ascent, and are deeply covered with soil, which throughout the township is sandy loam. Many beaver ponds occur which drown much good land, but as they are capable of being drained I have not deducted the areas. The township is well watered, the Batchewanung River flowing through the south-east portion of it, Carp River through the centre of it, and the Sable River through the western portion of the township, besides numbers of smaller streams tributary to these rivers. Many mill sites may be found on these rivers. Three falls of about twenty feet each occur on the Batchewanung River, and there are several mill sites on every section through which the other rivers flow.

"The timber in this township is mostly hardwood, maple and birch being the chief kinds in the western half, while in the eastern portion the timber is more mixed, consisting of maple, birch, balsam, spruce, cedar, ironwood, and a few white pine here and there. The fixed rocks are either greenstone or trap. Traces of iron were found by the survey party in many parts of the township, but owing to the greater portion of it being surveyed while the snow was on the ground I could not make much search for minerals. Iron ore

is largely developed on the northern boundary of the township, and also to the north of the township, and traces of copper were found by me in the hills to the north of the lake on the south boundary. On section 31, and the adjoining mining location, amygdaloidal trap is the prevailing rock. The mining locations of J. P. Mansfield and others being in this township, the fact of their being opened up at the present time, must give a stimulus to the settlement of this portion of the country, as supplying a cash market to the settler at his own doors, an advantage which many older sections of the country are without. I consider that about two-thirds of this township are fit for settlement, there being much good land on every section."

RAGLAN

Is situated in the County of Renfrew.

It is bounded on the north by the townships of Radcliffe and Bangor, on the east by the townships of Brudenell and Lyndoch, on the south by the township of Ashby, and on the west by the townships of Mayo and Carlow.

This township was surveyed in 1867 by Provincial Land Surveyor Joseph Doupe, and contains an area of 69,212 acres, including water and roads.

The following is an extract from Mr. Doupe's report of survey:—

"It will be seen by the plan that the side lines 25 and 26, and 30 and 31, were run no further south than the line between the 2nd and 3rd concessions. The land in the unfinished portion is exceedingly rough, consisting chiefly of high, steep, rocky ridges, and is totally unfit for settlement.

"The geological features of this township exhibit but little diversity of appearance, and are not deserving of particular notice.

"The rocks belong to the Laurentian formation, and consist for the most part of gneiss. In several places there are extensive exposures of white crystalline limestone, which produces a fair quality of lime, and may yet become of some importance to settlers. No indications of valuable minerals were met with, and no specimens were collected.

"This township is well watered by streams and lakes, which abound in many kinds of fish. There are but two lakes of any considerable extent, the largest being about a mile and a quarter in length and over half a mile in width. Beaver meadows and ponds are to be found in nearly all parts of the township.

"The township is drained by the Madawaska river, and the York and Mississippi branches of the same. The current of these rivers is, except at a few places, very slow.

"On lot No. 6 in the 6th concession the Mississippi branch passes through a narrow channel or chute, with a fall of 5 or 6 feet, and affords a mill site which, at a small cost, can be made available. On lots Nos. 18, 19 and 20, in the 19th concession, is situated what is known as the 'Palmer' rapids. A very good mill site, with an ample supply of water, is here afforded; and also the most eligible site for a bridge, across the Madawaska, that is to be found in the township. I was informed that Mr. McLaughlin, who occupies the adjoining clearing and owns extensive lumber limits in Raglan and Radcliffe, proposes soon erecting mills at this place, and opening a road, northerly, to the 'Peterson Road.'

"Along the York and Mississippi branches extends a marsh, varying in width from a few yards to half a mile or more, on which considerable quantities of marsh grass are annually cut for the use of the lumbering firms and settlers. This tract, when overflowed in spring, presents the appearance of a large lake ten or twelve miles in length.

"The land in Raglan is undulating, or rolling, and in many places broken by swamps of cedar, spruce and tamarac, and by steep rocky ridges, short and very irregular, and not inclined to any general course. The prevailing timber on those rough portions, and also along the Madawaska river, is pine, the best of which—through lumbering operations, carried on for 20 years or upwards—has been removed, though a considerable quantity of valuable timber still remains.

"In several places, once covered by beautiful groves of valuable pine, the fire has made a clean sweep of all vegetation, or left only the dry trunks of trees.

"Throughout the township, except in the marshes and swamps, the soil partakes of a sandy character, being in many places a deep rich sandy loam, which yields, where clearings have been made, wheat, oats, corn, grass, and cereals of a very superior character both in respect of quality and quantity. In other portions it is more sandy, especially the level land along the Madawaska River, and many other places where pine is the prevailing timber, the land may be classed as second rate.

"Where the land is good the prevailing timber is beech, maple, and basswood. The land in those portions covered by hardwood (as shown upon the timber map), is with some few exceptions favorable for agricultural purposes. In these exceptional places it becomes rough and rocky, and the timber is usually maple, birch, beech, hemlock, pine, balsam, oak, ironwood, elm, &c. In the remaining portions of the township good land is only to be obtained in small patches, widely separated by spaces of rocky land and swamps.

"The clearing occupied by the lumbering firm of Messrs. Hilliard & Dixon, was the first one begun in the township. It has been occupied 24 years, and contains in Raglan, 135 acres of very good land. A portion lies in the adjoining township of Carlow. The second is the 'Palmer Farm,' on the Madawaska, occupied by Mr. McLaughlin of Arnprior, contains 136 acres of excellent land, and was begun 19 years ago. Six miles further down the Madawaska, in the 13th concession, Mr. Patrick Maddigan has resided for 10 years. He has now a clearing of 83 acres of first class land, has a very good log house of flatted timber, and at the time of the survey was preparing timber for a large barn.

"There are thirteen clearings and eight resident occupants in the township. A ready sale and good prices are obtained at the lumbering establishments for all the produce the settlers have to spare."

RYAN

On the north shore of Lake Superior, is bounded on the north by unsurveyed territory, on the east by the township of Palmer and the Batchewauung Mining Company's locations, on the south by the township of Herrick and Pancake Bay, and on the west by the Montreal Mining Company's locations at and near Cape Mamainse, and by unsurveyed territory.

This township was subdivided into sections and quarter-sections in 1866 by Provincial Land Surveyors Hugh Wilson and John Joseph McGee.

Each regular quarter section contains an area of 160 acres.

The township of Ryan contains an area of 19,153 acres of land.

The following is an extract from the report of survey :—

"In sections from 1 to 10 inclusive, although intersected by a few high ridges, the valleys are extensive and rich, with fine sandy loam soil, covered mostly with maple and birch of healthy appearance and good quality.

"In sections from 11 to 16, and the north halves of sections 21, 22, 23 and 24, the land is rough and broken by high ranges of rock. On the tops and down the slopes of the ridges, which are very steep, there is no great depth of soil; but the valleys, though not extensive, are rich, having a fine sandy loam soil. Maple and birch predominate, and of a good healthy growth.

"In sections 12 and 13 there is a lake whose waters flow eastwards into the Carp River through the township of Palmer. This lake is very deep, even at its banks, and clear; and, though in midsummer, its waters are perfectly cool. It, as well as the smaller lakes throughout the township, abound with speckled trout. We have often, in an hour, hooked over twenty of those beautiful fish.

"Along the western side of the lake the shore is bold and precipitous, and in many places, particularly towards the north-west, is almost perpendicular, rising to the height of 300 feet, while the land gently ascends from the water on the east side, excepting a very steep ridge or bluff at the intersection of sections 12 and 13, on the east boundary, the acclivity of which, however, begins at several chains from the lake.

"In sections 17, 19, 20, 29 and 30 the land is exceedingly rough and broken by deep ravines and high ridges composed of coarse conglomerate, porphyritic and amygdaloidal trap, having a north and south strike, a disposition which pervades the geological formation all through this section, and extending into the Montreal Mining Company's locations. The soil is sandy loam, and in many places may be said to be breccia, covered with a light coating of sandy loam. The timber is inferior, and composed principally of spruce, tamarac and birch, although there are some patches covered with maple and birch of healthy growth.

"The remaining sections, and those fronting on Pancake Bay, are superior to any other. The absence of rock and hills of any extent, excepting a few spurs running in from the ranges to the north, combined with the improvement in the quality, richness and depth of the soil, being sandy loam on a still richer mould, makes these sections the most important district of the township. The tracts of hardwood are extensive, though there is much mixed timber through them, and well watered by Pancake River, Sable Creek, and their affluents, which are abundantly supplied with water, even in the height of summer.

"There are tracts of pine along the valley of the Pancake River, especially near the north boundary, and at the mouth of the river in front of sections F and G; through part of sections 22, 23 and 26 there is a tract of pine of medium size, all of which is valuable for saw logs and small spars.

"The Pancake River is of paramount importance to this section of the country. It flows out of a large lake northwards and traverses the west half of the township and part of the Montreal Mining Company's locations. It has a gentle current, with an exceedingly tortuous course, and its banks are in many places high, but generally low and inclined to a small angle, in which case good loamy soil stretches down to the waters edge; its average width is perhaps about fifty links from its mouth to where it crosses the north boundary, and having a depth of from 5 to 6 feet, with a gravelly bottom.

"There are several excellent mill privileges on the river. The most important of which is one at about twenty chains from its mouth, having a fall of nearly eight feet. The river is deep and current sluggish between the falls and its embouchure on Pancake Bay.

"This Bay contains one of the finest harbors on the north shore of Lake Superior, being well sheltered on the west, north and east by Point Maminse, township of Ryan, and Point Corbeau. There is a good anchorage on stiff clay bottom.

"In conclusion, we beg to remark, it is our opinion too much attention cannot be paid to this section of the north shore of Lake Superior. The Montreal Mining Company's locations on the west, and the Batchewanung Company's on the east, having this tract of good land between, will actuate many to settle here. Even in our own survey party, there were four young men only waiting for the approaching spring to enable them to carry up provisions and commence farming."

SHEGUIANDAI

Is situated on the Manitoulin Island. It is bounded on the north by the township of Howland and Sheguiandah Bay, on the east by Manitowaning Bay, on the south by the township of Assignack, and on the west by the township of Bidwell.

This township was surveyed in 1864 by Provincial Land Surveyor George McPhillips, and contains an area of 31,624 acres, including water and roads.

The following is an extract from Mr. McPhillips' report of survey:—

"The timber is so mixed that one can hardly tell what order to put it in. Cedar, maple, ironwood, &c., all mixed up together; hardwood and swamp, sometimes in such small patches that I could not mark them on the plan. When the swamps are large, I have marked trees resembling cedar or balsam, and when there are none, the swamps are very small or otherwise mixed with hardwood, and the land of middling quality. Some

of the windfalls were originally hardwood, but the young timber growing up now is poplar, birch, tamarac and spruce. The soil in some of them was also good, but being so often run over by fire, the good soil is burned off. The soil is of different qualities, varying from rich clay and loam to sand, gravel and rock, the rich clay land is generally on the slopes and in the valleys, till within ten or twelve chains of the coast, when it changes to sand or gravel; sometimes the good land will come nearer to the coast. The rocks generally appear on the top of the slopes, back from the edge of which the soil is very shallow for ten or twelve chains, with a girdle of small stunted hardwood running in the same direction as the edge of the rock. Back on the table land the soil is weighty clay, with a close, retentive subsoil, which will not admit of the water to pass through, causing swamps and swales; the worst swamps I met were on the table lands.

"I think the Island in general would be better for pasture than for cultivation, but where there is good soil it is productive, even with the poor cultivation the Indians give it. The 6th and 7th concession line runs through the highest part in the township; the land falls north and south from it. The little lake that this concession line crosses, and which I have named Pine Lake, has a good deal of good pine timber around it, particularly on the west and North-west. The south shore, up the lake, is very rocky. Limestone, in great masses, often appears in front, and sometimes in thin layers, and shale. Around Turtle Lake there is a great deal of marsh, swamp, and very poor land. The stream from Turtle Lake to Manitowaning Bay is the largest in the township, except the short one from Bass Lake into Sheguiandah Bay.

"The part I left for a town plot contains some good land, a good deal of rock and swamp, and some useless old clearing of the Indians, so covered with boulders and small stones that we could not plant a picket in it. It is the best situation for a town or village, on account of the mill privileges on the stream. I think there could be three from Bass Lake to the bay.

"I could not give the number of acres cleared by the Indians with any degree of accuracy as they are so irregular; therefore I have only noted them where my lines cross them. I did not bring any specimens of rock with me, as I did not observe anything different in them from the common limestone and white quartz, and they are the only rocks I observed in the island."

ST. MARY

Situated on the River St. Mary's, is bounded on the north by the township of Tarentorus, on the east by lands as yet unsurveyed, on the south by the river Ste. Marie, and on the west by the Hudson Bay Company's property.

It was subdivided in 1859 into sections and quarter sections by Provincial Land Surveyor A. P. Salter. The township of St. Mary's contains 856 acres of land. The following is an extract from the report of survey:—

"SECTION 3.—The soil is good, though rather light, and the timber entirely destroyed.

"SECTION 4.—The same remark applies to this section.

"SECTION 6.—Good soil, covered with a thick second growth of timber, original timber burnt.

"SECTION 9.—Good soil, a narrow belt of timber on the margin of the river Ste. Marie, not burnt.

"SECTION 10.—This section precisely similar in character to section 9."

TARENTORUS

Situated north of the river St. Mary's, is bounded on the north by the township of Aweres, on the east by unsurveyed lands, on the south by the township of St. Mary's, and on the west by the township of Korah.

It was subdivided in 1859 into sections and quarter sections. Each regular quarter section contains an area of 160 acres. The township of Tarentorus contains 13,988 acres of land.

The following is an extract from Provincial Land Surveyor A. P. Salter's report of survey:—

"With the exception of the northerly and north easterly sections of Tarentorus, the whole township is fit for settlement; a few of the centre sections are rather low, but are susceptible of drainage. The soil is either sandy loam, black mould, or red clay, the sub-soil, red or white clay.

"A serious drawback to the settlement of this township will, I fear, be found in the scarcity of timber, a very considerable portion of it having been overrun by fire, and in some sections the surface soil has been completely burnt off, being of a peaty nature. This is to be regretted, as the soil is generally of good character, and affords a good opening to intending settlers.

"The surface on the westerly side of this township is somewhat broken by ravines, which, however, offer no serious obstacle to its settlement. Numerous small rivulets of excellent spring water cross the country, a great desideratum to an agriculturalist."

TEHKUMMAH

On the Manitoulin Island, is bounded on the north by the township of Sandfield, on the east by the township of Assiginack, on the south by the waters of Lake Huron and South Bay, and on the west by unsurveyed land.

This township contains an area, including land and water, of 33,795 acres, of which 18,288 acres were subdivided in 1866 by Provincial Land Surveyor G. B. Abrey.

The following is an extract from Mr. Abrey's report of survey:—

"In referring to the eligibility of the township for settlement, I may confine myself to the part that I have subdivided (I believe scarcely an acre of the undivided portion is capable of cultivation). The soil in general is rather sandy, or clayey loam, the former predominating in hardwood ridges, and the latter in the more swampy parts. In no case is the vegetable part of great depth, and except in the swamps, the rock is comparatively close to the surface; also, where the fires have prevailed, nearly every trace of vegetable matter has been burned out of the soil. The north-easterly four thousand acres comprises nearly the whole of that part, that may be called well watered.

"In more particularly describing that portion suitable for settlement, I may say the following is a fair approximation: Concession B contains lots 31 to 17 inclusive—excluding a part of the latter—1,520 acres; Concession A contains lots 33 to 12 inclusive, 1,877 acres. Concessions one and two, all to the westerly limit of the valley of the river (the outlet of Lake Manitou), except a strip of rock intersecting the town line at the north-westerly angle of lot No. 10, and near the line dividing lots Nos. 14 and 15. Thence running south-westerly, following the easterly limit of the valley of the river, and intersecting the line between concessions two and three at the south westerly angles of lots 16 and 19, say 1,900 acres fit for agricultural purposes. Concessions three and four, from concession B to the rockridge intersecting the concession line between concessions 2 and 3 at the north-westerly angle of lot No. 16, and concession line between 4 and 5 at near the centre of lot No. 19, say 1,400 acres. Concession 5 contains lots 11 to 18, inclusive, 800 acres. Concession 4 contains lots 11 to 15 inclusive, 500 acres. Concession 5 contains also lot 1 and parts of lots 2 and 3, say 200 acres. Concession 6 also contains lots 1 to 5 inclusive, say 500 acres. Concession 7 contains lots 5, 4, 3, 2, and part of lot 1, say 450 acres, making, in all, a total area of 9,150 acres fit for cultivation. Over a large portion of this area the timber—composed chiefly of cedar, spruce, tamarac and balsam, with patches

of hardwood scattered over here and there—is killed and fallen, or partially fallen, and only requires another fire like that which killed it to totally consume it, and render the whole cleared and fitted for tilling.

“The other portions of the township are valueless for agricultural purposes, and except from 3,000 to 4,000 acres in the north-westerly corner of the township which is covered with some pine, and may at some time be rendered available, cannot be disposed of for any purpose whatever. The whole south shore of the township, bordering on Lake Huron, extending inland a distance of a couple of miles, is a smooth limestone rock, supporting a growth of small cedars growing very closely together, with some spruces, balsams, birches and balm of Gileads intermixed.

“There are no large streams crossing the surface of the township, except the outlet of Lake Manitou. It crosses the northern town line on lot 16, thence running south-westerly, and emptying into Michall’s Bay, near the western boundary of the township.

“Most of the smaller streams dried up last summer. These smaller streams have their sources principally from the swamps, in the northern parts of the township.

“The rock formations are all of the Clinton or Niagara limestone, and afford nothing striking in this section. They are somewhat undulating, but dipping with a gradual decline towards the shore of the lake, and have a strike parallel with that shore line.

“In selecting a site for a town-plot, I find no place suitable, except it be the point, at the entrance of South Bay. The mouth of South Bay affords an excellent harbor for vessels, and is one of the best fishing stations on the island. Michall’s Bay, also, is a good place for fishing, but offers no securities as a harbor for large vessels.

“There are no settlers or clearances in any portion of the township. A few Indians remain at the point, at the entrance of South Bay, during the fishing season, but have no gardens or clearances.

“At present the township offers very little inducements to the settler, the south side being barren, the township of Sandfield on the north unsurveyed, and Assignack not opened up, renders this township quite isolated. Tehkummah must be settled from towards north, as in that direction will be the markets, and in that direction lies most of the best of the land.

“Therefore, I would recommend, that the Government construct a road, say: the road between concessions A. and B., from South Bay to the bay at Manitowaning (cost of which might be added to that of the lots benefited thereby). In that case the advantages of settlement of this township would be materially increased, and I believe the lots adjacent to the road would speedily be taken up and improved, and eventually those more remote. I am aware that a number of parties intend taking up some of the lots in the coming summer, if they are in the market by that time, but they will be abandoned again, unless some means of access thereto be made.”

TILLEY, AND PART OF HAVILLAND; AND OUTLINES OF HAVILLAND, TUPPER AND ARCHIBALD.

These Townships are situated on and near Batchewanung Bay, north shore of Lake Superior.

Tilley, bounded on the north by unsurveyed territory, on the east by the township of Archibald, on the south by the waters of Batchewanung Bay, and on the west by the waters of Batchewanung Bay and the Township of Fisher, and containing 15,747 acres of land, was subdivided in 1865 into sections and quarter sections, and, at the same time, 3,825 acres of Havilland (being the whole of the *first range, north*, of that township) was subdivided into sections and quarter sections, by P. L. S. Hugh Wilson. Each regular section contains an area of 160 acres.

Provincial Land Surveyor Wilson also at the same time surveyed the outlines of the townships of Havilland, Tupper and Archibald.

The following is an extract from Mr. Wilson’s report of survey:—

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"I then commenced to run the limit between the townships of Havilland and Tupper. Sections 36, 23, 24, and the south half of section 13 in Havilland, and the adjacent sections in Tupper, as shewn on the map, are high, rolling land, somewhat broken with rock ridges; but at least two-thirds of the land, as far as seen, is well adapted for agricultural purposes. Soil—rich sandy loam. Timber—principally maple, mixed with balsam and black birch, with some good white pine on the ridges. Sections 24 and 13 fall gradually towards Batchewanung Bay.

"There are several good mill sites on the stream, shewn on the accompanying map, in section 13 in Havilland and section 18 in Tupper; but the land here is broken and rocky, with but few good pines. Sections 12 and 1 in Havilland contain considerable portions of good land along the Lake shore; but these sections, together with the adjacent sections in Tupper, as shewn on the map, are very much broken by the Lake shore mountain, which is very rugged, and composed of immense masses of rock, with high cliffs. The mountain has lately been devastated with fire; the timber has been burnt down, and its site grown over with thick brushwood.

"The limit between Havilland and Tupper crosses the western spur of the said mountain at the 5th mile-post from the place of starting, which post has an altitude of 500 feet above the bay, with cliffs from 50 to 60 feet. Rock—gneiss, overlaid with black trap, containing iron pyrites and traces of copper.

"Havilland township is situated on the south and east shores of Batchewanung bay and part of Batchewanung island, and contains 23,040 acres, more or less, of which nearly one-half is water. Sections 37 to 43 inclusive are situated on the north brow of the antilinal, dividing the Goulais and Batchewanung bays, and is generally good land, somewhat broken with rock ridges, and falls gradually to Batchewanung bay. Timber—maple, mixed with black birch, and maple and balsam, with some good white pine on the ridges. Soil—rich sandy loam, is beautifully watered by small spring creeks, flowing into Batchewanung bay. Prevailing rock—gneiss, and a hard, hornblendic slate, with pieces of amygdaloid trap, and red sandstone in the bed of the streams.

"There are one or two good mill-sites on a stream passing through sections 33, 35 and 34, with good land in valley of stream; also in the west portion of section 33, a little west of line. Fall—60 feet in 200 feet.

"Sections 42 and 31 are situated on the top of a burnt mountain, west end of Goulais and Batchewanung range, which is here about 500 feet above the bay, and suddenly breaks off along the west line of Havilland, showing cliffs from 60 to 100 feet high, with cherry, poplar, white birch and underbrush. Rock—gneiss and amygdaloid trap, with detached pieces of hornblendic slate, and traces of the sulphate of copper.

"The township of Ley, as seen from the ridge, is level, and with little elevation above the bay, and a considerable portion of it burnt over. Sections 30 and 19 of Havilland fall gradually to the bay, and appear to be good land—a considerable portion of them burnt over and covered with the remains of old windfalls. That part of Havilland in Batchewanung island is generally level, soil good; timber: hardwood, balsam, cedar and white pine; soil, sandy loam. Potsdam sandstone crops out on the east and north-east shores of the island, dipping slightly to the south-west. I found several excellent landings or points, with from 10 to 20 feet of water, within a few feet of the shore, affording easy landing for vessels—the landing being well sheltered from heavy seas and weather. I was informed by several of the Indians of the neighborhood that excellent fishing ground exists off the east and north-east shores of the island.

"The boundary line between Archibald and Tilley is situated on the Lake shore mountain, which is all burnt over, and generally covered with fallen timber and thick brushwood, which includes nearly all of sections 36 and 25, and sweeps around to north-east, into the township of Tupper, and rises to an elevation of about 1500 feet above the bay. The remainder of said boundary passes over a rough, broken country, but contains sufficient good land in the valleys and north slopes of the ridges, which are generally sufficiently easy to warrant settlement. Timber: maple, black birch, cedar, and a considerable quantity of white pine. Soil: rich sandy loam.

"Sections 1 in Tilley and 6 in Archibald are crossed by the Chippawa river, the valley of which is excellent land. Timber: maple, elm, cedar and balsam. Soil: rich sandy loam.

"North Boundary of Archibald.

"Sections 6 and 5, are somewhat broken with rock ridges, but contain, at least, two-

thirds excellent land. Soil: sandy loam Timber: maple, birch, elm, cedar, balsam, and some good white pine. In section 5 the south spur of a range of cliffs is crossed, at an elevation of at least 600 feet above the river. Rock: red quartzose granite, with fine black trap, in the form of dykes; some good red pine on mountain. From the top of this range of cliffs the land falls gently to the north, and presents a large tract of apparently good land; timber, hardwood.

"This ridge or range of cliffs, bearing an east and west course, is about a quarter of a mile north of the line, through sections 4 and 3, which are good land, rising gently to the south. Timber: hardwood and balsam. Rich sandy loam. Sections 2 and 1 are high hardwood land and rock ridges, and some tolerably good white pine on the east part of section No. 1. The whole northern boundary of the township of Archibald is beautifully watered with small spring creeks.

" East Boundary of Archibald.

"Section No. 1 is partly tamarac swamp, but perfectly dry, and rich sandy loam, which extends for over a mile to the eastward, through which a branch of the Chippawa river flows. Sections 12, 13, 24, 25 and 36, are generally very good land, somewhat broken with lakes and ridges. Timber: maple, balsam and birch, with a considerable amount of good white pine—land falling gently to the west. About a mile east of sections 13, 24 and 25, is an extensive depression in the country, which sweeps south-west into the township of Tupper, the mean course being north-east, and containing a chain of lakes, some of them two or three miles in length, and extending for some 15 miles; and I was told by some of the Indians acquainted with the country that they abound with white-fish and salmon, having large tracts of good arable land, with considerable quantities of white pine adjoining. I have seen a good specimen of galena from the shore of a lake east of section 24.

" South Boundary of Archibald.

"Section 31 is on the lake shore mountain, which is burnt completely over, and rises to about 700 feet above the bay. The second range of Lake shore mountains is crossed by the line at the second mile east, and rises to the height of 1,200 feet above the bay, with cliffs from one to 200 feet, and sweeps round through section 30 in Tupper and 25 in Tilley.

"Sections 6 and 5 in Tupper fall off to the south, in a valley of good land. Sections 4, 3, 2 and 1, are high, rolling land, broken with rock ridges, but sufficient good land to warrant settlement; fully one-half of section No. 1 is water, in one of a chain of lakes, extending to the north-east. There is an excellent mill site in section 36 in Archibald, on the water connexion between two lakes, which connexion is about 8 chains in length; there is abundance of water, and fall of about 20 in 100 feet—the land adjoining gently rising and good. Timber: hardwood, with considerable quantities of good white pine.

"Archibald is bounded on the south by the township of Tupper, on the west by the township of Tilley, and on the north and east by unsurveyed land, and contains 22,927 acres, more or less. On the east side of Archibald there are large tracts of very fair land, and I was informed by the Indians in my party that it improved very much to the eastward; and what I saw of the township on the south and north boundaries, and from the accounts given by the packmen (who passed through the township by two different routes, bringing in supplies), a large tract in the interior of the township, extending past the eastern boundary, is good arable land, with high hills and gradual slopes. Timber: hardwood and scattering white pine, far exceeding what would be required for local consumption.

" East Boundary of Tupper.

"Sections 1, 12 and 13, are considerably broken with lakes, containing numerous small islands—banks gently rising. Timber round the shore: good white pine and hardwood; the land rolling, with gentle slopes, somewhat broken with rock ridges. Soil: rich sandy loam. There is a good mill site a little west of the line, in the north part of section 24, having a reddish quartz rock on either side of the stream for some distance, rising to the height of 20 feet on the point of an island. A little to the west of the line, in section 1, I found iron pyrites in considerable quantities, in cubes of over an inch in diameter, together with a fair specimen of hematite iron ore. Section 24 I found to be excellent land;

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25 and 36, hilly, with easy slopes, falling gently to the eastward, with low rock ridges. Timber: maple, ironwood, black birch, and some good white pine. Soil: rich sandy loam. Gneiss is the principal rock appearing in the east boundary of Tupper, and on one or two occasions I found it tinged or spotted with green, indicating the presence of copper. The whole line is beautifully watered with small spring creeks, flowing easterly. The land is heavily timbered with maple, mixed with black birch, balsam, cedar, and some good white pine. Soil: a rich sandy loam.

“ South Boundary of Tupper.

“The easterly part of section 36 is beautiful land. In section 35 the line passes along the south brow of a hill, falling to the south, and is precipitous and rocky. There are several lakes in sections 33, 34 and 35, some of them nearly a mile in length. About half a mile south of section 34 is a lake of considerable size, and is at least 500 feet below the lakes referred to above. The line, in section 34, ascends the north brow of Beaver mountain, rising with steep but gradual ascent in the east for over half a mile, attaining an altitude above the lakes on the north about 800 feet, and on the south about 1500 feet. Timber: maple, black ash, black oak, and mountain ash of small size. The rock that was visible was quartzose and a coarse hornblende slate. From the summit of this mountain a bird's-eye view of the country from north-east and north-west was obtained; and, on carefully adjusting the theodolite, I found it considerably the highest point of land in the country, except one, north of Pancake bay. From this point numerous lakes could be seen in Tupper, and the country did not appear to be much broken with ridges, and I should say contained good tracts of arable land. The land falls with steep descent, westerly, through section 32, and part of section 32. Timber: small maple, black birch, oak and balsam, with large tracts of good land. Sections 31 and 32 are, as a general thing, good land.

TOWNSHIP OF TILLEY.

“The township of Tilley is situated on the north shore of the Batchewanung bay and part of Batchewanung island, and contains 15,747 acres of land, more or less, which has been subdivided into sections and quarter sections, each regular section containing 640 acres, being a mile square. The township is considerably broken by the lake shore mountains, which sweep inland eastwardly and breaks up into mountainous ridges along either side of the Chippawa river, which runs through the township of Tilley.

“The Chippawa river enters Tilley about half a mile south of its north-east angle, and flows in a serpentine course through sections 1, 2, 11, 10, 15, 16 and 17, then emptying into the Batchewanung bay, having an average width—from section 1 to the falls on sections 16 and 21—of about 150 chains, with slight rapids in places. Banks clay, from 6 to 10 feet high.

“The falls on the said river consist of two chutes, with a basin of about two chains intervening. The upper chute is immediately north of the line, between sections 21 and 16, and the lower chute a little south of the line, both affording excellent sites for mills, with easy approaches. The chutes have a fall of about 30 feet each, with a total fall of about 75 feet; adjoining the falls on the ridges there is a considerable quantity of good white pine. The banks below the falls are from 10 to 12 feet high, and consist of light bluish clay and gravel; the average width of the river being about two chains, and depth from 6 to 10 feet. At the mouth of the river, in the bay, a sand-bar extends out about a quarter of a mile, not covered with more than two or three feet of water. The valley of the river on either side throughout the township is good arable land and suitable for settlement. Timber: maple, elm, cedar and balsam. Soil: rich sandy loam.

“The west part of section 1 is considerably broken by a rock ridge, but contains a large tract of good land along the river. Sections 2, 3, 4, 5 and 6, are traversed by a dry swamp. Timber: balsam, cedar, tamarac, white pine, and a considerable amount of hardwood. Soil: rich sandy loam. Sections 7, 8, 9 and 18, are situated principally on the north and west slopes of the lake shore mountain, with hills rising to considerable height, with easy slopes; the south part of sections 8 and 9, being on the south brow of the mountain, are broken and rocky. Timber: maple, mixed with balsam, cedar and white pine. Sections 10, 11 and 12, contain considerable amount of good land along the valley of the

river, but are very much broken by ridges on either side of said valley. Sections 13, 14 and 15, are situated in the second range of the lake shore mountains, and are very much broken by high rock ridges. The valley and the north slopes of the ridges are generally very good land, and comprise at least one-half the area.

"Sections 16 and 17 are situated on the top and south slopes of the lake shore mountain, and are exceedingly broken, but contain large quantities of good white pine; but there is considerable amount of excellent land from the base of the mountain to the lake shore. Section 21 and the south-west half of section 22 is excellent land, rising in plateaux. Timber; principally maple, mixed with a little balsam and cedar, a considerable area of which has been used by the Indians as a sugar-bush, some long time ago. The soil is a rich sandy loam. I found, on the line between sections 22 and 15, trap rock, strongly magnetic. Sections 23 and 24 are situated on the top and west slope of the lake shore mountain. Section 23 is broken and rocky, and contains a large amount of good white pine. The greater part of section 24 consists of a considerable amount of good land, with high ridges. Timber: maple, mixed with birch, balsam, cedar and white pine. Sections 25 and 26 are on the south slope of the mountain, and are broken with rock ridges, with small valleys of good land. Timber principally maple. Begley's copper location occupies a certain position in these sections.

"The copper lode is situated near the centre of section 25, and forms a cliff from 80 to 100 feet high, course north-west and south-east, and shows a face of from three to four chains in length, and bears the appearance of a distorted dyke, large portions of it being tinged with green from the presence of copper, and has, to all appearance, a 'good show.'

"Sections 31, 32 and 33, on Batchewanung island are generally undulating. Timber: maple, hemlock, cedar, birch, poplar and white pine; soil, sandy loam. Potsdam sandstone forms the east and north-east shore of the island, dipping slightly to the south-west. All that portion of the island in the township of Tilley has the appearance of good land. Section 36 is principally situated on the face of the lake shore mountains, the timber of which has been destroyed with fire; it is exceedingly rugged, and broken with cliffs.

"General Remarks.

"The northern shore of Batchewanung bay is principally composed of a sandy beach, with shallow water for several hundred feet out; but there are several points of rock on the north-easterly shore of the bay, with water from 10 to 15 feet deep at their extreme edge, affording great facilities for the construction of commodious wharfs, with very little expense. A strong current from the west sweeps around to the north and north-east of the island; the water is of considerable depth, and the current so strong that a considerable portion of it is open during the winter. Easy access can be had over the mountains in numerous places to the interior, by following the faults or windings of the ravines and valleys. The whole country is beautifully watered by spring creeks; several are of good size and abound with speckled trout. There are considerable number of rein-deer or Cariboo throughout this region of country. The climate, soil, and facilities for settlement are much superior to many portions of the Ottawa country.

"Settlement.

"The mineral wealth of the country is apparently inexhaustible, and there is abundantly sufficiently good arable land capable of producing the cereal and other Canadian staple products necessary for the sustenance of a large mining population. During the present season, the first-class steamboat "*Iron City*," on her up and return trips, has called weekly (plying between Detroit and the American mines on Lake Superior) at Mansfield & Co.'s landing, situated on Batchewanung bay, about four miles westerly from the west boundary of Tilley. There is no doubt that, owing to the position of the township of Tilley, so soon as any mines are in active operation a regular steamboat communication would at once be established with them. This would, consequently, be a great inducement for farmers and others to settle in the township."

TUDOR

Is situated in the county of Hastings. It is bounded on the north by the township of Limerick; on the east by the township of Grimsthorpe; on the south by the township of Madoc; and on the west by the township of Lake.

The Hastings road runs through the township. It contains 62,967 acres, including water and roads.

A small portion of the township was surveyed in 1853, by Provincial Land Surveyor P. V. Elmore; a portion in 1857, by Provincial Land Surveyor W. H. Deane; and the residue, a block of 6,986 acres (including roads and water) in the 15th, 16th, 17th, 18th, and 19th concessions, lots 6 to 20, in 1863, by Provincial Land Surveyor MacLeod.

The following are extracts from the Reports of Survey:—

Extract from Mr. Deane's report.

"The land in this township is of rather an inferior quality, being rough, broken, and undulating in character—the ridges generally rocky and unproductive, and the valleys of a deep, alluvial soil. Its resources, in a lumbering point of view, are worthy of remark: pine (white and red) is very abundant, of large size, and of good quality—easy of access, and with great advantage for getting to market.

"The township is drained by the Moira and Jordan rivers; Beaver Creek and its tributaries possess many sites for mill and manufacturing establishments.

"The southern portion of the township is composed of the limestone formation, of many varieties; the northern portion is of the primitive formation, and forming a part of the great "Granite region." The approximate line of demarkation between these formations is represented on plan; but as it runs through a broken section of country, and the different formations variously interstratified, it would require a professional geologist to define it correctly.

"Though the land generally is not of a good quality, there is a great influx of settlers, and numerous applications for wild land; and I have great pleasure in being able to state, that the lands on the Hastings road are settling rapidly."

Extract from Mr. MacLeod's report:—

"The northern portion of the block surveyed (say half) may be considered as good land and fit for farming purposes.

"About one-fifth of the central portion is tolerably fair, though rough and rocky.

"The southern portion, being the remainder, (say one-third) is poor and sandy, only fit for lumbering.

"There is an extensive beaver meadow on lots Nos. 10 and 11,—17th and 18th concessions—where large quantities of hay are mowed by the adjoining settlers.

"A large quantity of pine, in the shape of logs, have already been taken from the vicinity of Beaver Creek.

"When I was surveying, Messrs. Gilmour & Co. had three extensive lumber shanties in operation on the southern and middle parts of the block. The best of the timber is nearly exhausted; there is still a good deal of inferior quality, and a large amount lies on the ground wasted on account of small blemishes. The more northern part is covered with hardwood, &c.

"The block is well watered with streams; Beaver Creek flows through the north-western part; there are several rapids in its course.

"The rock is composed principally of crystalline limestone, and is similar to the formation in the township of Limerick.

"The block is well situated for settlement; being on Beaver Creek, supplies can easily be obtained from the Hastings road. Some of the lots in the north part are well worth the attention of intending settlers."

VANKOUGHNET.

East of Goulais Bay, north shore of Lake Superior, is bounded on the north by the township of Tupper, on the east by unsurveyed land, on the south by the township of Awerec, and on the west by the township of Fenwick.

This township was subdivided in 1867, into sections and quarter sections by Provincial Land Surveyor George F. Austin.

Each regular quarter section contains an area of 160 acres.

The township of Vankoughnet contains an area of 26,299 acres of land.

The following is an extract from Mr. Austin's report of survey :—

"The soil, in the township of Vankoughnet, may be divided into three kinds, sandy and sandy loam, clay and vegetable loam or mould.

"The first mentioned covers an area of about fourteen sections, chiefly on the north and south sides of the Goulais River, on the south-western section of the township, and is generally level land. The clay is often to be found along the river and ravines, and seems to be of a great depth, although not frequently met with, owing to its being covered with vegetable matter, yet it was seen cropping out in a number of places. The last mentioned or third kind I have called vegetable loam or mould, it being formed by the decomposition of the leaves of hardwood, and has but little depth, seldom exceeding nine or ten inches, covering the rock of the country. The predominating rock seems to be trap, of two or three different kinds, clay slate, and here and there chlorite slate and jasper conglomerates.

"The timber oftenest met with is maple, birch, balsam, white spruce and cedar, with a few scattering hemlock and pine of inferior size; one remarkable feature is the total absence of beech, not a tree of which was met with on the survey.

"Maple and birch is by far the most abundant, it is to be found on the mountains, and in the plains mixed with the soft wood. The trees grow to a fair size. On the river banks poplar is frequently found, but as it did not extend any distance from the river, I have not noticed it in my field notes. A few ash and elm are to be met with in some of the swamps. Pine, of inferior quality and size, occupies a portion of the ground, but it is not of any value.

"The Goulais, a very fine stream, winding through the township from east to west, varying from two chains to four and a half chains in breadth, has a swift current, and is navigable for mackinaw boats for about six miles from its mouth, and is from five to ten feet deep, with banks in many places (of sand or clay), of twenty or thirty feet above the water. This river affords no water powers.

"This township, viewed as the crow flies, is of surpassing beauty, with its high mountains rising to a thousand feet or upwards above the Goulais River, the remarkable sinuosity of its main stream, with two picturesque lakes, and the mixture of the different shades of green, one cannot but be struck with admiration.

"It is tolerably well watered, having quite a number of streams, brooks and rivulets. The streams afford eight or nine excellent water powers.

"The south-western section, for an area of about nine miles, is level and of a sandy or sandy loam, chiefly wooded with evergreens. The northern and eastern portions of the township are rocky and mountainous.

"One strange feature in many of these mountains is, that they are perpendicular on the south and south-west sides, in many instances rising to a couple of hundred feet perpendicularly, shewing nothing but a bare wall, in consequence of which estimates of distance had to be made, as they could neither be measured with chain or instrument, without taking a very long time. I must leave this strange feature in the hands of some one more able to account for the action of the electro-magnetic currents than myself.

"The minerals of economic value met with during progress of the survey were the yellow sulphuret and variegated ores of copper, traces of molybdenum and peat.

"The ores of copper were met with in so many instances, without any search being made therefor, that I am satisfied that that particular section abounds with rich veins—thirty were discovered chiefly in a belt or dyke of greenstone that runs through the gray trap and slates across the township, on a course about north sixty degrees west, the veins vary from two or three inches to eight or ten feet, and are well charged with metal. Traces of argentiferous galena were met with, but not in situ, as also of the scarce metal molybdenum, a deposit of peat is to be found on section forty-two, and a large quantity of silicious rock of great purity exists on section thirty-seven (in situ), well suited for making glass.

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"The township of Vankoughnet, taken as a whole, may be classed amongst the most promising, having sufficient agricultural land to furnish the requirements of mines. It is never destined to be a lumbering section of country, but may be termed a mining and manufacturing one, and I feel persuaded that as soon as the mineral riches of the township are known, the whole of it will be purchased.

"The only thing that can be done towards the developing of this township, and in fact its only requirement, is a good road from the Sault St. Marie."

WATT

Is situated in the county of Simcoe. It is bounded on the north by the township of Cardwell and Skeleton Lake, on the east by the township of Stephenson, on the south by the township of Menck, and on the west by Lake Rosseau. It was surveyed in 1865, by Provincial Land Surveyor T. W. Nash, and contains an area of 48,856 acres, including water and roads.

The following is an extract from Mr. Nash's report of survey:—

"The soil of this township has a local reputation of being the best along the Parry Sound Road. The valleys furnish a rich clay loam, in some places inclined to sandy loam in the high parts the land is not so good, being light sandy soil.

"The good land is found in the valleys in all parts of the township in larger or smaller tracts, there being but few lots but what have some on; perhaps the valley of Three Mile Lake contains the best lots in the township, there is however much good land near Lake Rosseau.

"The land taken by squatters is generally all good, some of the best lots, however, are still vacant. The poorest portion of the township is that north-east of the Parry Sound road lots, and that adjacent to the northern boundary, the fourteenth concession being mostly broken land. The shores of the waters are mostly lined with hemlock and scrubby pine, maple, balsam, pine and birch are found in all parts of the township, beech is found on the high sandy soils; the pine is not found in groves, so that no portion of the township contains sufficient to reserve for timbering, but it is scattered pretty equally throughout the township, the best perhaps being on the portage from Lake Rosseau to Three Mile Lake, the largest found were about 3½ to 4 feet diameter.

" Waters.

"The water system is that of the Muskoka River, the whole drainage being to the west, into Lake Rosseau, thence by Muskoka Lake and River into the Georgian Bay. The surfaces of the lakes are about 100 feet below the main level of the country, and in many places have precipitous banks. Mill seats were found on lots No. 30, con. 1; No. 13, con. 4; No. 24, con. 8; No. 42, con. A.

" Advantages and prospects of Settlement.

"The very best means of developing the resources of this township and neighborhood is that already adopted by Government, by improving the Parry Sound road; this road effectually opens up the whole of this township for settlement as well as most of the country immediately north and east of Lake Rosseau; it possesses besides, military considerations of some importance, as it affords military access to the defensive harbor of Parry Sound."

WOLLASTON.

Is situated in the county of Hastings. It is bounded on the north by the township of Faraday, on the east by the Hastings road and the township of Limerick, on the south by the township of Lake, and on the west by the township of Chandos.

This township contains an area of 59,015 acres, including water and roads, of which 14,936 acres were surveyed in 1857, by Provincial Land Surveyor Quintin Johnstone, and the residue of the township, 44,079 acres, was subdivided in 1864, by Provincial Land Surveyor John A. Snow.

The following is an extract of Mr. Snow's report of survey:—

“By reference to the timber map on which I have shown the character of the soil and timber, it will be seen that in the part surveyed by me there are only two small tracts of land timbered with pine, and embrace only about 2,000 acres. On that tract in the 1st, 2nd, 3rd and 4th concessions, the timber has been chiefly cut by Messrs. Gilmour & Co., who have a depot in the vicinity, the other tract has not yet been mutilated with the axe. All the other parts of this township surveyed by me are more or less suitable for settlement. That tract east of Deer River and south of the line between the 6th and 7th concessions is in general more uneven than the other portions, the rocks are often exposed. On the whole, in this township, is the largest tract of hardwood land together, which I have met with in the course of my practice, and the soil throughout is of fair quality and in most places sandy loam, with an undulating surface, the hills in no instance rise to more than 100 feet above the general level of the country.

“The only stream of any importance is Deer River, a tributary of Crow River, which skirts along the western boundary of the township. Deer River below Eagle Lake is from one to three chains wide, and has three rapids, at the first of which there is an excellent mill site, owing to the whole of Eagle Lake being converted into a reservoir, insuring an abundant supply of water at all seasons. At the other rapids no opportunity exists of forming a pond, they are consequently of little value. Above Eagle Lake the stream is from forty links to one chain wide, with a depth of from one to three feet. Three small rapids occur, but the banks are too low to admit of their being turned to account for mill purposes.

“The best method of developing the township would be by opening the road surveyed by Mr. Gibson last fall, running the whole length of the township, and by making a road along the line between the 8th and 9th concessions, from it to the Hastings Road and westward, uniting at some point in Chandos with the Burleigh Road. If these roads were opened and a grist and saw mill erected at the mill site below Eagle Lake, this township on account of the general superiority of the soil would be rapidly settled.”

WYLIE

Is situated in the county of Renfrew. It is bounded on the north by the township of Rolph, on the east by the township of Buchanan, on the south by the township of McKay, and on the west by unsurveyed land.

In 1864, Provincial Land Surveyor W. J. Macdonald surveyed 39,977 acres (including water and roads), of this township.

The following is an extract from Mr. Macdonald's report of survey:—

“The township throughout is admirably supplied with brooks of excellent water, having their sources in springs, beaver meadows and lakes, and are not affected by the driest weather in summer. The two principal streams are the Petawawin and Chalk Rivers. Lakes are numerous, some of them are large, abounding in trout and other varieties of fish. I may mention Corry's Lake, on Chalk River, Lake Cartier, on Creek Cartier, Green Lake on Beeman's Creek, and Trout Lake, emptying into the Petawawin. In the vicinity of the Petawawin the land is very much broken by hills and gullies, and a very small portion fit for agricultural purposes. There are quite a number of beaver meadows, scattered over the township, which will be of very great service to the intending settler. The timber in the southern portion of the township, as shown on the timber map, consists principally of red and white pine, mixed with hardwood; nearly all the timber fit for market has been taken off. I could not recommend any portion of the township to be reserved for lumbering purposes. The timber in the northern portion of the

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township is either burnt, or dead from other causes. The soil is a yellow sandy loam, and generally free from stones, particularly the portion of the township east of Chalk River, which will be quickly settled, as it is so conveniently situated with respect to the Matawin road, access to the remaining portion of the township will be by Chalk River. There were nine settlers in the township at the time I executed the survey; they boast of the richness of the soil on which they are settled, all kinds of crops thriving well and yielding largely.

"The township possesses numerous water privileges, where machinery could be effectually worked. The great body of the township is a tract of high rolling land, being a succession of hills and ridges; in the intervening valleys the soil is deep, rich and fertile. Geologically speaking, the formation is entirely granite, which crops out on the sides and tops of the hills. During the progress of the survey indications of iron were met with in several places. No limestone to be found, although it was sought for whenever an opportunity offered. I have no doubt but this township will be rapidly settled."

EXPLORATION LINE BETWEEN SPANISH RIVER AND PARRY SOUND.

The following is an extract from Provincial Land Surveyor Fitzgerald's report of survey of Exploration Line for a road between Spanish River, on the north shore of Lake Huron, and Parry Sound on the east shore of Georgian Bay, in the year 1865:—

"By a reference to the plan of the north shore, it will be seen that north of the village of Killarney are three mountain ranges. The northerly one of these, 'La Cloche Mountain' is the principal, and extends westwards to the river La Cloche, forming the shore of Lake Huron, from the mouth of the White Fish River west, a distance of twenty miles.

"The two lesser or southerly mountain ranges, attain about the same easterly as the former does, but their westerly extremities jut out into Lake Huron in bold promontories, some ten to twelve miles west of the village of Killarney.

"Having concluded all necessary arrangements, I proceeded with surveying party and a certain quantity of supplies to a point at the mouth of a small stream called the 'Mazeenazing River' about six miles east of the village of Killarney.

"Here is an old Indian settlement containing two houses. Good strips of land extend back along the course of the stream, though not more than two acres of a clearing are made.

"A road to connect the village of Killarney with the great Northern road must cross this stream at or near the Indian settlement. Such a road I have taken the liberty to project on exploration plan.

"On being informed that one of the resident Indians was familiar with the route across the mountains, I employed him as a guide. His services were invaluable to me, as none of those employed knew anything of the country, and much time and trouble might have been uselessly expended in finding our way through the tortuous intricate windings of these mountain passes.

"From the Indian settlement, our supplies, camp equipage, &c., were carried over a portage about a mile long, to a lake at the foot of the south slope of the first, or southerly mountain. Over this lake only a short time was occupied in transporting the material to the portage which leads across the mountain.

"The portage is somewhat over a mile in length, and passes through an elevated valley, or depression in the mountain, in which is a pretty maple sugar bush, much frequented by the Indians during the sugar-making season. It is skirted by lofty rocks, almost perpendicular, and varying from two to three hundred feet in height, and does not at its widest place exceed a quarter of a mile.

"On entering the lake above mentioned, and after passing to the left a sharp, well-defined point, which dips precipitously into the lake, the mountain presents a very grand and imposing appearance, rising majestically from the water's edge at an angle of about 60°, to a height of five or six hundred feet. It is totally destitute of soil, except in small sheltered nooks and crevices, where a stunted pine, with its hardy companion, the white birch, manage to hold a precarious footing.

"Our supplies, &c., being conveyed over this portage, we embarked across another

lake about 70 chains wide, one of a chain in the valley between the middle and southerly mountains, to a portage leading over the former one. This is about a mile and a half long, and so steep in places, that we only succeeded by great labor to transport our supplies, &c. over its rugged sides.

"The general character of this mountain range is broken and precipitous, like the former, destitute of soil, except in small summit valleys, and only yielding, like the former, an odd stunted pine, and birch.

"On ascending the top of a high peak, about mid-way on this range, a magnificent view of the great La Cloche Mountain is obtained, stretching off in a north-easterly direction about twelve miles towards Lake Penage, while towards the west it vanishes in the distance along the north shore of Lake Huron. A very broken valley of three miles wide separates this mountain from the middle one, and it is cut up by large dykes of granite and quartz rock, between which are imbosomed a series of small lakes and streams flowing westwards into Lake Huron. In the valley a few patches may be found fit for settlement, but they are so isolated and far between as to render a successful settlement extremely improbable. Having reached the south slope of the great mountain, I was enabled, by means of a narrow winding gorge which leads obliquely through it, to transport supplies, &c., to the northerly slope. It differs in its general configuration from the two former mountains, being made up, as it were, of a number of truncated masses of compact quartz rock, rising gradually to a high elevation.

"While surveying party were engaged in forwarding supplies, &c., myself and assistants made exploration of the country for several miles in a northerly direction, with the view of selecting a favorable tract in which to commence the survey. In this we were quite successful. So soon as due preparations were made, I commenced the survey at a point about half a mile beyond the north slope of the mountain, and proceeded in a north-easterly direction nearly parallel with the base of the mountain for a distance of ten miles, to a point between the head of the mountain and Lake Penage.

"In the whole of this distance the country is good and fit for settlement. The soil is composed of a reddish clay loam of considerable depth, and produces a healthy growth of red and white pine, with patches of land covered with birch, maple and hemlock interspersed. Small bluffs of granite and trap rock occasionally crop out, but they are not of a nature to seriously affect the proportion of arable land.

"Returning to starting point I continued the survey westwards towards the Spanish River, making for a distance of fifteen miles, only a slight deviation from the mountain range. In this distance, exploring line intersects P. L. S. Salter's second meridian west, to which I tied my survey by measurement and observation. The country is somewhat of the same character as that already described, being in places covered with a fine yield of red and white pine timber on a clay soil of good depth and comparatively free of stone.

"The twenty-five miles so far explored runs through the tongue of land formed by the White Fish River on the north and the La Cloche Mountain on the south side.

"For a long distance north of the river explorers report the country good and covered with bearing timber.

"Exploring line intersects White Fish River within the Indian reserves, about half a mile below where it makes a sudden bend towards the mountain, and about thirty yards north of a rocky gorge, on which is a fall of nine feet. The stream does not exceed twenty feet wide at this place, and the water rushes through with great force.

"The easterly bank is a perpendicular rock about ten feet high over the top of waterfall, while the westerly bank above the fall, in the distance of a chain or two, rises gently. Below the fall this bank rises from the river bed somewhat more abruptly.

"On the course of the White Fish River, for a distance of twenty miles, above this point are a number of falls and rapids, presenting many important manufacturing locations, and all easy of adaptation.

"The river, from this place flows into Lake Huron by a series of lakes and rapids, through La Cloche Mountain. It could, I have no doubt, be rendered capable of carrying saw-logs through, and by the construction of slides at a few places, it is my opinion that square timber could be conveyed out to the lake.

"From the White Fish River west, the country for a few miles is comparatively level; the purely pine-bearing tracts give place to patches of land yielding black birch, maple, hemlock, cedar, mixed with white pine and basswood of enormous size.

"A reddish loam soil on a clay substratum is met with through this section; occa-

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sionally sunken boulders and coarse stone form the substratum as observed on the roots of the fallen trees.

"Between these patches of hardwood, uplands, beaver meadows, cranberry marshes, &c., frequently occur.

"Narrow strips of swamp land yielding tamarac and spruce of good quality are also met with, but the proportion of low and swampy land existing in this territory is below the average in other parts of the province, which have come under my notice.

"The country runs in this way until the 140th mile post is reached (the miles number from Sault Ste. Marie towards Parry Sound), where it becomes broken by knolls and short granite ridges, the slopes of which are in some cases covered with a light sandy soil, yielding a stunted growth of fir, birch, poplar, and pitch pine, while the tops of the ridges are bare granite rock without soil or vegetation. About two miles west of the above mile post, the country is of this unpromising character, from which to Mr. P. L. S. Salter's second meridian west, about three miles, the country is rolling and covered with large timber, including tracts yielding beech, maple, and other kinds of hardwood timber. The soil is of a sandy loam character, and apparently of a fertile description.

"From the meridian above referred to, to where exploration line terminates westerly, viz: Spanish River, the country is partially broken by ranges of granite, greenstone, and clay slate rock, occasionally attaining a high elevation. On the slopes of the more gradual of these are found tracts containing soil of good depth and covered with pine, hemlock, birch, balsam, &c. In the valleys between these ridges a stiff, retentive clay is found, in places having a depth of three or four feet, as noticed on the brows of the streams flowing through them from the hill-sides. Much, however, of the present appearance of the soil in these low lands is doubtless attributable to the baking effects of a fire which a year or two previously devastated the country for miles in all directions. To the great destruction caused by the fire in many parts of the forest I have also to attribute difficulties in establishing traces of exploring line; and at the Spanish River, where I required to connect my survey with Mr. Salter's line from Sault Ste. Marie, I barely succeeded, after a great deal of searching, to effect a satisfactory connexion. By further searching, I also succeeded in finding the east boundary of the township of Salter, with which I also tied my survey."

"The Spanish River flows very nearly in a direct south-west course from a point half a mile above its intersection with exploring line to a point about the same distance below it. It has a gentle steady current, with sloping banks about 10 feet high. The depth of the stream at centre is about 12 feet, with clay bottom, and could, by running out abutments, have the distance to be spanned even reduced to 100 feet. The approaches at either side are excellent, and can be carried in a straight line for a considerable distance at either side.

"The River Sable forms a junction with the Spanish River a short distance above this point. During the last two years lumbering operations have been carried on in this section, and, I am told, timber of a large and fine quality has been taken out. Having completed this end of the survey, I proceeded, with my party, by a circuitous route of land travel to the Hudson Bay Company's post, at the mouth of the River La Cloche.

"From the Hudson Bay station our course lay for nearly twenty miles, viz: to the mouth of White Fish River, along the base of the Great La Cloche Mountain, seldom exceeding more than a mile distant from our track at any point. From this place the mountain trends off in a direction a few degrees north of east to the interior towards Lake Penage, before spoken of. The remainder of our route lay over a short portage on the White Fish Indian Reserve, then around the headlands of the middle and southerly mountains previously referred to. On arrival at Killarney, myself and party were received with the same kindness and attention which greeted us on our first arrival at this place.

"The general effect of these mountain ranges is somewhat monotonous and unpicturesque, but the scenery is beautiful, where we meet occasionally a transverse gorge through which the inland streams escape into Lake Huron. This is especially the case at the mouth of the White Fish River, which, after winding its way through the mountain, makes its debut around groups of islands into the open of the lake.

"About three-fourths of a mile west of the mouth of White Fish River, and immediately west of the Indian Reserve, is the property on which the Wallace mine is located. The tract of land belonging to the property comprises about 1,400 acres, including a few small islands, which lie a short distance from the shore,

"An attempt to work these mines, it appears, was made some fifteen years ago, when a few small shafts were sunk, but owing to the want of means or energy, or, perhaps, to the small proportion of ore yielded, the shafts were abandoned, and are now so filled with rubbish and water as to be hardly perceptible at the surface. The remains of a few shanties and a small wharf are the only vestiges which now mark the place where these operations were carried on.

"After remaining a few days at Killarney, while my party were engaged in forwarding some supplies to the Maceenazing River, about eighteen miles east on the shore of Georgian Bay, I left the village to join my party. On arrival at the mouth of the river, I concluded to follow up the stream for six or seven miles, and having selected a favorable point for the construction of a bridge, I commenced to survey exploring line in a north-west direction to P. L. S. Salter's principal meridian. This meridian I adopted for a couple of miles north, and then turned off on a course a few degrees north of west generally, to connect with the part of survey first performed to the head of La Cloche Mountain, near Lake Penage. The country drained by the Maceenazing River is of a rough, broken character, containing a poor growth of timber, and affording only a small proportion of arable land, which would be hardly worth attention for settlement purposes. From the principal meridian west to where the parts of survey connect the country improves, and has in places a fair growth of timber, both hardwood and evergreens. The soil is sandy loam, with a mixture of clay soil, and is of a depth sufficient to satisfy agricultural products. Towards Lac Penage the country is still better, and explorers report that north of it a fine tract of land, covered with heavy timber, extends for a long distance.

"Of this lake, I was informed by an intelligent old Indian, that in the summer season the water is so pure and transparent as to render the bottom visible from 30 to 40 feet. Here the delicious salmon trout, weighing from five to twenty pounds, are found in great numbers and of the finest quality. Pike, pickerel, perch, herring, and several other kinds of fresh-water fish are also in abundance.

"The junction formed by a road connecting Killarney village (see plan) with the Great Northern Road, will be at or near the point where the latter intersects principal meridian.

"At the mouth of the Maceenazing River is a good substantial frame saw-mill. It has not, however, been worked for a couple of years past. It is known as Waddell's mill. Taking up the survey at intersection with above stream, I proceeded eastwards towards the French River. For some three or four miles the country presents a rather barren aspect, being composed of flat granite rock, with small groves of pine and tamarac swamps alternating. Approaching the head waters of Beaver Stone Creek, which flows through the Indian Reserve (called by the Indians Bearstone Indian Reserve), the country improves, particularly through the reserve, where a fine tract of country, well suited for settlement, exists. This tract is covered with heavy pine, birch, maple, &c. The country along to the Warrapitac River is somewhat of this nature, occasionally fine tracts of undulating lands occurs, yielding a mixture of heavy timber which has, however, in many places been partly destroyed by fire. The soil is composed of clay loam, and appears to be a character pretty well adapted for farming purposes. Through the tract just described a great irregularity in the motion of the magnetic needle was observed, the variation on a short distance varying in many cases between 10 and 30 degrees from the astronomic meridian, the result, doubtless, of the existence of large quantities of mineral matter in the rock formation. The season, however, was so extremely unpropitious to carry on a search for minerals that I lost no extra time in investigations of this kind.

"The Wanapitac River, so called from the resemblance of the lake out of which it flows to a tooth, is a beautiful stream about 50 yards wide. The banks, where crossed, are 10 feet high, of clay or rock, bottom sloping gradually to the water's edge, depth of water at centre 12 feet, with stiff mud bottom. A bridge could easily be constructed over this stream. On its course are numerous falls and rapids affording any amount of mechanical power. At the elbows or bends are small deltas of considerable extent, yielding white and blue oak of average size. From the river eastward to within a few miles of the French River the face of the country is rugged and is a good deal broken by small bluffs and ridges of gneiss, trap and clayslate rock. The timber on this tract is worthless in a commercial point of view, and the region itself totally unfit for settlement. A belt of fair land, some four or five miles back, runs along the north shore of the French River at this

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part of it which could be pretty generally cultivated, though the timber on it is scarcely indicative of a productive soil.

" Exploring line cuts the French River at a point a few chains east of the source of the branch called the Grand Recollet.

" The stream is very deep at this particular place, and was at the time I crossed it so covered with bad ice that I could not get a sounding. The approach on the north side slopes gradually to within a few chains of the bank along which the road runs easterly some seven chains, then by an easy curve turns straight across the north-west part of the stream towards the opposite bank.

" The river is here less than 75 yards wide, and a flat rock sufficiently large for the base of a pier occurs nearly mid-way in the river. In the summer this rock is a foot or two above the water level, but probably covered by a depth of four or five feet during freshets.

" From this point I found it necessary to follow a more easterly course than I at first intended, owing to the rocky character of the island to be passed over, which separates the two branches of the river. Proceeding a short distance, a small narrow gorge is crossed, the water flowing through which connects the two Recollets, and separates the above island from the Island Indian Reserve. No difficulty whatever exists to the construction of a bridge over this small stream. The exploring line from this place runs eastwards through the reserve mentioned. This is a splendid tract of land heavily timbered with birch, maple and basswood, mixed with large pine and birch. It is generally level and contains soil of a most fertile character.

" An Indian village of some five or six houses, with a population of about thirty persons, is situated on the south-east shore of the island, and though the settlement is 40 years old, not more than 10 acres of a clearing are yet made.

" Another rocky gorge similar to that above described separates, on the east side, the island from the main land, and offers facilities for the construction of a bridge equal to the former. A short distance east of this gorge is the head of the Petite Recollet, but I deemed it advisable, on account of the broken nature of the country in this direction, to locate exploring line at a suitable place on the Recollet. Here it is about 65 yards wide, with only a depth of 8 feet, subject to little or no change of level.

" The banks at each side are composed of clay, and slope very gradually to the water level about 10 feet. A bridge can easily be thrown across, and as no other, except canoe or small boat navigation is likely to be required on this channel, the bridge need not be more than eight or ten feet over water end. Extending southward from Petite Recollet to the River Majiwajinic, the country is very level, is covered with a clean growth of soft maple, birch, poplar and pine, produced on a sandy soil well suited for agriculture.

" The Key River, rather appropriately so called, is a long narrow inlet of the Georgian Bay into which, at its head, flow the above stream from the south-east, and another small stream from the north. The Key River is about nine miles long and navigable for small boats to within the same distance of the Indian village on the Petite Recollet. It is the natural, as well as the most convenient, route by which the good lands described may be reached. Between the Majiwajinic and the Maganatewan Rivers the country is barren and rocky and much broken by the lakes and streams flowing into the latter. Several tracts of fair land, fit for settlement, however occur. The timber met with is chiefly white pine, hemlock and balsam, and the soil a sandy loam. On the Maganatewan River are numerous falls and rapids. The banks are generally steep and sometimes precipitous, but were crossed by exploring line; a good site for a bridge and approaches has been selected. The banks at this point slope gradually. The bed of the river at centre not more than three feet deep. Patches of good land occur a short distance back, from either side, along the course of the river.

" From the Maganatewan, south to Parry Sound, are several hardwood tracts of land, though a portion of the country has a partially broken surface. On the whole, I consider this tract capable of affording fully 60 to 75 per cent. of arable land. It is covered in places with exceedingly fine beech and maple, while other parts yield a fair growth of pine, hemlock, &c., and if opened up for settlement, and proper facilities held forth, would in a short time become a thriving locality.

" At Parry Sound the nucleus of a promising village has already been established. A magnificent saw-mill, owned by the Messrs. Beatty is now in constant operation, and affords employment to a number of men. The Parry Sound Road, from the Muskoka

district to this place, is also in progress of construction, and it is expected to be open all the way through before the expiration of the present year. This will afford many advantages for ingress and egress during the winter season to those requiring to occupy lands in the interior of this country.

"The River Segouine, which flows through Parry Sound, is crossed by Great Northern Road above the mill above referred to. At this place it is 16 feet deep at centre, and the water way can be reduced to a width of fifty-five or sixty yards, which can, by means of two piers, be conveniently spanned over. About half a mile south of this place I met with the Parry Sound Road, with which I connected my survey, and terminated it at the same point.

"The distance actually surveyed is one hundred and fifty miles, to which, if the number of miles traversed by explorers be added, would give a total of nearly one thousand miles of exploring lines, embracing an area of one million one hundred and fifty thousand acres.

"Though perhaps not more than one-half to two-thirds of this territory is actually fit for settlement, yet, in view of the immense quantity of valuable pine timber, of the undoubted mineral wealth yet undiscovered in this region, of the many important fishing stations along the north shore, of the construction of a canal via the French River, and above all, being our only land connection with the Great North-West territory, the subject of annexing which to Canada at present occupies so large a share of the public mind. Yet, I say, in view of these considerations, the country will doubtless, ere long, become the scene of active and energetic occupations, and form the home of many a happy and prosperous settler.

BASE LINE FOR CERTAIN TOWNSHIPS ON THE EAST COAST OF THE GEORGIAN BAY.

The following is an extract from Provincial Land Surveyor Silas James' report of survey of base lines for certain townships on the east coast of the Georgian Bay, and traverse of a portion of the Maganetawan River, in the year 1865:—

1st.—*Base Line A. B.*

"The country through which this line passes is very diversified in character; between Skeleton Lake and Lake Rosseau the land is of very good quality, timbered with healthy hardwood, occasionally mixed with pine, elm, birch, hemlock, &c., while red oak and ironwood are found on the elevated and rolling lands; adjoining Lake Rosseau the country is more rugged and rocky, but the prevailing timber is hardwood, and the land is generally of good quality. Near to Lake Joseph, on the east, on the peninsula between its bays and for nearly three miles westward of the lake the country is of superior character, and affords some excellent, and much really good hardwood land. From thence on to the waters of the Georgian Bay the land, generally, is of inferior quality. The rock over considerable portions of elevated country, crops out to the surface, having only a thin covering of moss, while generally the soil on it is only a few inches deep, and does not admit of profitable cultivation. There are throughout the line extensive tracts of low ground marshes and swamps, timbered with a good growth of tamarac, cedar, birch, poplar, &c., and interspersed, are tracts of pretty good hardwood land. The peninsula between the Georgian Bay and one of its inlets, crossed by the line, is covered with hardwood and the land is of good quality. I found no timber of merchantable character on this line; pine is not abundant, where it exists in any considerable quantity and is of very inferior quality, scrubby and knotty: occasionally, pine of good quality is found intermixed with hardwood, particularly on the peninsula of the Georgian Bay, above referred to, but so scattering as to preclude the idea of its being merchantable; the trees of largest growth were found in the neighbourhood of Lakes Rosseau and Joseph, where maples and hemlocks were observed of three feet in diameter and of average height; on the last mentioned peninsula a few pines were observed of about three feet in diameter, and the timber generally along the line was rather small growth.

In the sections where good hardwood prevails the soil is a red sandy loam with a thin covering of black earth. On the high lands there is only a few inches of soil and gray sand, the deposition of decomposed gray gneiss, with a covering of black soil, is sometimes

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"This line of Lake Joseph is very much timbered with good wood, red oak of the Parry base line North and are covered Sound River very much timbered affording good growth of spruce proceeding in tracts of good quality, the land

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found; in the swamps and beaver meadows, interspersed among the rough rocky portions, and generally along the line, there is a deep rich black soil which efficient drainage might render valuable farming land.

The geology of the country through which this line runs is of the gneiss system, and varies from a fine grained gray to that of course grained redish gneiss; the upturned edges have the same general bearing as the lakes shown on the plan of survey and the dip, ranging from south-west to east, seldom exceeds 45° or 50° .

2nd.—Base Line No. 2.

"This line commences on base line No. 1, about 86 1/4 chains west of the west shore of Lake Joseph; from this point, for a distance of about 707 chains northward, the country is very much the same in character as in the vicinity of that lake. It is principally timbered with good healthy hardwood of average growth, occasionally intermixed with ironwood, red oak, pine, hemlock, birch, &c. From this point northwards to the east branch of the Parry Sound River the country is more broken and is similar to that described on base line No. 1, as unfit for settlement. The rocks in many places crop out to the surface and are covered with small pine, red oak, balsam, &c. From the east branch of Parry Sound River to a distance of about 800,00 chains northwards, there is a tract of country very much resembling that adjoining Lake Joseph at the commencement of this line and affording good farming land; it is covered with hardwood, basswood, elm and thick undergrowth of small maples, and the soil is a light sandy loam covered with a rich black mould; proceeding northward the country becomes more broken, rough and rocky. Occasional tracts of good land are met with, particularly on the south-west of Loon Lake, but generally, the land is of inferior quality, and not well adapted for settlement.

"In its timber and soil the country traversed by this line bears close resemblance to that through which base line No. 1 passes. No timber of merchantable character and quality was found. There are pine of good quality in considerable numbers scattered through the hardwood lands, but no pinery was met with.

"There is but little change in the geology of this line from that of base line No. 1 at its commencement, and as far as concession VII, of the townships I and J, the upturned edges of gneiss take the same general direction as on base line No. 1, changing from a fine grained gray to a coarse grained red, with a south-westerly dip ranging from an acute angle to one of nearly 90° . From this northward to the River Maganetawan, the upturned edges of the rocks (as may be seen by the general range of the lakes) take a north-easterly and south-westerly direction and show from an almost horizontal to a perpendicular dip towards the south-east.

"The country opened by base lines Nos. 1 and 2, is copiously watered by numerous lakes and rivers, in which fish of various kinds are found in great abundance. The rivers afford valuable water power from their innumerable falls, which could be rendered available at a small outlay, and the country admits of easy access from the waters of the Georgian Bay, the north and east branches of the Parry Sound River and through the Colonization Roads and chain of connected lakes which lie within it.

3rd.—*Traverse of Maganetawan River.*

"I traversed this river from the point where it is intersected by base line No. 2, to its mouth, during a very dry season and when the water in it was unusually low. It abounds in rapids and falls affording excellent water power throughout that distance; where these occur the river is generally contracted to from 50 to 100 links in width; in many places in its course the river expands into lakes and bays of considerable extent; it flows through an inferior country, marshy, broken and rocky, timbered generally with small scrubby pine and occasionally small hemlocks, cedar and balsam, and towards the mouth of the river the country becomes worse in character. It consists principally of rocks with a slight covering of moss and a few scattering trees. On the south of the Island Lake, there is a small tract of country covered with red and white pine of very good quality, some of the largest trees measured about four feet in diameter, but the average diameter would be about two feet; this tract of pine is about sixteen miles from the mouth of the river, the falls and rapids in which present obstacles to the running of timber, and I am

very doubtful whether it can be regarded as available for merchantable purposes; the pine here was considerably injured by fire, which ran along the south side of the river very nearly over the whole extent traversed, and which was burning while the work progressed."

EXPLORATION LINE FROM MONTREAL RIVER, ON THE EAST, TO MICHIPICOTEN HARBOR, (LAKE SUPERIOR) ON THE WEST.

This Exploration was completed during the present year (1867).

Provincial Land Surveyor Duncan Sinclair had charge of the eastern division of this line, and ran a distance of 105 miles from Montreal River, on a due west course.

The following is an extract from Mr. Sinclair's Report of Survey:—

OTTAWA, 22nd June, 1867.

To the Hon. the Commissioner of Crown Lands, Ottawa.

SIR,—I beg leave to present my Report on the Survey and Exploration ordered by letters of instructions, dated in this city on the 11th and 18th of September last, directing me to commence on the Montreal river, which falls into Lake Temiscaming, at latitude $47^{\circ} 56' N$, and thence proceed due west towards Michipicoten Harbour on Lake Superior; with the view of meeting Messrs. Salter and Gilmour, who were to begin at the west end of the said exploratory line.

Although my instructions were not completed until I received the letter of the 18th September, yet I received official intimation on the 5th of September, and was advised to prepare for it with all possible dispatch. Accordingly, I set out next day to the Indian village of Two Mountains, to hire a number of *voyageurs*; and, by very great exertion, I had procured my supplies, completed my arrangements, and left home on the 20th of September.

At Two Rivers we met with the sad accident of upsetting one of our boats, by which two of my bravest Indians were drowned, and one (who was rescued) seriously injured, and a fourth so much frightened that he would go no further for all the entreaties I could make.

After stopping at Mattawa one day, to dry and smoke my bacon, which was beginning to spoil from the wetting it got, and to hire more men, I reached the required point of latitude on the Montreal river on the 22nd of October.

On the 23rd I obtained a medium glimpse of the sun, from which I deducted the latitude and variation approximately, and on the 24th began and ran three miles of the line; and on this day we had our first snow, from which the ground was not entirely clear any more that season.

From the 25th October until the 5th of November I left my assistant at the line (Mr. Gilliland) to conduct the work, and self took charge of the forwarding of supplies and to make the necessary *caches* to secure our provisions from the weather and vermin; and whilst part of this service was being performed, I took two men and a light canoe and proceeded up the Montreal river express, a journey of three days above Kenist-Koug lake, by which I gained so much knowledge of the route and distance to Notawaganing Post as enabled me to make the most suitable arrangements possible for the conveyance of my supplies to that post.

Description of the Country.

With the exception of a few small patches of scrubby pitch pine land about Matawaganing lake and around the head of the Montreal river, the whole district travelled by the Exploratory Line is hoe and harrow land, that is to say, there is none of it fit for arable plough land. The soil is very light and sandy. I do not remember seeing a bit of clay on the whole line.

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Is chiefly of four kinds, viz.: *bouleau*, *poplar*, *spruce*, and *pitch pine*, or cypress, generally small. There is some scattering red pine along the slopes of the lakes, especially where it is stony, but not enough of it anywhere to be of commercial value, and there is some white pine at these places. There is a strip of about half a mile wide, extending from north to south, at the 20th mile. The second is of considerable area, on the east side of the great bay, on Malagamy lake; and the third at the 90th mile—a belt of about half a mile wide; but most of the white pine in this country is faulty, it has frequently a long, dry, rotten strip up one side, and a piece of the top dry, indicating a process of decay going on.

Rivers and Lakes.

The Montreal river is the finest for canoe navigation that I have seen, or the most easily-improved for steamboating. It consists of long reaches of lakes, mostly narrow and deep, with small shallow rapids, only requiring to be dammed and locks constructed. Its length from its mouth, as it was formerly travelled by the old North-West Company, is 182 miles, and it is connected by a couple of lakes and a creek, about six miles in all, including a portage of two miles to the Matawagaming river and lake, which descends direct to Moose Factory, probably a distance of 250 miles, which would make the canoeing distance from the Rapids des Joachim to James' Bay, or Moose Factory, about 560 miles. The Matawagaming, the Matagoming, or Kirkatoush river, and the Kapiskatocomag river are all great streams or rivers, at last all uniting, along with many other rivers, to form the great and mighty Moose river, at whose mouth has been, for a long time, carried on the chief business of the Hudson Bay Co., from which place they supply half of that country called Hudson Bay Territory with goods. The head lands, or the Canadian water-shed of the Moose, extends from Lake Abbittabee on the east to the westward of Michipioteen harbour on Lake Superior, a distance of 400 miles; width of its head lands, and length through, about 300 miles of latitude, draining about 60,000 square miles, being nearly 38½ millions of square acres, about equal to 2½ times the quantity of settled lands in Lower Canada, or to a little more than 1½ times the quantity of land held by the people of both Upper and Lower Canada.

This may convey some idea of the vastness of the territory now held by a monopolizing company of fur traders, when one of its rivers—by no means the largest—has so much land contributing to its waters.

My line entered the H. B. Territory at the 18th mile; and in the next 87 miles we crossed the three streams mentioned above (which would be likely) within forty miles of their sources; each of them were as large as the Rideau at New Edinburgh. The first of the streams has two lakes, about 70 miles long, with only a small chute between them; the second has nearly the same distance, made up of five lakes; and the third and last stream or river has one large lake about 50 miles long. The lake system of these rivers terminates nearly forty or fifty miles north of the Exploratory Line.

From information received from the servants of the H. B. Co., I am led to believe that, at the distance of about twenty miles north of this Exploratory Line, the land becomes flat, clayey, and somewhat swampy, and, on this account, would be much more available for road purposes than to pass nearer the water-shed of the Canada and Hudson Bay rivers. By going more northerly the streams will be larger, but they would not be so numerous, with their banks better defined; so that, on the whole, I think the bridging would not be more expensive, and the land better, both for road and settlement.

Fish and Game.

The lakes and rivers in this country furnish but few fish for the food of the inhabitants, it being mostly white-fish, to be caught only at spawning time, in autumn. The only place where large trout is caught is in the great bay of the Matagamy lake. Our common red Deer is scarcely found there at all, and rarely any Moose Deer; but there are considerable numbers of Reindeer, or Cariboo. Beaver is very scarce.

I think the country is not sufficiently muddy for the Beaver; besides, food for the human inhabitants of the country is so scarce, that the Indians will not, in many instances, leave enough of them to stack or store the beaver ponds. Mink is numerous about most of the lakes and creeks, and Martin, also. Fishers, Lynxes, Foxes and Wolverines, are plen-

tiful; Partridges and Ducks numerous; but the Hare is the chief dependence for food of all the carnivorous creatures of that country, whether they be of the animal or human races, either red or white; and as the hare lives upon the various kinds of small brush that is to be found growing up in the track of the great fires that sweep over the country, hence, brush is the staple food product of the country, manufactured and prepared by the Hare, in the way of putting flesh on itself; and in order to have plenty of small brush food for the Hare, the Indians set fire to the brush from time to time, which sweeps over an extent equal to a Township or a County at times. Then, in seven or eight years, this will make what is called good "rabbit lands," after it grows up so thick that a man cannot make his way through it without using both hands to push the brush aside.

The Native Inhabitants.

The Indians are a friendly, timid, and weak race,—almost as timid as the Hare, the creature on which they feed. They are poor *voyageurs*, compared with our Indians, although they can carry a good pack for a short distance. They possess no endurance, but I suppose if they were put on good bread and pork feed they would soon improve in strength and endurance.

I learned that a few days of constant hard paddling will bring on spitting of blood. I had one as a guide, who was considered about as good a man as is amongst them. Although he had but a small pack to carry, compared with my own men, yet he never went longer than about forty minutes without a short rest, whereas I did not calculate to rest more than twice at most during a forenoon, when we were on a regular march.

These Indians hunt chiefly for the pot, although the valuable furred animals are plenty enough, such as Mink, Martin, and Fisher, yet these do not contribute much to appease the appetite of a hungry man. The Hudson Bay Company's prices do not hold out much inducement to hunt; they only give about one dollar and twenty pence for a Mink, which is paid in merchandize. For instance, a dozen of bone buttons for twenty pence, or a quarter mink skin. The Indian population in Mr. Richards' district is about 171 souls, or 48 hunters, 40 of whom are heads of families and 8 are young men, which would give a wife and two children to each head of family, being about one soul to a space of 35 square miles, or 125 square miles to each Indian hunter, which I think will be about a fair average for the whole territory north of Canada and east of Lake Winnipeg, and north of Chesterfield Inlet.

LAKE ROSSEAU AND LAKE NIPISSING ROAD LINE.

The lots on this road were laid out during the present year (1867) by Provincial Land Surveyor Fitzgerald.

The following is an extract from Mr. Fitzgerald's Report of Survey:—

After considerable trouble and loss of time in procuring and forwarding a portion of my supplies and my camp equipage, I was enabled to commence the survey on the 20th of September, 1866.

The road is completed northerly, about four miles from the head of Lake Rousseau, and, with the exception of the bridge required over White-Oak Creek, is in good condition.

The land along this portion of the road is tolerably good, and a good deal will, no doubt, be taken up during the present year, as many settlers have already come in and selected their lands, built houses, and made other improvements thereon.

From the north boundary of the township of Cardwell, where the road lot commences to number northwards, up to lot No. 18, the country is rough and broken, and, in my opinion, almost wholly unfit for settlement.

The prevailing timber is small white pine, balsam, white birch and poplar, of no commercial importance. The rock is Gneiss.

The east branch of the River Seguin, which flows into Perry Sound, crosses the road on lot No. 20, upon which, as well as upon the adjoining lots, some very good land occurs. The side line between lots 25 and 26 passes through a fine tract of land, apparently extending for some distance in a north-easterly direction.

The soil is composed of clay loam, and yields a heavy growth of pine, intermixed with various kinds of hardwood timber.

There are some good mill sites on this branch of the Seguin, on lots Nos. 20, 24 and 25, closely situated to good pine-bearing tracts.

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The tract of country extending from lot No. 25 to lot No. 65, although somewhat broken, contains a large proportion of fair, arable land, offering many inducements to settlers. The soil is a sandy loam, of average quality and good depth, producing hardwood, hemlock and white pine, the latter being pretty generally scattered through this section.

The north branch of the River Seguin crosses the road line on lot No. 50, and, in its course through this part of the country, passes through a number of small lakes, which are also fed by a number of smaller streams, abounding in speckled trout.

From lot No. 65, northward to the Maganatawan river, the road-line runs through a tolerable tract of country, yielding a healthy growth of maple, elm and basswood.

The land in the neighborhood of Ah-Mill lake is pretty good, and may be cultivated with advantage.

From the River Maganatawan, northerly to lot No. 105, the land is of a fair average, and thence to No. 140 the country is generally rough and broken.

A great number of tamarac and other swamps are scattered over the surface of this part of the country. Northerly, from lot 140 to No. 174, somewhat improves, and although several barren tracts are met with, there remains a large proportion of good land.

All through this section of the country white pine, of good size, is met with.

Northward, as far as lot No. 190, the country is, in a great measure, of this character; but from 190, on to Lake Nipissing, the road runs through a fair tract of land, covered generally with hardwood timber, beech, maple, elm, basswood, &c., &c.

The soil is deep in places, but often of a stony and gravelly character, and rests upon gneiss or granite rock.

South River, where the road intersects it, is a fine stream of three chains wide with clay banks, nearly level at either side. It flows, with a gentle current, in a north-westerly direction into Lake Nipissing.

From a very short distance west of its intersection with the road line, its course to Lake Nipissing is through wet, swampy land, occasionally widening out and overflowing its banks, and forming wet swamps and marshes.

On the whole, I would say of the country sought to be opened for settlement by the construction of this road, that it contains a large proportion of fair land, and offers many inducements to persons willing to make a home and a livelihood in the forest; for, besides the proceeds of their farms, they will be certain, for several years to come, to find profitable employment in the extensive lumber operations shortly to be inaugurated, and for which this territory offers so large a field.

EXPLORATION LINE FROM MONTREAL RIVER TO MICHIPICOTEN HARBOR.

Provincial Land Surveyors A. P. Salter and R. Gilmour had charge of the western division of this line, and ran a distance of eighty-four miles from Michipicoten Harbor, on a due east course.

The following is an extract from Messrs. Salter and Gilmour's Report of Survey of this line:—

CHATHAM, 4th July, 1867.

To the Hon. Commissioner of Crown Lands.

SIR,—We have the honor to report that, in compliance with your instructions, dated 15th September, 1866, directing us fully to explore the country lying between Michipicoten Harbor, on Lake Superior, and the head waters of the Montreal River, we have run a line, as directed on the parallel of Lat. 47° 56' N., for the distance of eighty-four miles eastward from the former place, and have fully explored the country on each side of it, to the extent shown on the accompanying plan. Along with this report is forwarded for your information and approval, a plan of the survey, shewing the general features of the country explored and surveyed, and to which reference will be made in accordance with your instructions.

We regret being compelled to say that the topographical features of the country examined in the course of this survey, present no marks encouraging or interesting. Along

almost the whole course of the line it is mountainous, broken, rocky and rough, and difficult of access in the extreme. With such a poor soil as it possesses, and miserable and useless timber, no hope can be entertained of its ever offering a field for settlement. High mountain ranges, rugged hills and abrupt, precipitous and broken ridges of granite rock, with innumerable deep narrow ravines, or hollows, covered with a shallow depth of sand, and its larger valleys filled with lakes of various sizes and extraordinary shapes, are the general characteristics. As, however, we approached the eastern extremity of the line of survey, the general appearance of the country assumes a change, having a softer and more rounded aspect; the hills are not so lofty, rugged nor precipitous as from the third to the sixtieth mile, although equally valueless for agricultural purposes. No timber of economic value was met in quantity; but the whole country is covered with a dense growth of scrubby spruce, birch, cypress, balsam and poplar chiefly. In a few places, as along the valley of the Michipicoten River, and the courses of some of the other streams, a few large spruce and birch, measuring from one to two feet in diameter, may be found at intervals. Almost the whole of this district appears to have been devastated by fires at different times, and at periods more or less remote, which swept away the original forest; some remains of which are, however, still to be seen near the 16th, 22nd, 74th, and 82nd miles, in the shape of huge prostrate trunks of pine trees, and a few stubs still standing blackened and charred by the fire. Near the 82nd mile, there are a few pines still living, of from 20 to 28 inches in diameter, near the butt.

As a mineral producing section, we are of opinion that southward of the parallel on which the line was surveyed, there is a wide field for successful exploration; but northward, no such inducements, as far as we could discern, are offered.

If a line of communication, connecting the Province of Canada proper with the vast territory North and West of Lake Superior, be one of the objects of this exploration, we have no hesitation in saying that such a line can be obtained; not, however, on the line of survey, but to the south of it, from ten to twenty miles.

Having been engaged on surveys on the shores of Lakes Huron and Superior, for several years, we had from others learned that a vast plateau existed at the foot of the watershed, or height of land, bearing maple, birch and pine, which would have offered, if existing, an admirable field for settlement. Such, on commencing our survey, we hoped to discover, and to have been enabled so to report to you. Our hopes are, however, in great measure disappointed. A plain, or plateau, does exist at the foot of the watershed, but it is not fitted for settlement. It is low and wet, the soil where not burned, being a white sand, resting on heavy drift. This section of country has been several times swept by fire; and now is for an area of two thousand square miles, a desolate wilderness. From the remains of the original timber still to be seen, we infer it was formerly covered with pine. A second growth of cypress, spruce, balsam, poplar and white birch, succeeded the original forest. This has been again devastated, and for many miles no trace of vegetation can be seen.

Northward from the shores of Lakes Huron and Superior, for a distance of from sixty to eighty miles, the surface of the country is much broken and disturbed. High ridges of rock, with intervening ridges of a greater or less extent, forming its general features. These ridges bear traces of mineral, and the valleys are susceptible of cultivation, and groves of timber are met with here and there. Between the parallels of $47^{\circ} 30'$ and $47^{\circ} 45'$ N. Lat., the surface is generally low and level, but few escarpments of rock, and few lakes, are met. Here, we are of opinion, a line of road can be obtained, to connect the "Great North West" with our Province.

EXPLORATION AND SURVEY OF THE MONTREAL RIVER.

The following is an extract from P. L. S. Forrest's *preliminary report* of this survey, performed during the present year, (1867). (A more detailed report has to be framed by Mr. Forrest, with his final return.)

This survey was commenced on the River Montreal, at Mr. Sinclair's starting point, in latitude $47^{\circ} 56' 05''$ north, and extended down to the mouth of the river where it flows

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into Lake Temiscamingue, a distance of one hundred and one and a quarter miles, embracing the country on each side for three miles back.

Upper Section.

Extending from Mr. Sinclair's line to the head of Elk lake, a distance of twenty-one miles. The river in this section is disturbed by several flat rapids and a chute (Indian Chute), with a fall of about twenty-three feet; the banks are generally seven or eight feet high. When not broken by rapids, the river has an average breadth of from three chains and fifty links to four chains, with an average depth of seven or eight feet, and a current of about one mile an hour. The soil in this section is not fit for cultivation, except near the river, where it is composed of a light sandy loam, with decomposed vegetable matter on the surface. The timber is principally pitch pine on the plains, white birch and poplar on the ridges, and spruce and tamarac in the swamps.

The immediate valley of the Montreal is a plain or table land, at an elevation of thirty or forty feet above the level of the river, having a width of from three to five miles. On either side of this table land are ranges of hills, from fifty to three hundred feet high, running generally north and south, and rising gradually on the eastern face, and generally bluff and precipitous towards the west. Only one tributary of importance discharges into the Montreal in this section, viz., "Snow Shoe River," which flows in from the west, six miles below Mr. Sinclair's exploring line; its width being about forty-five feet, with a depth of three feet, and a current of about one mile per hour; but numerous small streams and brooks drain the country on either side of the river. The inland lakes are neither large nor numerous, nor do they exceed three miles in length and one in breadth.

Middle Section.

Extending from the head of Elk lake to the foot of Bay lake, about fifty-one miles. Three lakes of moderate extent occur in this section, and the river is almost free from rapids, consequently, its navigation is, comparatively speaking, free from interruption. The soil of this section changes from sand and sandy loam to loam, with a subsoil of white clay, extensive flats of which are found on either side of the river. The timber consists of white birch, poplar, balsam, balsam of Gilead, spruce and tamarac, with some white and red pine near the small streams and round the margin of the inland lakes. Extensive fires appear to have devastated the country years ago, and the large trunks of white pine trees, charred, and in the last stage of decomposition, frequently met with, clearly indicate that, at one period, the timber in this section must have been a heavy growth of white pine.

The same plain as mentioned in the upper section continues on either side of the river, to the foot of Big lake, with occasional spurs of the ranges of hills running out to the margin of the stream.

Two large tributaries join the Montreal from the west in this section, the largest of which is the "Moequin sibe," or Bear river, flowing from the south-west, and falling into Elk lake at the Narrows, and the Temagamingue branch.

Lower Section.

Extending from Big lake to the mouth of the river, or where it discharges into Lake Temagamingue on the Main Ottawa or Grand Pines.

The navigation of this section is obstructed by many flat rapids and three chutes, and also what is known as "The Gorge," at the mouth where the river discharges through an extremely narrow channel, with rocky, perpendicular sides, having a breadth of from sixteen to thirty-three feet, and continues for four or five chains.

The sides of the channel have a perpendicular height of from thirty to forty feet, and the depth of water in it must be very great; unfortunately, I had no opportunity of examining its depth.

The country in this section changes from the uniform level mentioned in the other sections to high, rolling land, rising gradually from the river to elevations of about three hundred feet.

The soil is principally white clay, with a covering of vegetable mould. The timber is white and red pine, white and black birch, maple, poplar, spruce, balsam, tamarac and cedar. Only a few small streams or brooks drain the country on either side of the river in this section, and fall into the river.

Indians.

The Indians of the Montreal river are numerous, and appear to be much better off than those met with on other tributaries of the Ottawa. They are well clothed, and provided with superior hunting implements, which they obtain from the Hudson Bay posts, in exchange for furs, &c. They are quiet and peaceably inclined, and dwell in comfortable wigwams. This state of things is mainly owing to their abstaining from intoxicating drinks,—thanks to the Hudson Bay Company's people, who will not sell them any rum or whiskey.

The waters of the Montreal contain an abundant supply of fish, such as pike, Maskingongé, black bass, white-fish, chub and catfish. The fur-bearing animals appear to be numerous, and consist of the beaver, otter, mink, musk-rat, fisher, martin and lynx; and traces of bears and wolves were seen, but they do not appear to be numerous. Deer of two kinds were met with, the common red deer and the cariboo. Two kinds of game are very plentiful, generally known as the common partridge and spruce partridge; also the ptermigan, or white partridge.

In conclusion, I may state that the valley of the River Montreal is generally fit for settlement, and quite capable of sustaining a considerable population; and that there is every facility for road making, either for purposes of settlement or with a view to communications in a north-westerly direction; and if the country north-west of my survey and explorations is as favorable for the construction of either a waggon road or railway as the valley of the Montreal river, there will be little difficulty in procuring a short and good route to the Red River country, north of Lake Superior.

SURVEY.

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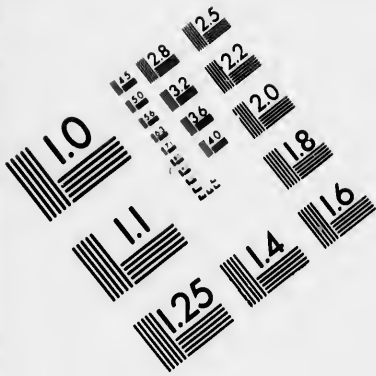
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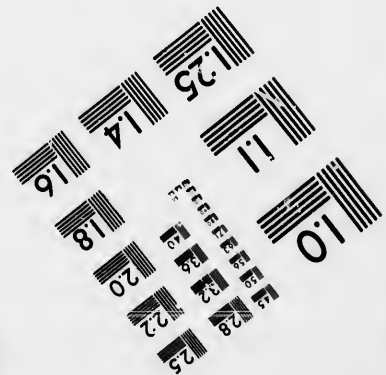
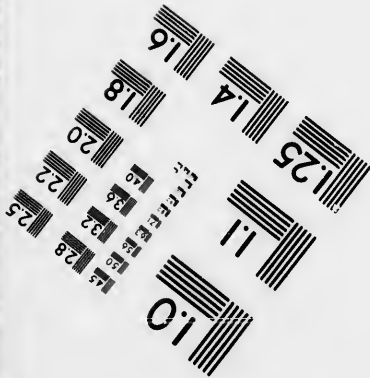
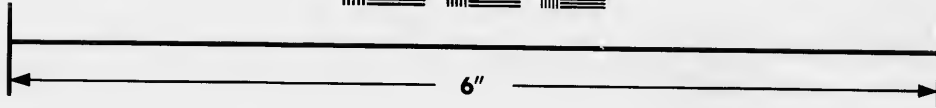
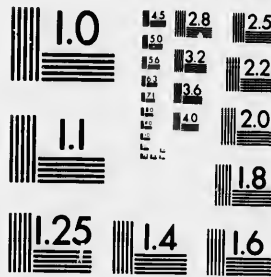
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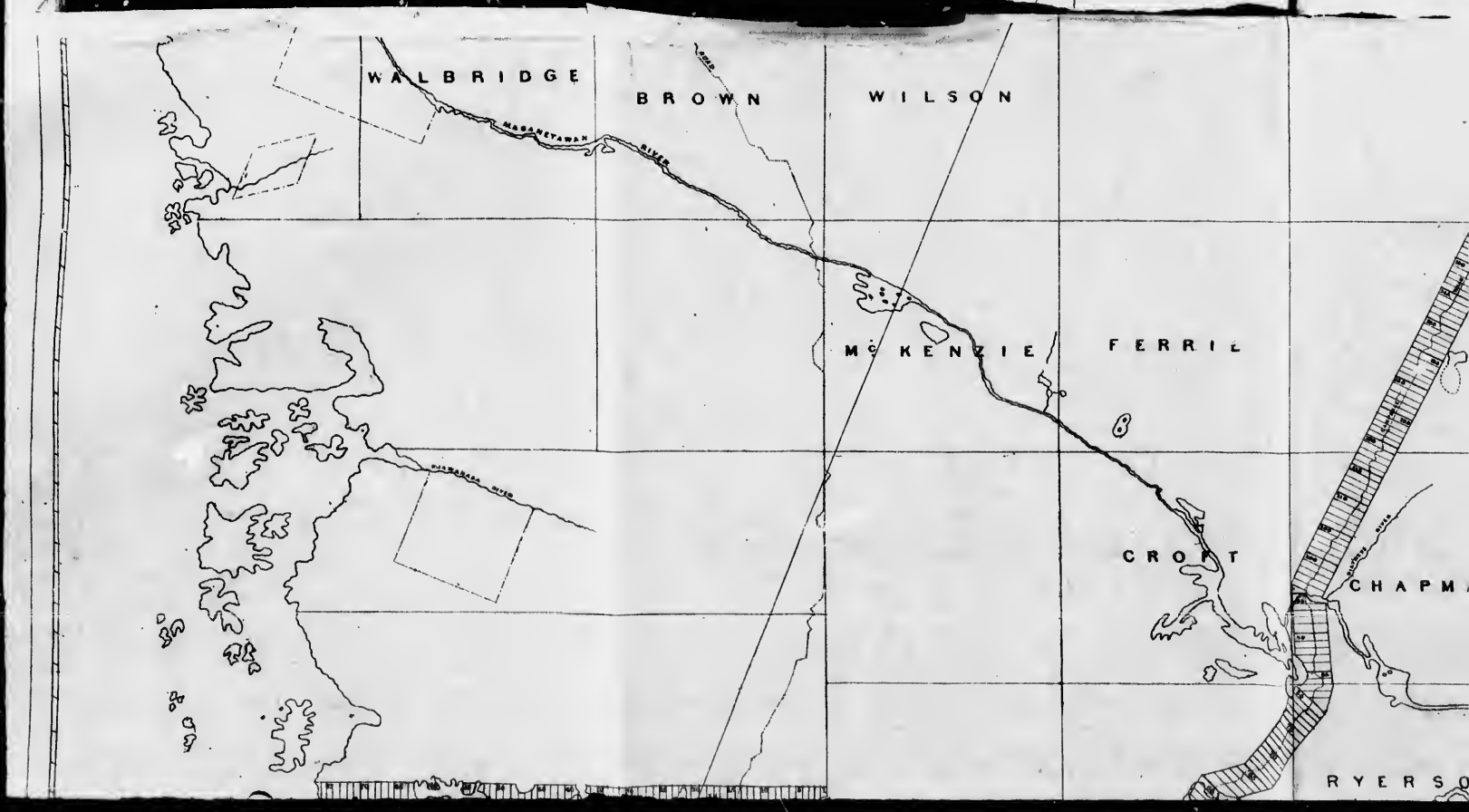
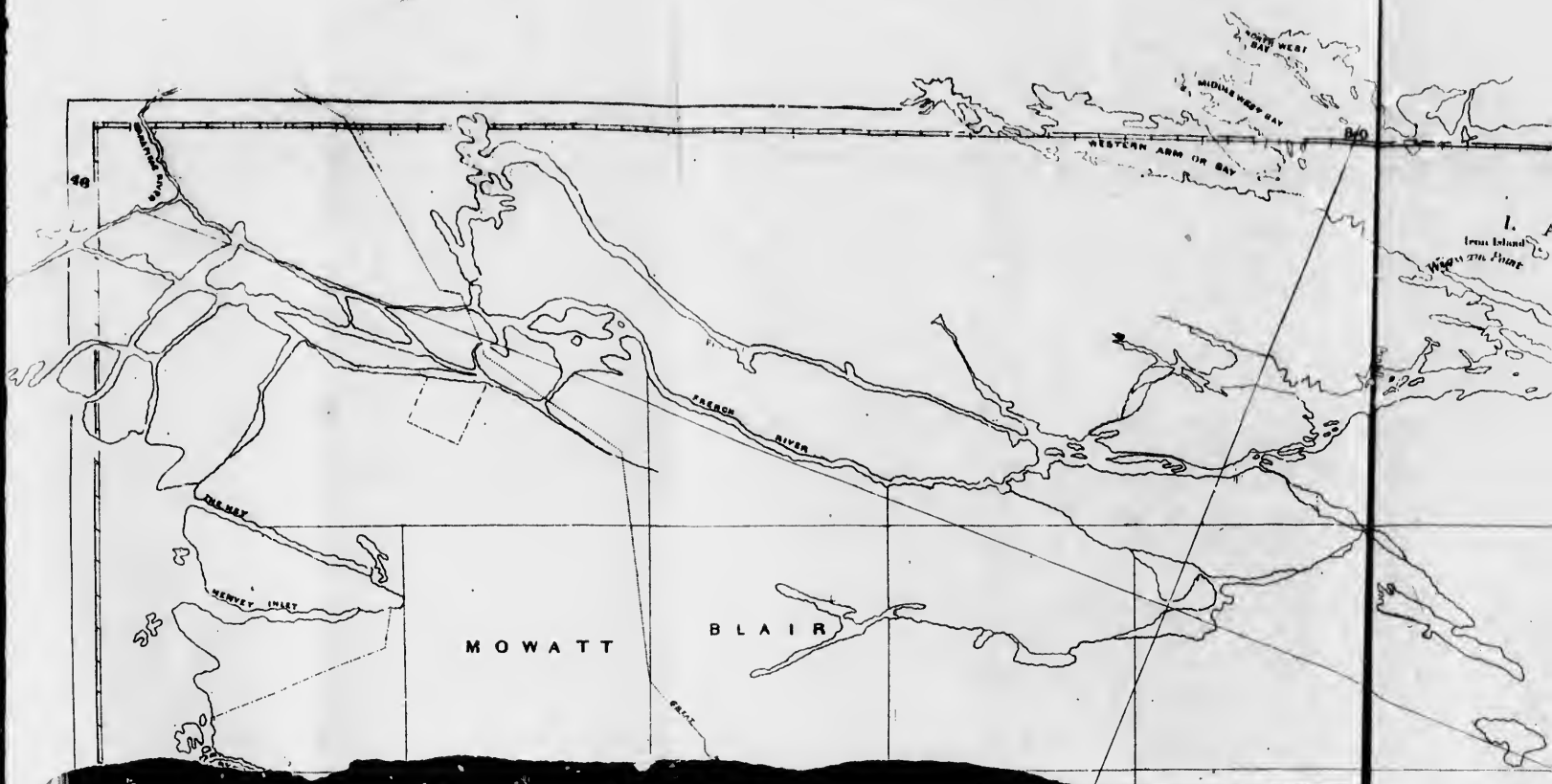


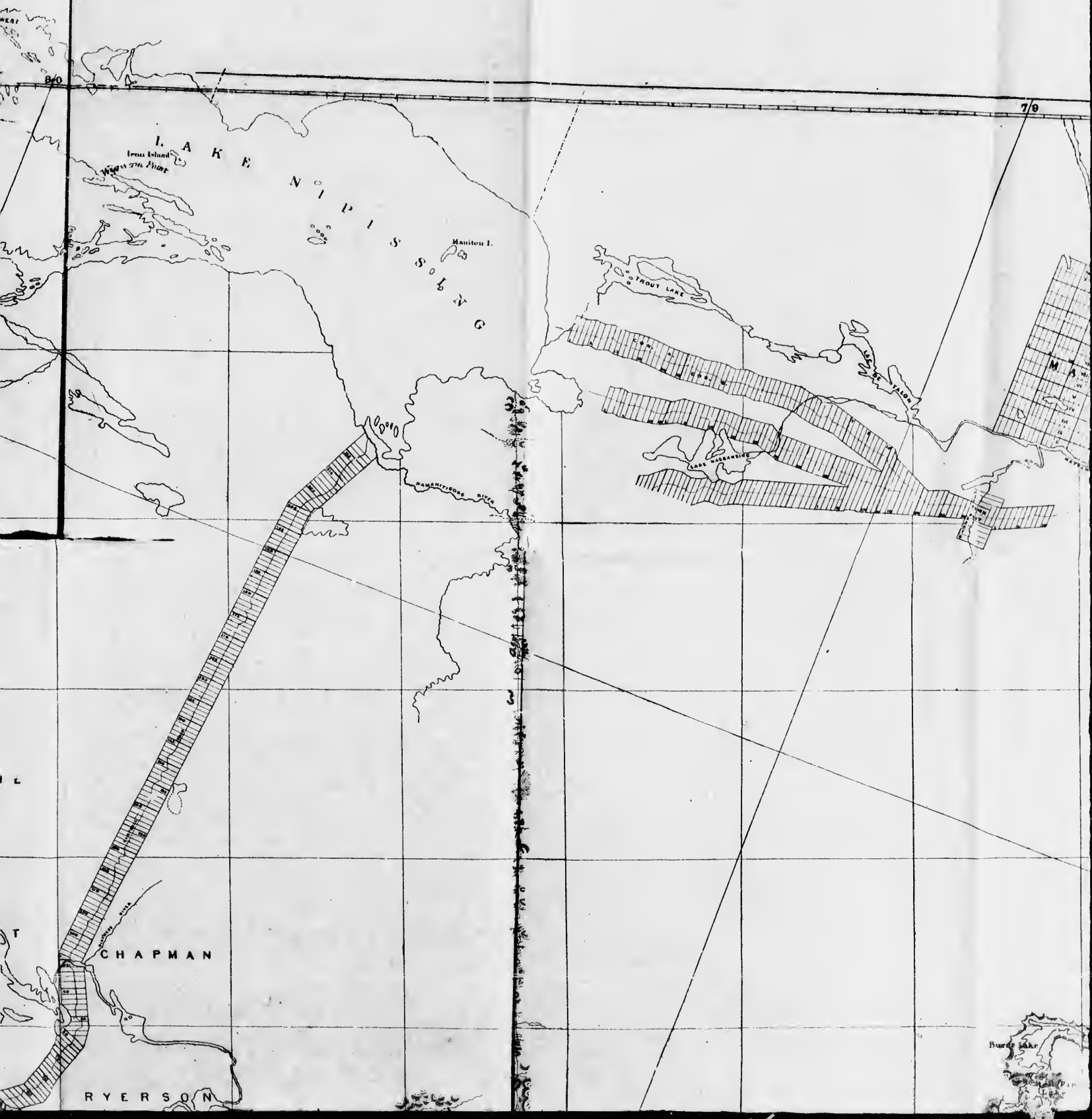
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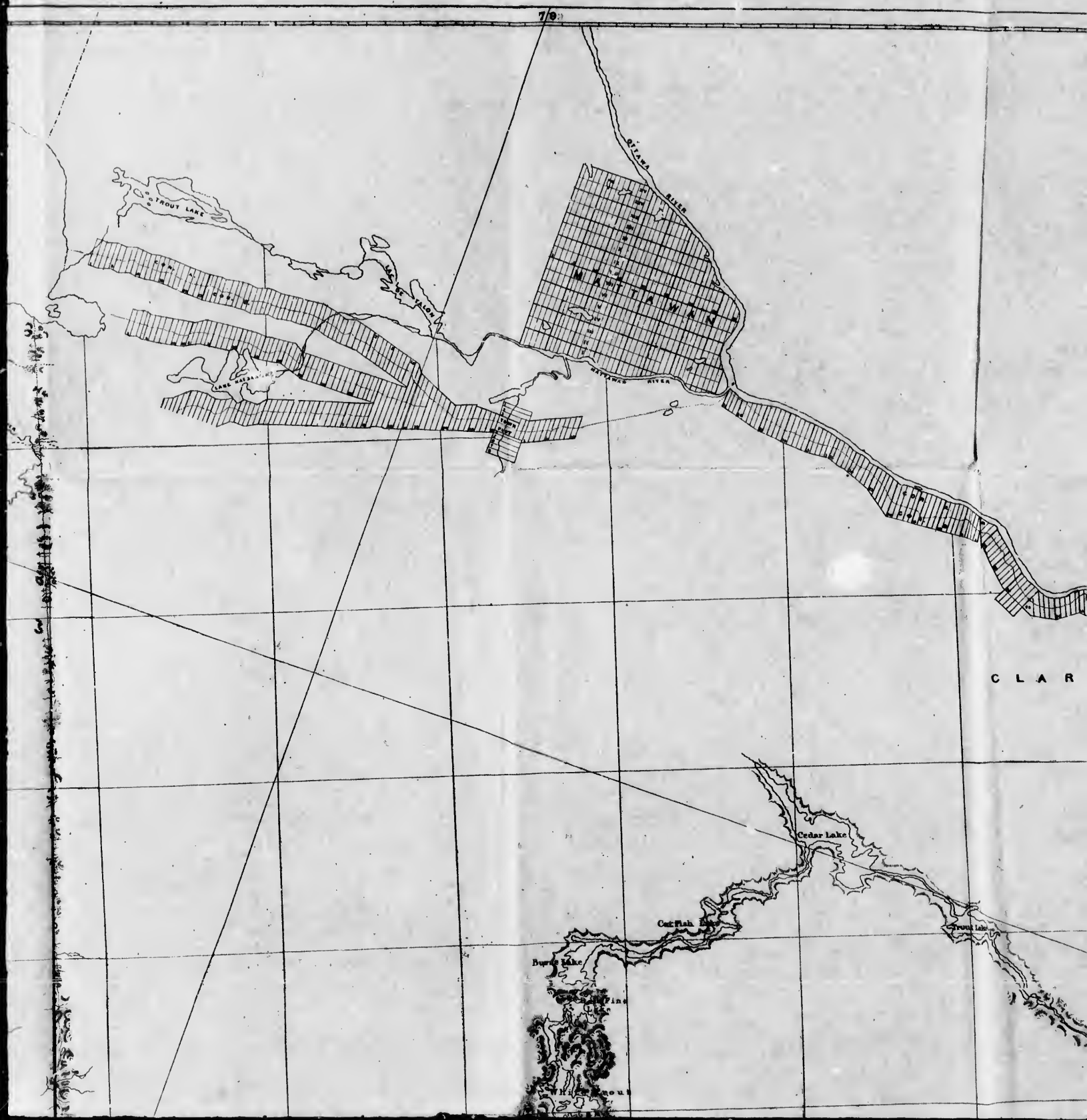
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Department of Crown Lands
Honorable Alex. Campbell
Commissioner

GOVERNMENT MAP
of part of the
HURON and OTTAWA TERRITORY
UPPER CANADA

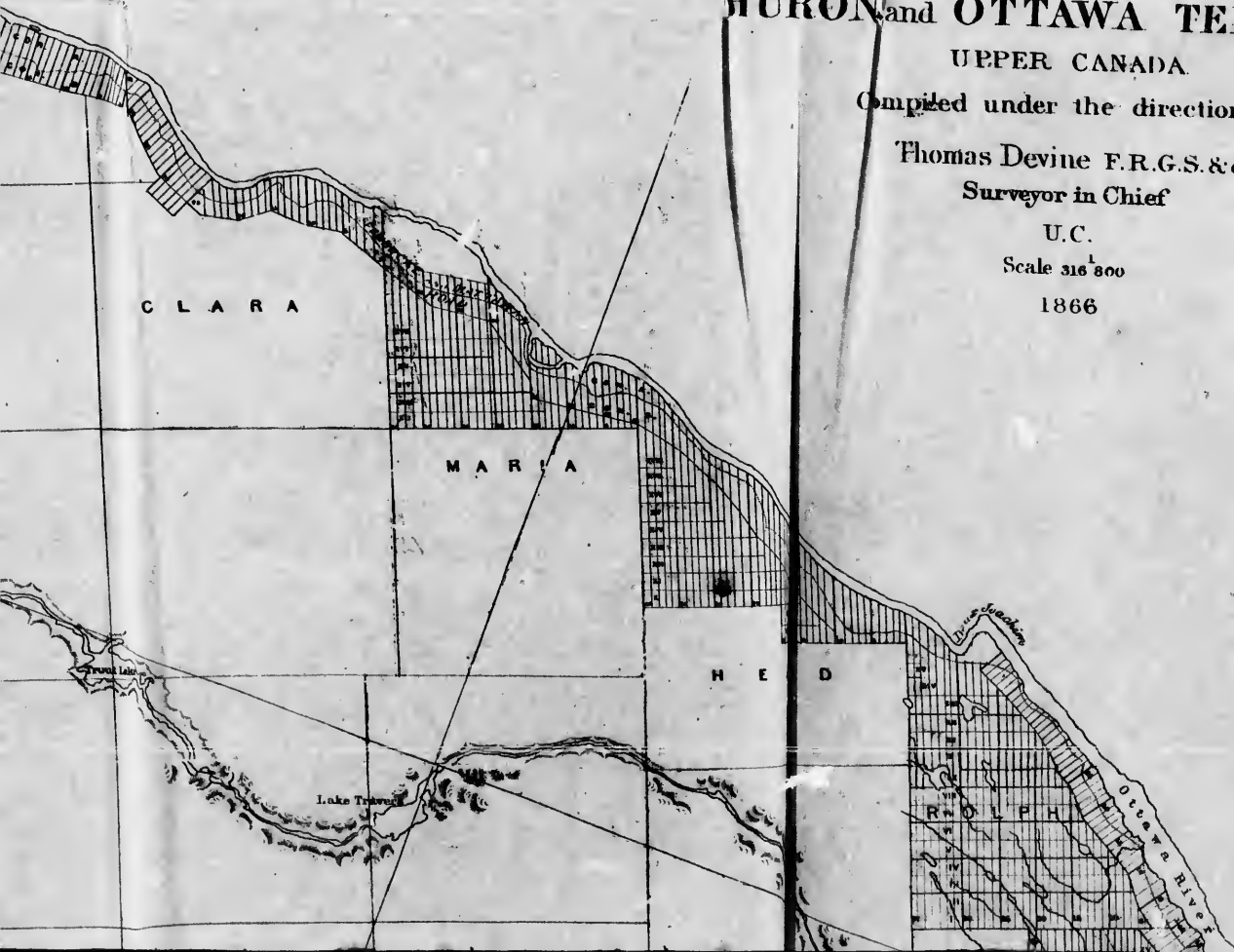
Compiled under the direction of

Thomas Devine F.R.G.S. &c.
Surveyor in Chief

U.C.

Scale 316 1/800

1866



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RYERS

Parry Sound

Parry Island

M. G. O. U. S.

McGowan Lake

Good Land

Joseph Lake

Good Land

Lake Rosseau

Indian Village of Obajwanand

Muskoka River

Muskoka Lake

Parry Sound Bay

Gloucester Bay

Co Home Bay

Little Bay

Gloucester Pool

MATCHEWEDASH

MUSKOKA DRAP

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BRUNEL

FRANKLIN

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LAWRENCE

Lake of the 49th

MACAULEY

MCVEAN

BRIDGEMAN

SKERBORNE

HAVELOCK

SEYBURN

MUSKOKA

DRAPER

OSAYLE

FINDON

STANHOPE

GUILFORD

HARVEY

RYERSON

HYDE

CONCELA

JARNSON

MANDERSON

OSAGE

Lake DUPONT



Source of the Huron
near Slide Lake
Pottersville

Great Opeongo
Great Opeongo Lake
Opeongo Lake

McKaskills Lake

McDougalls Lake

White Fish Lake

Rock Lake

Long Lake

Victoria Lake

Mc CLINTOCK

LIVINGSTONE

LAWRENCE

NIGHTINGALE

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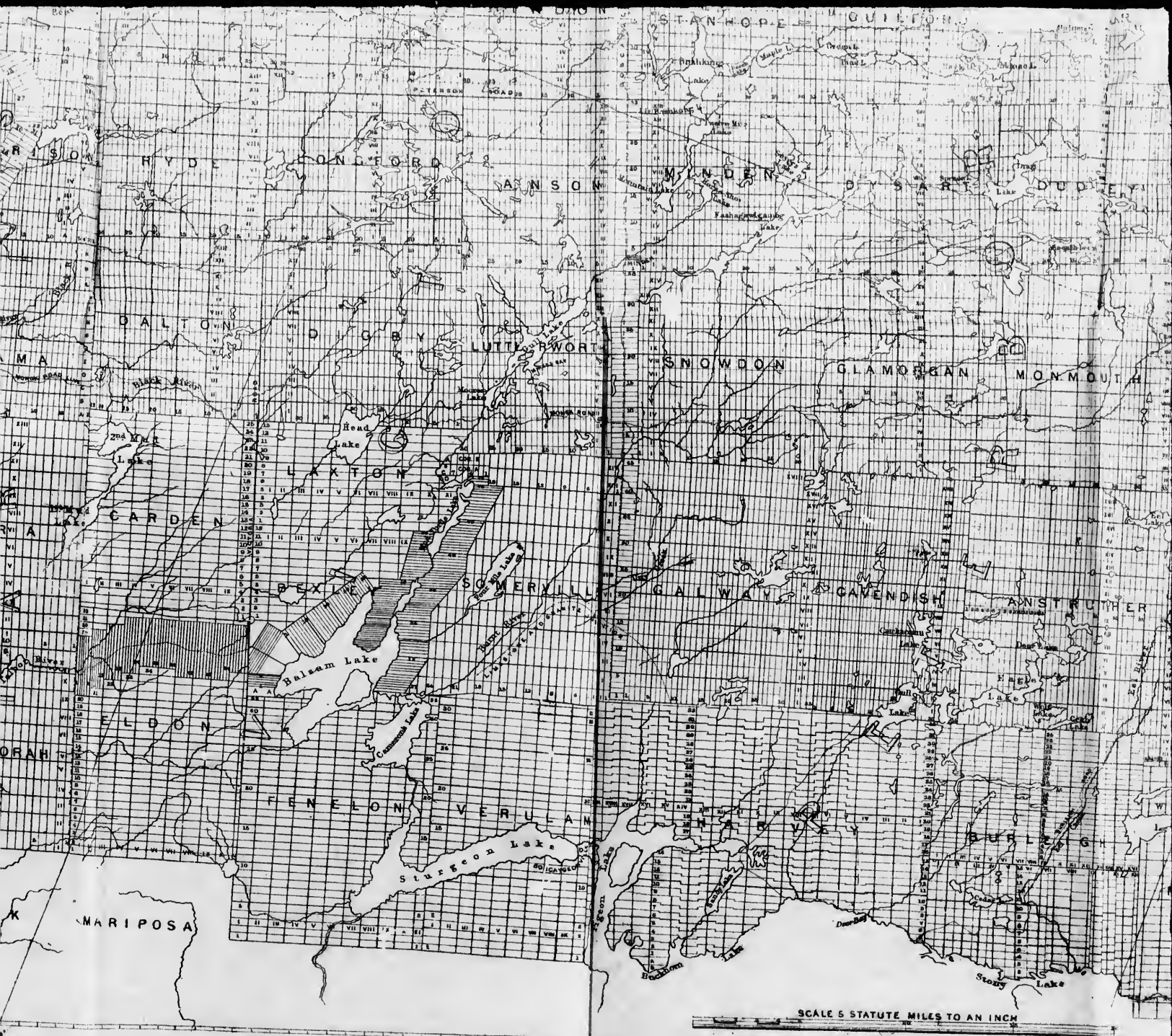
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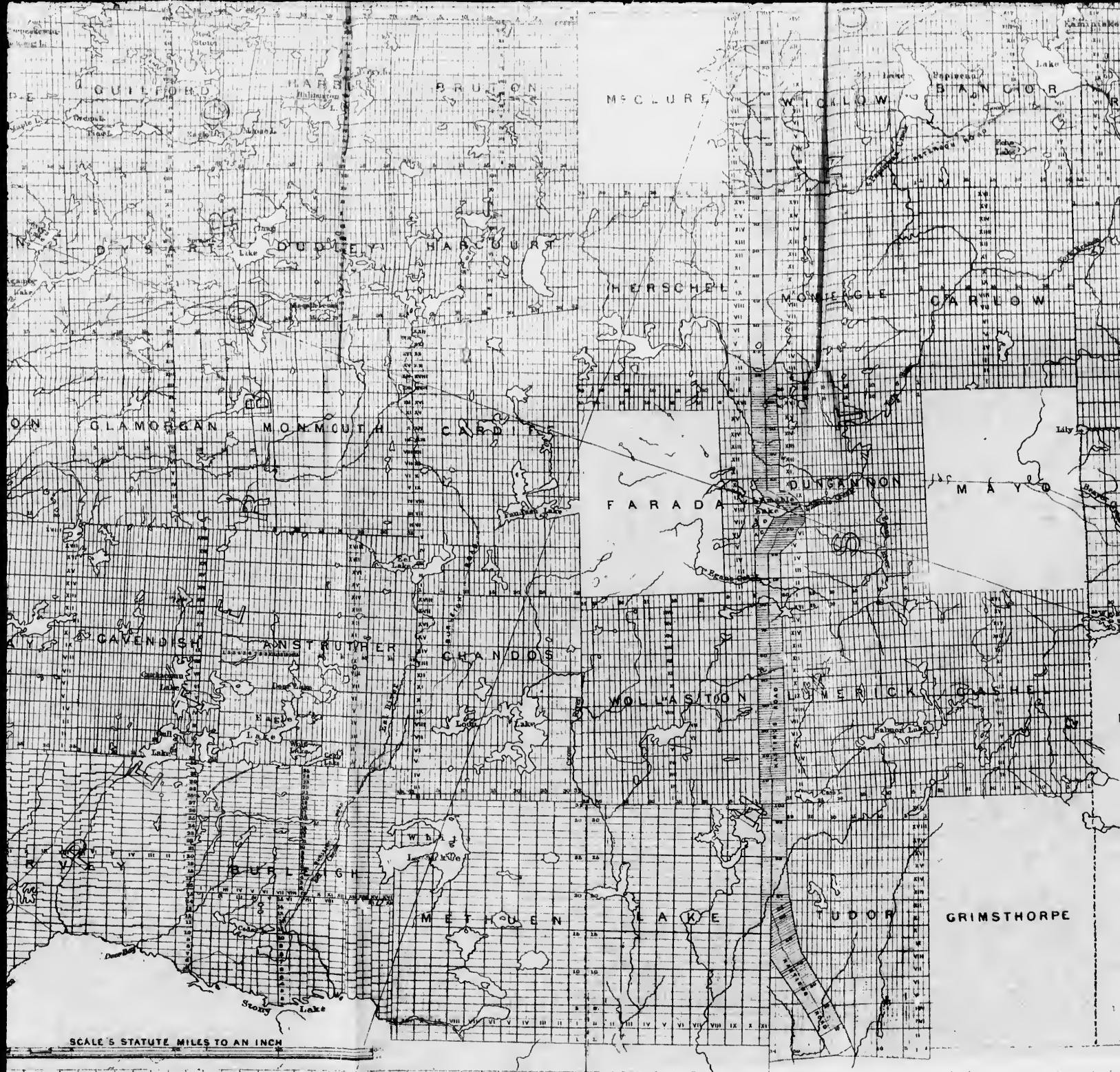
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SCALE 5 STATUTE MILES TO AN INCH

