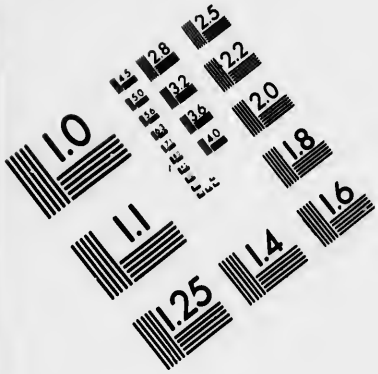

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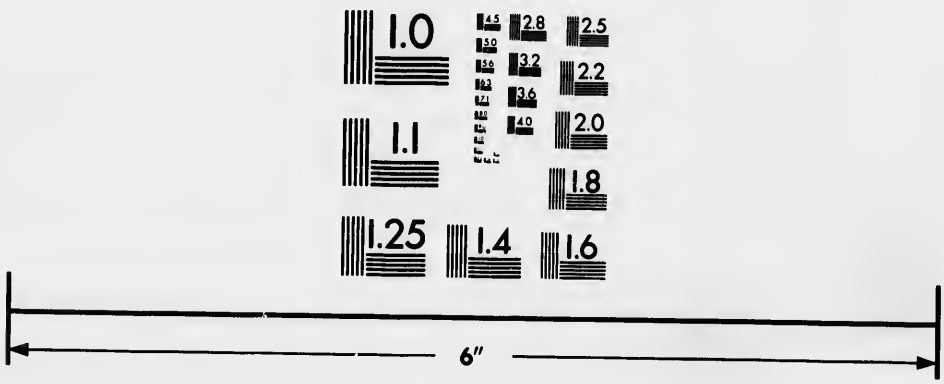

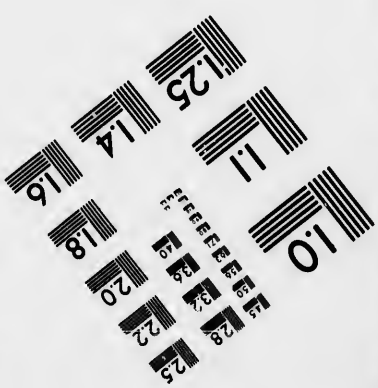

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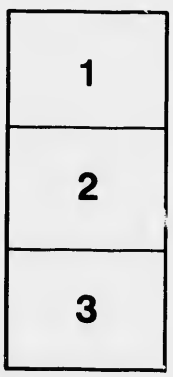

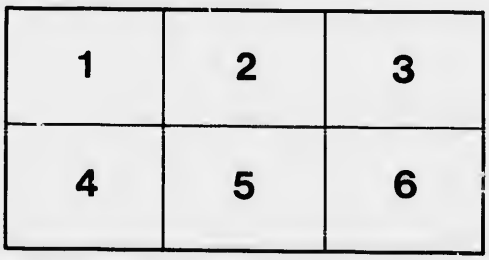

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REPORT

OF

E. B. BORRON, STIPENDIARY MAGISTRATE,

1886,

ON THAT PART OF

THE BASIN OF HUDSON'S BAY

BELONGING TO THE PROVINCE OF ONTARIO.

Toronto:
PRINTED BY WARWICK & SONS, 26 & 28 FRONT STREET WEST.
1888.

CONTENTS.

COLLINGWOOD, 30th April, 1887.

HON. O. MOWAT,
Attorney-General, Toronto.

SIR,—I have the honour to transmit herewith, Report of last season's explorations in the Provincial Territory lying to the North of the Height of Land and West of Missanabie River.

The Honourable Hudson Bay Company's officers in charge of the posts at Missanabie, Michipicoten and Chapleau, have, as usual, rendered me every assistance in their power.

I have the honour to be, Sir,

Your obedient servant,

E. B. BORRON,
Stipendiary Magistrate.

REPORT

OF

E. B. Borron, Esq., Stipendiary Magistrate,

ON THAT PART OF THE

BASIN OF HUDSON'S BAY

BELONGING TO

THE PROVINCE OF ONTARIO.

This season my explorations have been for the most part confined to the country on the west side of the Missinabie river, opposite, or nearly so, to the tract examined the previous year.

It includes Brunswick Lake and the Hon. Hudson's Bay Company's post, called New Brunswick House, frequently mentioned in former Reports. The fertility of the soil at this post has been long known to the Hudson Bay Company's officers, and the climate is believed to be equal if not superior to that which prevails at Port Arthur or Thunder Bay. All the principal roots and grains are said to grow well at New Brunswick, and come to full maturity. Clover, timothy and other grasses grow splendidly, as do, also, currants, strawberries, raspberries, and other small fruits.

Mr. Gladman, an ex-Chief-Factor in the Hudson Bay Company's service, who was stationed for some years at this post, has given satisfactory evidence on these points, the truth of which has been confirmed by my own observations and enquiries.

No reliable information, however, was in our possession as to the extent of this fertile tract, nor as to the best way of opening it up.

Indians had told me at different times that the country on the west side of the Missanabie river—between the Lower Swampy-Ground, so called, on the south, and the Albany Branch on the north—was of a drier and less swampy nature than in most other parts of the territory they were acquainted with—that the soil was principally clay, and that the timber consisted chiefly of Aspen and Spruce.

To obtain for the Government fuller and more reliable information on these important points has been the chief object of my explorations this year.

In order to do this, I left Collingwood on the 29th of May for Toronto, and having forwarded necessary supplies, I proceeded from thence to Missanabie Station, on Dog Lake, by the Canadian Pacific Railway. Here, as previously arranged, I was met by John Driver, who had come from Sault Ste. Marie by steamer to Peninsula Harbour on Lake Superior, and from thence by the Canadian Pacific Railway, bringing with him a canoe and such part of my camping equipage and supplies as had been forwarded by steamer from Collingwood.

The route which I thereafter proposed taking was for some distance the same as that followed in 1884, namely, through Lakes Wabatongushene and Oba, and down the river Oba to the forks. The water of the east fork or branch, my guide then told me, ran into the Missanabie river, where it was known to *voyageurs* under the name of the Albany Branch. The waters of the other and larger branch, flowing as was demonstrated that year, first of all into Lake Kabinakagami, and thence by the Kabinakagami river into the Kenogami or English river, at a point named Manattawa, where this branch of the Oba is called "White-Mud river." The Kenogami, or English river, joins the Great Albany river about 120 miles above Albany Factory on James Bay.

It was now my intention to follow the eastern branch of the Oba from the forks to its alleged junction with the Missanabie or north branch of Moose river, as this branch and its tributaries appeared to afford greater facilities for the exploration of the territory lying to the west and north of Brunswick Lake than any other. From the junction of this branch with the Missanabie, when reached, I proposed working my way back by the Missanaibie and Brunswick rivers to the Height of Land.

This tract, bounded by the Missanabie river on the east, by the Fazhushkootai or Mazaskoda river on the south, by the main Oba river on the west, and by the east or Albany Branch on the north, includes nearly one thousand square miles of land, or sufficient to form about forty townships.

I did not expect to be able to make a minute examination of so large a tract, but such an exploration only as would enable me to report generally in regard to the leading features of the country.

Before starting out from Dog Lake it was necessary to procure guides, and also another canoe. I was, consequently, obliged to go to the Hon. Hudson Bay Company's post at the north-eastern extremity of Lake Missanabie, some forty miles distant from the Canadian Pacific Railway station on Dog Lake. Here, with the kind aid and assistance of Mr. Gilbert Spence, the officer in charge, I was able to obtain a canoe and the services of three *voyageurs* and guides, one of whom (Geedon) had accompanied me down the Oba in 1884, and was also with me for a short time in 1885.

Returning to Dog Lake, it was the 15th of June before I could make a final start, as some further delay had been occasioned by the negligence of the Canadian Pacific Railway officials in carrying necessary supplies from Toronto—past Missanabie and Lochalsh stations—to Port Arthur.

It is not necessary to describe either Dog Lake or Mattagami (the two forming one and the same lake, at all events in the spring); nor lakes Wabatongushene and Oba, the former of which is south, and the latter north, of the watershed. There is little land fit for cultivation on any of these lakes, although here and there areas of limited extent may be found. The whole surface, however, supports a growth of mixed timber, consisting of pine, spruce, tamarac, cedar, aspen, poplar, balsam and birch timber, which, although poor as compared with that found in localities more favourably situated in respect of soil and climate, is absolutely certain, sooner or later, to prove of value to the Province.

The river Oba, from its source to the forks, a distance of about thirty-five miles, pursues a north north-easterly course. The descent or fall is roughly estimated at seventy or eighty feet, and four portages are necessary, varying in length from 250 to 400 yards.

In this stretch, only one tributary falls into the Oba with sufficient depth of water to be navigable even by a light, medium-sized canoe. This is called "Coat river." It occurs on the east side, and about half way, or say seventeen miles below lake Oba. I ascended this stream as far as practicable, and found that it had its source in a small lake about four miles only from the Oba.

From the forks to the first portage, on the east branch of the Oba (which is called Madawngon by the Indians), was found to be about 2½ miles. This portage is situated on the south side of the river, and is about 600 yards in length. The fall in the river at this point is roughly estimated at about thirty-five feet.

Three miles below this, a small stream enters on the north; and about five miles below the portage, or say eight miles from the forks, a larger tributary, called the Beaver-

tanning river, falls in on the south side. This was ascended, as far as navigable, and the adjacent country explored.

We then resumed our voyage down the Oba, and seven miles more brought us to the second portage. This is on the north side of the middle channel, the river here being split or divided into three branches or channels. It is about 500 yards in length, and the fall in the river at this point, inclusive of the rapids below the portage, is not less than forty-five feet. The country on both sides was examined in the vicinity of this portage.

The third portage was met with about four miles from the above. It is about 275 yards in length, and situated on the left, or north, bank of the river. The fall here is about twelve feet.

In little over half an hour, or say 1¼ miles from the third, we came to the fourth portage. This is on the south side, and 250 miles in length; and the fall in the rapids is about ten feet.

The 5th, 6th, 7th and 8th portages all occur in the next five miles. Including rapids, which were run, the fall is not less, I think, than 140 feet in this stretch. The longest of these portages was about a quarter of a mile.

A mile or so below the eighth portage we arrived at the junction of the Wango river, which flows into this east branch of the Oba from the south. This is the only navigable tributary, with the exception of the Beaver-tanning river, on this branch. Roughly estimated, the distance, by the river, between these two tributaries, is about nineteen miles, and from the forks of the Oba to the Wango, about twenty-seven miles.

I ascended the Wango as far as navigable; in all about fifteen miles. It was very shallow, however, in many places, and at others obstructed with fallow and drift-wood. Such portages, too, as were necessary, had to be either made anew or enlarged for our canoes. I was able, however, to penetrate at this point, and to examine the interior of the tract of country I was specially anxious to see.

Returning to the junction, we descended the Oba, or Albany branch, as it is called, to the Missanabie, examining the land, from time to time, on both sides. This stretch of the river is full of rapids, and although only one more portage was necessary, the total descent or fall is considerable. The shallowness of the river, and number of rocky reefs and boulders retarded our progress greatly, and caused our speed to be so irregular that it was impossible to estimate the distance from the Wango river to the Missanabie in the usual manner. I think, however, that the length of this stretch is about ten miles, making the whole distance, from the forks of the Oba to where the eastern branch pours its waters into Missanabie river, about thirty-seven miles.

From this junction the Missanabie river was followed upward to where the Brunswick river enters it, when we ascended up that river to Brunswick lake, examining the country at intervals, more particularly on the west side.

The land on Brunswick lake was next explored, and all the streams which empty their waters into that lake were ascended as far as practicable in a light canoe. None of them were found, however, to be navigable more than a few miles at that season (July).

Thereafter I crossed over to the Missanabie again, and ascended what Dr. Bell calls the Pazhushkootai river, which enters on the west side, between the portage to Brunswick lake and Thunder-water rapids. My guide calls this river "Mazaskoda." But while willing to retain such Indian names as can be readily pronounced by white men, or which may be singularly appropriate, it would not be amiss, I think, in our Provincial maps, to curtail many of these names, if not change them altogether.

This stream is twenty or thirty yards in width near the junction, but diminishes, of course, as we proceed upward toward its source. I succeeded in ascending it about twenty-four miles, and was enabled to obtain important information in reference to the section of the country drained by it. Explorations, however, up this and other tributaries of the main rivers, should be entered upon as soon as possible after the ice leaves them in the spring, and prosecuted in the months of May and June when the water is high. In July and August many of them are almost, if not altogether, dry.

On completing this exploration, I descended the Missanabie river to the portage which leads to lake Opazatike, being anxious to ascend "Grassy river," the principal

feeder of that lake. This river was referred to in the report of my explorations last season as having been ascended for a short distance by one of my *voyageurs* (John Driver), who gave a favourable description of the soil and timber.

A short distance, however, above the point reached last year, Grassy river was found to be quite unnavigable, partly owing to the lowness of the water, but chiefly to obstructions by fallen trees and drift-wood. We were only able, therefore, to ascend this stream about four miles above the point previously attained by Driver.

Returning to the Missanabie river, the land on both sides of that river was examined at a number of points between Opazatika portage and the Hudson Bay Company's Post on Lake Missanabie.

On my arrival at this Post, three out of four of my guides and *voyageurs* wished to leave, being anxious to get their outfits or supplies and depart for their hunting grounds. Seeing little probability of being able to replace them with others at all suitable, and the smaller rivers having now become unnavigable, I concluded to return. This I did by the Michipicoten river and lake Superior route. I had, on starting out this season, intended, if practicable, returning from the Height of Land to Lake Superior, down Goulais river, but on enquiry I was led to believe that this route, if practicable at all, is only so very early in the season, before the subsidence of the spring floods. The upper portions of this river remain, as I believe, still unexplored.

With this brief narrative of my explorations this season, I shall now proceed to give such information as I may have obtained, and such opinions as I may have formed in reference to the country, under the usual heads.

Land.

As frequently mentioned in former reports, the trifling elevation of the general surface above the rivers by which it is drained, and the flat or level character of this northern territory, are physical features very unfavourable to the natural fertility of the land, and to the spontaneous production or growth of those plants and animals apparently, if not really, of the greatest value and importance to mankind. These features are more especially noticeable in that section or portion of the country bordering on James' Bay, from near Rupert's House to Albany Factory, at the mouth of the Albany river, and extending inland from the coast in a south-westerly direction from one hundred to two hundred miles. The loose surface material in this region rests on nearly horizontal beds of limestone, sandstone, and other stratified rocks, which are there found at no great depth. The soil, or the sub-soil, is almost invariably composed largely of alumina, forming with silicia and lime, clays and marls, more or less heavy, and retentive of moisture. This circumstance, coupled with the low, flat nature of the country, is unfavourable to good natural drainage, and the land is almost universally cold and wet, unless situated on or near the banks of the rivers. These conditions have favoured the growth of sphagnum or bog-moss, resulting in the formation of the peat-mosses or bogs, which now cover so large a proportion of this northern zone or belt. They are called muskeego, or muskegs, by the natives.

A "muskeg" differs materially from what is commonly understood by the term "swamp," as those know who have seen both. In this territory, the peat mosses or muskegs may, and in fact generally do, occupy the higher ground—those parts of the plateau which are rarely, if ever, flooded or inundated by the water of the rivers. The swamps, on the other hand, usually occupy the lower ground, on or near rivers and lakes, and are liable to be flooded to a greater or less depth periodically, more particularly at the time of the spring freshets, occasioned by the melting of the snow which falls and accumulates on the ground and in the woods during the winter. The muskeg of the north is deeply carpeted with bog-moss, and with the moss may be found a few plants and shrubs, such as are generally seen growing on peat bogs elsewhere. If there be any trees they consist of stunted and sickly looking tamarac and spruce, thinly scattered and of no economic use or value whatever. The soil in the swamps, although wet, is frequently good, and often supports a vigorous and healthy growth of forest trees, chiefly spruce and tamarac, and if not overcrowded or situated too near the coast, such trees attain useful size.

There can be no question, however, that the great predominence of muskeg and swamp in this disputed territory and the causes to which it is due, detracts greatly from its value in an agricultural point of view.

On the Mattagami, Missanabie and Abittibi branches of Moose River, the stratified or sedimentary rocks appear to crop out or terminate at or about what are called the long portages. These portages are from ninety to one hundred and twenty-five miles distant from Moose Factory, which is itself situated at or near the mouth of Moose River. Commencing at the lower end of these long portages, the country to the south rises some 300 feet in the next ten miles or so, and we enter upon what I have called the central plateau of this territory. Underlying the loose material (mostly drift) which here forms the surface, we have hitherto discovered no stratified rock, but only those belonging to the old r Huronian and Laurentian systems. It is in the upper or southern portions of this plateau, that Lakes Opazatika and Brunswick, and those sections of the country upheld the last two seasons are, for the most part, situated.

Although these rocks do not, in this plateau, rise often, or to any considerable height above the general surface, they are frequently met with in the banks of the rivers and on the shores of the lakes.

Running as they appear to do in reefs having an easterly and westerly bearing, and intersected, as they are, by numerous powerful trap-dykes having generally a northerly course or bearing, the bed rock, unlike that underlying the great plain to the north, is very uneven and imparts to some extent, a corresponding unevenness of the surface. In consequence of this (or partly at least) this land in this plateau frequently appears in the form of ridges or knolls with depressions occupied by shallow lakes, marshes or swamps. As compared with the plain below, the area in proportion to the whole, of muskeg, is very much less, and that of the dry land greater, in this central plateau.

That portion of this plateau, to an examination of which my attention has been chiefly devoted this season, does not appear to include much muskeg, properly so-called. But there is undoubtedly a great deal of swampy land, especially in the south-west part.

Notwithstanding this, I am satisfied that within the bounds specified, there is a larger proportion of easily reclaimed arable pasture and meadow land fit for settlement in this tract than any other of equal extent and equally accessible in the territory.

No step, however, can be safely or prudently taken toward opening up and developing any part of this northern territory or any of its resources until the boundary question is settled and the Indian claims decided.

It is difficult to describe intelligibly a larger tract of land of which no instrumental survey has been made, and in which only a very few points (such as portages or the junctions of rivers) can be found having any known or recognized names to refer to.

For this and other reasons, therefore, I have thought it better to lay down on a map of the country much of the information which I have been able to procure in reference to the land in this part of the territory.

In regard to the soil, I may say, however, that the best soil here, as elsewhere in this territory, is the alluvial. This is met with of course on the river bottoms, and much of it is flooded for a longer or shorter period in the spring. The water, however, subsides rapidly after the snow is melted, and I have no doubt valuable crops can be raised from the greater part of this bottom land after the flood has abated. The sub-soil on these bottom lands is universally clay or marl, but sometimes there rests on this a sandy or sandy-loam soil of variable thickness.

On the higher ground clay or marl is almost always met with, either immediately at the surface or within two feet of it. It is the same as the drab or light coloured clay soil, which has proved so fertile under cultivation at New Brunswick Post. In some places the soil was found to be a sandy loam, but this was very generally observed to repose, at no great depth, on clay marl. Limited areas of very light sandy soil were met with in a few localities. One (especially noticeable) occurs about twenty-four miles up the Pazhushkootai river (of Dr. Bell's map). It is situated on the east side of the river and forms ridges, or rather mounds, sixty or seventy feet in height, from the top of which a better view of the surrounding country can be obtained than anywhere else in that section of the country.

Although little real muskeg was met with in the tract explored this season, there is undoubtedly a good deal of land that is wet, cold, and covered with sphagnum moss to a greater or less depth. These sections are sufficiently elevated above the rivers, but have almost invariably a clay soil, and are so level or flat that the water cannot run off.

It is only, in my opinion, the frequency of bush fires which prevents the accumulation of peat to such a thickness or depth as would convert extensive areas of this land into peat bogs or muskegs. As we now find it, much land of this description could be very easily and cheaply drained and rendered, if not arable, at all events fit for pasture or the growth of trees. I never visit New Brunswick Post that I am not favourably impressed with the luxuriance of the grass, more especially of the red clover and timothy, and I have no doubt that there are other cultivated grasses that would succeed equally well on this soil.

One very important question is yet undecided in regard to this territory, and that is, will fall wheat succeed? To this question no certain answer can be given, for no trial has ever been made. The soil, however, will, I believe, produce good crops of wheat, and the summer temperature is sufficient to fully mature them. The only point on which there is the least doubt or misgiving in my mind is whether the wheat plant will come through uninjured? Now on this point I am decidedly of opinion that it will stand the winter in this territory very much better than Manitoba, or probably any other part of the North-West. A thick mantle of snow covers the ground the whole winter in this territory, which should protect the wheat plant from the frost, for the cold is not more severe than at Winnipeg in any part of this central plateau. I think, therefore, it is, to say the least, exceedingly probable that fall wheat may prove a reliable and good crop.

If Ontario's title to this territory had been confirmed and placed beyond doubt or dispute, one of the very first things I should have suggested would have been such practical tests or experiments as would have set all doubts on this subject at rest.

Indeed several years ago I called the attention of the Government to the importance of experimental farms. See Report for 1884, pp. 24 and 25.

The Federal Government is, I observe, establishing such farms in various places in the Dominion, but of a very much more costly description than I suggested.

I must confess, too, that I am disappointed to learn that some of these farms are located in comparatively old and rich settlements, in which intelligent practical farmers with abundant capital have been experimenting for years, if not generations, and have in regard to many of the more important crops, already proved what the country is capable of producing; whereas a vast territory like this, and districts like Algoma, Nipissing and others, in regard of the soil and climate of which, and their special fitness for the growth and production of many important crops, so little is known, have been entirely overlooked.

Reclamation of Waste Land.

In view of the prodigious quantity of wet and swampy land in this territory, it may not be out of place to offer a few suggestions which would, in my opinion, if carried out, reclaim large tracts and render them fit either for settlement or for the growth of much finer and more valuable timber than they can possibly produce in their present condition.

As it is manifestly impossible to elevate or raise the general surface of the country above the rivers by which it is so imperfectly drained, the only alternative left to the engineer is to deepen, if possible, the beds or channels of these rivers, and thus lower the surface of the water.

This may appear a very serious, if not impossible undertaking, and one calling for an expenditure out of all proportion to the value of the land to be reclaimed. But the circumstances are so favourable in regard to many large tracts of low, marshy, and swampy land, that for these and other reasons which will afterwards appear, I think otherwise.

The descent or fall in the rivers from the Height of Land to James' Bay varies from 1,000 to 1,400 feet, and the distance from 250 to 300 miles, which gives an average fall of about four feet per mile.

If the loose material, consisting of glacial and post-glacial deposits, had covered the whole face of the country uniformly and to a great depth, it might have been of little or no importance of what the underlying or bed-rock had consisted.

With such a descent or fall as we find north of the Height of Land, the country could hardly have failed to have been well drained. The volume of water given off by the rivers is so great, especially in the spring and early summer, that the rapidity and force of the current must have excavated, in any loose material, channels several hundred feet below the general surface; and this territory would (in all probability, I think) have been naturally as well drained as most parts of the western prairies.

The depth of the glacial and post-glacial deposits on the palaozoic plain lying to the south and west of James Bay, does not appear, however, to be very great at any point where I have had an opportunity of seeing and judging. Nowhere on the coast, from our Eastern Boundary near Rupert's river, to the Albany river, (our Western Bouudary under the award of the Arbitrators) does this loose surface material appear to be more than thirty or forty feet in thickness, and in many places it is much less. It increases, however, in depth as we travel southward from the coast, and although the thickness may not exceed sixty or seventy feet on an average, it is sometimes, near the southern edge of the plain, not less than 200 feet in thickness. This latter depth would appear to be attained on the Abittibi river near New Post, and the material there is principally a drab coloured calcareous clay. In the western part of the territory the thickness of the clays, gravels and sands, as seen on the Albany and Kenogami or English rivers, is considerably less than on the eastern or Abittibi side. As the rivers crossing this flat country have already reached the underlying limestone and sandstone strata throughout the greater part of their length, the rate at which they are now wearing and deepening their channels is so slow as to be altogether unappreciable even in a lifetime. While little or nothing, therefore, can be expected from such deepening of the channels in this section, a great deal can be accomplished by the artificial drainage of the surface soil, and much land may be reclaimed even in the most northerly part of the territory. See Report for 1881-82, page 6.

In the higher central plateau the loose material rests upon Huronian and Laurentian rocks which (as already stated) rarely rise above the general surface, but cross the rivers at intervals, in the form of narrow reefs or ridges. It is at these points where the rapids and falls are met with, and where portages have to be made. Now, although there may be extensive river bottoms and a great depth of clay or sand in the intervals between these reefs, the water is so pooled or dammed back by them that the land on the banks is for the most part either wet and swampy, or liable to be flooded. Only as these reefs are worn away by the slow action of the water, can the intermediate beds of the river, however soft the material, be deepened and such lands reclaimed. These rock reefs once removed, the current in the stretches above would be so increased that the water would at once commence acting upon the soft or loose material which usually forms the bottom. Thus the channels of the rivers would be gradually deepened, and the surface of the water permanently lowered.

The effects as regards drainage would be precisely similar to those which would result if the adjacent land were raised above the general level of the rivers. Nor would the drainage of the land situated on the banks of the main rivers be the only advantage—every tributary, and even the feeders of the tributaries, would in some instances be lowered and their efficiency as drains thus greatly increased.

It is, therefore, to the destruction and removal of these reefs of rock, and in some instances of boulders only, which obstruct the flow and dam back the water of the main rivers, that the attention of the Engineer should be directed.

I have seen many, many rapids and falls in this territory, and more particularly on this central plateau, where every dollar thus expended would yield a very large return; and the time is not so remote as many think when, if the Government should be unwilling, private individuals and companies will undertake this noble work. I call it a "noble work" because if the man who plants a tree is entitled to be regarded as a benefactor of his kind, much more is he who by his enterprise, skill, labour and capital, reclaims from utter waste, thousands of acres of fertile land, which if needful, will grow whole forests of trees; or afford food for numerous families of men for generations to come.

In some instances, blasting alone is all that would be necessary in my opinion to

enable us to get rid of these reefs. The force of the water, aided by great masses of ice in the spring, would probably remove the broken rock out of the way.

It may and no doubt will be thought by many, altogether premature to launch out into operations of this kind, in view more particularly of the cost, and of the vast tracts of land in the Dominion fit for immediate settlement. But when we take into consideration the fact that the great natural forces, by means of which the drainage and reclamation of this land is to be effected, can only be brought into play *when* these rocky barriers or "dams" are removed; and that from the moment they are removed and these forces put in operation, many years must still elapse before the vast labour to be performed can be nearly completed, or the advantages expected more than partially realized, the importance of aiding and assisting nature, as it were, to break through and remove these rock ridges, can hardly fail to be seen and appreciated by those who have any faith in the progress and settlement of the country; or who believe as I do, that there is not in Canada or the United States an acre of land which, under cultivation, can be made to yield a hundred bushels of potatoes or a ton of hay, that will not, sooner or later, be eagerly sought for and highly valued.

Timber.

Second only in importance to the fertility of the soil, and its fitness for agriculture or pastoral pursuits, is the value in an economic point of view of the products of the forest.

Very little white pine grows on this central plateau west of the Groundhog river, or of either red or white pine west of the Missinabie. Between the Missinabie and Groundhog, however, red pine occurs frequently in the southern portion of this plateau; considerable groves of it, and not a few white pine, may be found growing in the neighborhood of "Flying Post," on the Groundhog river. East of that red pine will be found, I believe, in greater or less quantity at intervals, all the way to our eastern boundary, and probably there may be also a smaller proportion of white pine; but no exploration has been made and almost nothing is known of the country between the Mattagami and Abittibi rivers. Banksian pine is found in many parts of this plateau and attains a good size, but it is not as yet in demand for any purpose that I know of, although it must become of use and consequently valuable in the near future.

In all parts of this plateau, spruce, tamarac and cedar grow well, and are found of good size, especially on the river bottoms. In the southern part of the plateau, and in favourable situations fine white spruce are found growing. The other principal forest trees are aspen, poplar, balsam and white or canoe birch; all of which attain a good size. With the exception of spruce, aspen is more plentiful on this plateau, than any other wood.

A market for most of the kinds of timber above numerated will ultimately be found in the United States. But until opened up by railways, this section of the country is completely cut off from that market, or indeed, any other; in the meantime it is of little value. When rendered accessible by rail, however, the forests on this plateau, and on the Height of Land plateau also will ultimately, I am thoroughly persuaded, prove very valuable to the Province; for however inferior the timber may be, both in respect of kind, size or quality, to that grown elsewhere, the time is inevitably approaching when the finer descriptions and better qualities of pine and other woods will be exhausted, and the teeming millions in the south will be eager to obtain such timber as we find in this territory, not inexhaustable but in very large quantity. Nor have I any doubt that if some attention were given to selection, thinning, drainage and the prevention of bush fires, even if the planting more valuable trees were omitted, the quantity of marketable timber, as well as the size and quality, might be greatly increased.

In corroboration of my prediction in reference to the probable future importance and value of the timber in this territory, when pine becomes scarce, I shall give a short extract from Mr. Alex. J. Russell's work "On the Hudson Bay and North-West Territories." Speaking of the sources from which the future inhabitants of the prairies in the North-West may obtain a supply of this indispensable commodity, pp. 88 and 89, Mr. Russell (who was formerly Assistant Commissioner of Crown Lands for this Province, and

thoroughly competent to speak on the subject both of land and timber) states as follows: "In prairie lands, the abundant supply of timber which entirely wooded countries afford, does not exist, and in the absence of pine, poplar and spruce have to be used for building purposes. They are both inferior to pine in value, but in a great part of Lower Canada spruce only is to be had, and much of it is exported as sawn lumber to Europe. *Poplar is undervalued* through prejudice in a great degree. *Of all the deciduous trees it is one of the best suited to take the place of pine* in flooring and finishing houses, and for building the walls of dwellings it is very durable. I have seen a house built of poplar that stood upwards of a hundred years, perfectly sound to the foundation when cut open. It may not accord with present ideas to say so, but before the pine of the Ottawa becomes exhausted, our extensive forests of poplar will be valued for lumbering purposes and brought into use.

"In our interior territories spruce timber, on account of its lightness, its straightness, and its strength, will take the place of pine for engineering purposes; and birch, on account of the fineness of its grain and its strength, will be serviceable for furniture and fine wood-work, especially in the northern regions where oak and maple are not to be found.

"The timber of the interior is of a smaller growth than with us, probably owing to the great dryness of the summer and cold in the winter; it is therefore probably stronger and perhaps more durable. In these respects woods of the same kind differ much with the soil and climate. The oak of the Ottawa averages only half the size of that of the western parts of Upper Canada, but it is superior to it in strength, and the timber which grows in parts of Canada near the sea is more durable than timber of the same kind of the interior. In bridge building I have found it to last nearly twice as long. . . . . Great size gives squared timber an increased value in European markets, but the small dimensions into which our large Ottawa timber is invariably cut, in preparing sawn lumber for home use and exportation, *shows that great size is of no importance generally for home use*, excepting for the greater quantity it gives.

"White spruce is harder to saw and work up than pine, and with us it is less durable when exposed, but it is stronger, and its length and straightness make it very suitable for building timbers."

It is eighteen years since the work from which the foregoing extract is taken was written. The progress of events during that time goes to confirm the opinions so ably stated by Mr. Russell, and so fully concurred in by myself. Pine lands or timber limits which would have been regarded as almost if not entirely worthless thirty or forty years ago owing to remotness from markets, inaccessability, or inferiority of size and quality, are now eagerly sought for, and when offered for sale excite keen competition bringing prices that would have been thought fabulous in those days. Other woods are being used as substitutes for an increasing number of purposes where pine is becoming scarce and consequently high in price. There is a constantly increasing demand for timber, not only for building and old time engineering operations, but for purposes almost unthought of when I was born. The demand for railway ties, telegraph and telephone poles, for paper-making, for block pavements and many other purposes, large as the consumption now is it has sprung up entirely within the last three-score years. In view of an increase in the population of this continent alone reaching probably into hundreds of millions, no intelligent man who studies the question can fail to see that there must surely be a corresponding increase in the consumption of timber for all the purposes to which it is now applied; for if it be superseded by iron or other material for some of these, other uses will undoubtedly be found for it which will far more than compensate for the substitution of other material.

Minerals.

The circumstance that I have in the course of my explorations in this central plateau, discovered few minerals of such kinds and none in such quantity of much, if any, economic value—is no proof whatever that they may not exist. Even if the metallic veins were both numerous and rich, the proportion of bare rock exposed to view is so exceedingly small that it could only be by the most diligent and protracted search, or by

the merest chance, that any of them would be found. In my opinion, however, this rock (mostly gneiss) does not contain many large or well-developed and regular veins. Nor are such veins as do occur, often charged with valuable minerals or metals, or if so, it is in quantities too small to admit of their being profitably worked. We found copper ore in one or two places, and also iron sand (magnetic) but the quantity was inconsiderable. At another point mica was seen of good quality and afforded sheets two or three inches square. But nothing else of any apparent value did we meet with in the tract explored this season.

In the course of my explorations in this territory, I have not met with a single instance where the Silurian and Devonian strata would appear to have been much, if at all dislocated, or even disturbed by volcanic or other agency, either on the Moose or Albany rivers or their tributaries.

So far as my own observations and experience go, the existence of large, regular and well-defined veins is intimately associated with, if not, actually dependent upon such disturbances or dislocations of the inclosing strata, commonly called the country rock. Then the state or condition of this "country rock," even when geologically favourable, would appear to exercise more or less influence on the mineral contents of the veins. I am most hopeful when this rock is more or less decomposed, "or rotten," at least at or near the surface, conveying the impression of age and long continued chemical action, and change of structure if not of composition

There may be, and generally are, marked differences between veins in the same mining field or district, and even those in close proximity to each other. They differ in their general bearing or course, in their size, dip or inclination. The matrix or veinstone, the ores or metallic contents and the accompanying spars and "soils" may not be the same. They may be close, hard, compact and dry, or as miners say "hungry-looking," or so open and porous as to allow of the free circulatlon of water with the mineral contents, spars, gossan and ores in such a loose condition, as frequently to allow no inconsiderable part of the work of mining or excavation to be performed with the pick and shovel alone. The practical miner is guided in his judgements, by the knowledge and experience he has gained in the mining fields or districts with which he is acquainted, and directs his labours accordingly.

Now, although it may be thought by some uncalled for or imprudent, I feel it my duty to state for the information and guidance at all events of the Government, my opinion frankly in reference to this territory, seeking neither unduly to exaggerate and extol the importance and value of it resources on the one hand, nor depreciate them on the other. This opinion is, that to whatever cause or combination of causes it may be owing, there are seemingly few true mineral veins or lodes of large size and running for any considerable distance or length in this territory, and that those small or irregular veins that do occur, are generally hard, compact and dry, and if not entirely destitute of minerals or metallic ores of economic value, contain them in quantities too small to defray the expense of their extraction.

This scarcity of true mineral veins in most parts of the territory (even of veins that are barren), is the more remarkable, in as much as the Laurentian and Huronian rocks are traversed by numerous and exceedingly large trap dykes, which, with the exception of their composition of contents, differ little, if at all from mineral veins, and the existence of which would seem to indicate more or less volcanic disturbance. This disturbance must have occurred, it seems to me, *before* the deposition of the stratified rocks of the Paleozoic Age, for only in one instance (and that somewhat doubtful) have I found a trap dyke which appeared to cut through or intersect these strata.

By far the most promising and desirable portion of this disputed territory, in regard to its mineral resources, in my opinion, is a belt commencing a little above and extending thirty miles or so below the long portages on the Abittibi, Mattagami and Missinabie branches of Moose river.

It is in this belt, at or near the edge or outcrop of the Devonian and Silurian strata, where we chiefly find iron ore, lignite coal, china clay, ochres and sands of more or less economic importance and value.

If the northern boundary of the Province had been determined satisfactorily, I

should have suggested the desirability of ascertaining, by boring or otherwise, the quality and extent of the beds of lignite in this territory; but under the circumstances, however desirable and important, I have felt that it would be useless to do so.

Even where private enterprise might have been enlisted in the work of developing the mineral resources of the country, nothing can be done owing to the impossibility of obtaining such titles as would justify capitalists in the expenditure that would be necessary.

And for the like reason, anything of the nature of exploration by private individuals in this disputed territory would be a mere waste of time and labour and money, and is therefore utterly discouraged.

Indians.

In my last report I stated that the Indians of the Brunswick Lake Band, who now for the most part trade at the Hon. Hudson's Bay Company's post at Missinabie, were exceedingly anxious that a treaty should be made with them. I pointed out that the line of the Canadian Pacific Railway had been located, and runs for a considerable distance through their hunting-grounds; that treaties had been made years ago with every other band of Indians similiarly situated, and that it was only right a treaty should be made with them. That the claims of these Indians and those at Flying Post and Mattawagaminque in the Kinogamissee district, had been overlooked, or entirely and unaccountably neglected by the Indian Department at Ottawa, was also represented. Nothing, however, has been done, so far as I am aware, up to the present time.

In view of the recent sad case in which an unfortunate young man was shot near White River Station, of the C. P. R., in an altercation with Indians about furs, I would beg respectfully to offer the following remarks and suggestions which, if adopted and carried out by and with the proper authority, would, I believe, greatly diminish the number, if not altogether prevent such deplorable occurrences in future.

For generations the Hudson's Bay Company's officers have been in the habit of making advances to the Indian hunters and trappers in their territories during the summer and autumn, on the understanding, of course, that the amount thus advanced is to be repaid out of the proceeds of the following winter's hunt. This is called "their outfit," and the value of the articles thus obtained may be, and frequently is, from one hundred to two hundred dollars, if not more, each family. So general has this custom been, and so long has it prevailed, that the Indians rely with full and implicit confidence upon its maintenance. Should the Company be obliged to change their policy, and without intimation or warning put an end to this "old custom," it would be a very serious thing indeed for the Indians of this territory. It would entail not only a great deal of suffering, but in all probability, a great many deaths.

It is to be hoped, therefore, that wherever and whenever the Hon. Hudson's Bay Company may find it necessary to discontinue this practice of making advances (as they must ultimately) that it may be done as gradually as possible.

The construction of railways and progress of settlement is bringing other fur traders into this northern territory, and unless the trade with the Indians be guarded or regulated in some way or other, not only will the Company be obliged to cease making the usual advances, with the results above pointed out, but other evils will undoubtedly follow. The men who are thus brought into the country and tempted to engage in the fur-trade in opposition to the Hudson's Bay Company, are not unfrequently possessed of little means, and less principle. Sometimes they are neither Canadians nor British subjects; they have no fixed abodes nor places of business; in fact, they are too often neither respectable nor responsible, but men of the viler sort. Such men stick at nothing with their dealings with the Indians. They visit their camps on their hunting grounds by means of snow-shoes in the winter, and way-lay them in canoes when coming to the Company's posts with their furs in the spring. As regards "the goods" which such men take along with them to barter or trade with the Indians for furs, they consist largely of whiskey and trinkets, sometimes whiskey straight, or alone; if other articles of a bulkier or heavier description be employed they are probably adulterated, or of the poorest quality. Men of this stamp should not (if it can be avoided) be allowed to gain foothold in this

territory, or under any pretext to engage in trade with the Indians, for trade so conducted can only result in violence, bloodshed, and the general demoralization of the natives.

Even respectable men (comparitively) who have established little stores on the line of the C. P. R. with the view to trading, chiefly with the employees of the Company, cannot resist the temptation to engage in the fur-trade, and in prosecution of it, to exceed that which is lawful and right.

Not contented with simply buying those furs which the Indians bring to them, they must become "peddlers," and on snow-shoes or with dog-trains visit the Indians on their hunting grounds during the winter. The camps of the Indians thus visited may be several days' journey from these men's places of business. After the toil of such a journey they are unwilling, we may be sure, to return empty-handed. They may know that these Indians have received their outfit from the Hudson's Bay Company, and that the Company have, morally speaking, a "lien" on the furs they have caught; but that consideration is as the small dust in balance as against avarice, and if they can persuade them to be so dishonest they will buy every single skin they have got. Or it sometimes happens the trader himself may have made some little advance to the Indian, and demands furs in payment thereof. If content with what the Indian thinks right to give him it is well, but if he insists upon having more, or in taking furs which the family are reserving for the Hudson's Bay Company, there is likely to be trouble in the camp, and somebody hurt, if not killed. It is no uncommon thing for such traders, or their employees and assistants, to bully and intimidate the Indians into parting with their furs, or even take them by force if they are in a position to do so, and that more especially if the Indian is the least in his debt. Blows once struck the Indians are afraid that they are not only going to be robbed, but murdered, and make use of such weapons to defend themselves and their property as may be at hand. It was in a quarrel (thus brought about as I have been told) that the young man alluded to lost his life near White river.

Now, what I would recommend is this: that all parties desiring to trade with the Indians in unorganized territory, should be obliged to procure from the proper authority "a license" permitting him so to do. No license should be issued to men of bad or doubtful character. The license should be subject to certain conditions, a breach of which should entail penalties or a revocation of the license, or both. Those trading with Indians in such unorganized territory as our Northern Territory, should be amenable, on conviction, to forfeiture of furs and other goods found in their possession, or other severe penalties.

Another suggestion I desire to make is in regard to the fur-bearing animals, namely: Until treaties are made with the several bands of Indians under which they surrender wholly or partially their rights, no hunters, whether white men or Indians of other bands, should be permitted to trap or otherwise take the fur-bearing animals on the hunting grounds of these non-treaty Indians, or if convicted of doing so without the consent of the band, should be liable to penalties at least as severe as those imposed upon "poachers" in the Mother Country. Indeed, they should be much more severely dealt with in some cases. Many of the Indians have little lakes or ponds on their hunting grounds, wherein one or more pair of beaver build their lodges and rear their young. Some of these Indians are prudent enough to refrain from killing all these animals during the winter, knowing the vital importance of leaving a sufficient number to breed. Frequently they do not take or kill any of them until the month of March, when the fur is at its best, and the food, which the creature's flesh supplies, is most needed. When white men, trespassing on the hunting grounds of such Indians, find these "beaver preserves" (for they are virtually such) they trap or otherwise catch all they can; they break into the lodges, they tear down the dams, and let off the water, and do not (if they can help it) leave as much as a single beaver, male or female, young or old. In so doing (and I have heard of such cases on good authority) these trappers from the outside commit an offence (morally at least) much more heinous than that of "poaching"; they rob the wretched owner of the furs and the food sometimes indispensably necessary for the support of his family. And in addition to that they ruin his prospects of obtaining any more at that place or spot for years to come, if not for ever. The Indians should be protected as far as possible against such wrongs—wrongs which partake more of the nature of sheep-stealing than of poaching.

I look upon the beaver as being of so much importance to the Indians of the North-West that I think, even when their claims to almost everything else have been surrendered, that the ownership of at least some of the little lakes and ponds on their hunting grounds, in which beaver are in the habit of breeding, should be reserved to them, and they should be encouraged to take care of and breed these interesting and valuable animals, if not to domesticate them. See Report for 1884-5, page 27, *et seq.*, for my views on this subject.

Administration of Justice.

No crimes or serious offences have been committed or, if committed, reported to me during the past year. It is only of such offences which, under the circumstances, I should consider it prudent or even in the interest of the inhabitants of the District, to take cognizance. Necessary as it undoubtedly is to punish wrong-doers and criminals, it is quite as important and much more sensible to prevent, as far as possible, wrong-doing and crime by wise and timely precautions.

Holding these views, I have regarded it as one of my chief duties to make myself acquainted with the exceptional social condition and the peculiar wants of the people of this territory, in order that I might be in a better position to advise the Government and to offer more or less valuable suggestions, having chiefly for their object the prevention of crime and the welfare of the people at large.

Respectfully submitted,

E. B. BORRON,
Stipendiary Magistrate.