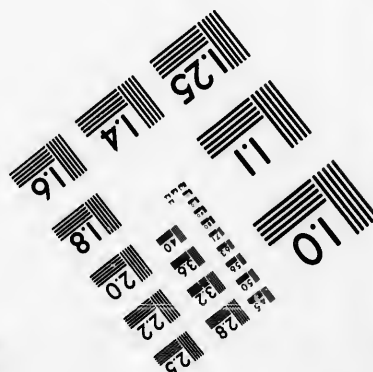
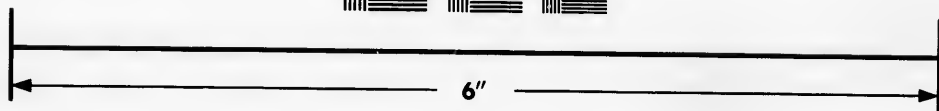
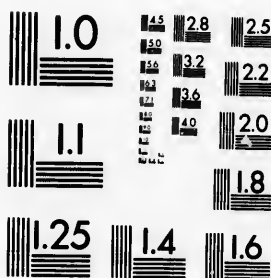


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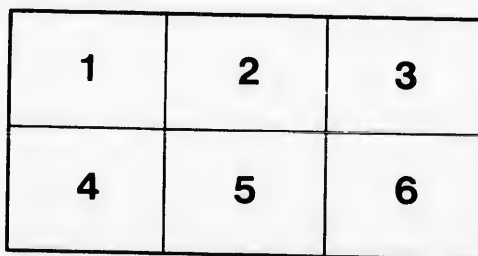
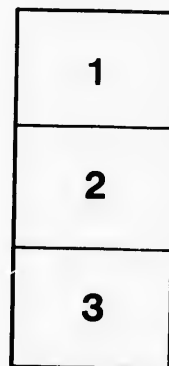
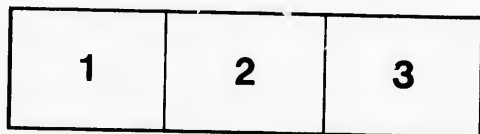
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2065

L. N. G. Smith

MONTREAL NORTHERN



COLONIZATION RAILWAY.

REPORT ON EXTENSION

APRIL
NO. 2965
MONTREAL

FROM

AYLMER WESTWARD.

CHS. LEGGE, Esquire,

CHIEF ENGINEER, M. N. C. R.

MONTREAL:

"GAZETTE" PRINTING HOUSE, NEARLY OPPOSITE THE POST OFFICE.

1873.

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MONTREAL NORTHERN

COLONIZATION RAILWAY.

MONTREAL, 3rd April, 1873.

Sir,—In accordance with instructions from the Vice-President, I have made a general exploration of the country on the north side of the Ottawa River from Aylmer to Deep River, with the view of ascertaining if a practicable route can be had for an extension of the Montreal Northern Colonization Railway over the intervening distance.

As you are aware the village of Aylmer, by an amended Act of the Provincial Legislature of Quebec, passed in the year 1871, was constituted the Western Terminus of the Montreal Northern Colonization Railway, with an average land grant from Montreal to that place of ten thousand acres per mile. Under this arrangement of terminal point the road at Aylmer would be in connection with the Upper Ottawa navigation, and at Hull and Ottawa City a junction could be effected with the Canada Central Railway, leading in the direction of Pembroke, a point of considerable importance in the Ottawa Valley, but in the Province of Ontario, on the south side of the river. Supplementing the Government Land subsidy, municipal aid to the extent of \$1,500,000 had been given to assist in constructing the line between Montreal and Aylmer, a total distance of about 128 miles.

Such in brief were the position and policy of your company, up to a recent period, when the inception and inauguration of the Pacific Railway line with its eastern terminus at Lake Nipissing directed the attention of the Quebec Government and of your company to the possibility of an extension of the Montreal Northern Colonization Railway along the North side of the Ottawa, to the greatest practicable distance in the Province of Quebec, crossing the river at a suitable point, and thence through the Province of Ontario to a junction with the great work. With this extension and union accomplished, your road would form the eastern link in the inter-oceanic route, touching marine navigation at Montreal, and *via* the North Shore route from that city reaching the same at Quebec.

Moved by the patriotic desire of securing the location of the railway to the greatest possible distance through the Province of Quebec, in order to open up and colonize, as well as develop its vast timber, mineral, and other natural wealth, the Legislature passed an Act at its last session, voting a land grant of ten thousand acres per mile for an extension of the Montreal Northern Colonization Railway from Aylmer to Deep River, or to such distance from Aylmer as the road might extend within the Province of Quebec.

Deep River referred to, is a long and navigable stretch or reach of the main Ottawa itself, and following the course of the stream is about 110 miles above Ottawa city, or say 230 miles north-west from Montreal.

Until the recent exploration it was considered doubtful if a line could be carried along the north side beyond Portage-du-Fort, a point following the river, about 57 miles above Ottawa, or 53 miles from Deep River. It was stated by many that the natural obstacles to be overcome from the Portage up, if the Quebec route were followed, would prove insurmountable, and that consequently from that point westerly the line would require to pass through the Province of Ontario to reach the Pacific terminus at Lake Nipissing.

Having no definite information on that point, and anticipating its probable truth, application was made to the County of Pontiac, through which the road would pass, for municipal aid to the extent of \$150,000, or, assuming the distance from Aylmer to Portage-du-Fort to be 50 miles, by the line to be followed, the sum of \$3,000 per mile, the Company agreeing to push on the road by the north shore of the Ottawa above Portage du Fort as far as it can be found practicable both in an engineering and financial point of view. With this understanding, a By-Law granting \$150,000 was passed by the Council, and will be ratified by the rate-payers on the 9th and 10th of the present month. The explorations since that time having established the feasibility of a good route to Deep River, and from the informa-

tion gained as to the public feeling generally, there is no doubt but the By-Law will be almost unanimously sustained by the popular vote.

Anticipating this favorable result, the selection of the route through the county which, while keeping the interests of the Company in view, will likewise contribute in so far as possible to the greatest good of the largest number of inhabitants, becomes a question of considerable importance. This selection, however, must finally be the result of careful instrumental examinations. In the meantime two distinct lines may be indicated and their relative merits glanced at. *No. 1, or Front Route*, may be described as leaving Aylmer and proceeding in the direction of Quito, keeping on the lower plateau or level. From Quito, the general course will be in the direction of Clarendon Centre, an important business locality, and thence to Bryson, the county town, striking the Ottawa at the latter place, and skirting its margin to either the outlet of Deep River, or to a point about five miles to the east, or within one mile of Fort William; both places being advocated as suitable sites for bridging the Ottawa and carrying the road into Ontario. The first is comparatively narrow, but with a great depth of water. The second has a considerably greater distance between the extreme banks, but a large section of the space is occupied with islands, the water being also shallow with a rocky bottom, and therefore admirably adapted for the foundation of the bridge piers. This line passes over comparatively a level country, with little bridging or clearing to do. The curvature and earth work will also be light, and a small amount of rock work encountered. But few gullies, and those of small extent, occur.

While following the margin of the river for a considerable distance, at other places the line will be at least six miles from it, owing to the crooked course of the stream; the proposed location will therefore, to a certain extent, combine the qualities of a front and rear route. The policy of touching the Ottawa with the railway as frequently as circumstances will permit, in the interest of the company, may be supported by the following considerations. For many years to come an immense trade in sawn lumber will exist, the saw-logs being obtained largely from the headwaters of the Ottawa and its tributaries and floated down to convenient points or bays along the river, where rail connection can be had. Steam saw mills will

be erected at these favorable sites and cut the logs into lumber for the Canadian, American and other foreign markets, and then be transported by rail to the respective destinations. A considerable traffic will also be drawn from the South or Ontario shore; all of which, together with the lumber trade would probably be lost, were the Railway located eight or ten miles inland from the river, with a rough country intervening. At many points on the Ottawa river there exists immense water power, which in course of time will be utilized, and large manufacturing towns spring up. A front location of the Montreal Colonization Railway will anticipate the extensive traffic to be derived from those important points. The distance from Aylmer to the outlet of Deep River by this line, will be about one hundred miles.

No. 2 or rear line will strike through the county from three to four miles to the north of Quito, Clarendon Centre and Bryson. It may either continue on an inland course to Deep River or strike the Ottawa some miles to the East and follow Line No. 1 to either point of crossing before referred to. From all I can learn with reference to this route the cost of construction per mile will not differ materially from that of Line No. 1. On the map it measures 96½ miles, or 3½ miles less than the competing front route, but from its inland position, no doubt has to surmount a higher summit level between the two common objective points, Aylmer and Deep River. If this be so, the equality of the grades may produce a greater equality in lengths of the two routes than is indicated by the measured distance on the maps, or even on the ground. Assuming, on the other hand, that it may be 3½ miles shorter, and of similarity in construction and equality in gradients, the difference in distance will effect a saving in first cost to the company of at least \$70,000, and a large annual sum in transport of through freight. Whether such results will follow, or in the event of doing so, if they will counterbalance the advantages previously indicated for line No 1, can only be determined after a thorough and exhaustive instrumental survey has been made, and all the rival merits carefully weighed and compared. In the mean time for our present purpose, it may be well to assume No 1, and endeavour to form some opinion with reference to its cost and financial position. Judging from the character of the country passed over, and its similarity in general features to the first division from

Montreal to Aylmer, an approximate estimate of the cost of construction, including rolling-stock, station buildings, &c., may be placed at \$30,000 per mile.

Taking now the entire length of line from Aylmer to outlet of Deep River, so as to command the maximum of land grant, we have,

100 miles by \$30,000 per mile equal \$3,000,000

From this must be deducted the land grant, which at the lowest valuation should command \$2 00 per acre, a rate recently obtained by the Government for timber limits at public auction.

100 miles by 10,000 acres per mile, equal 1,000,000 acres at \$2 per acre..... \$2,000,000

Pontiac Municipal vote..... 150,000

\$2,150,000

Leaving balance to be provided by issue of bonds of..... \$350,000

This amount at 7 per cent, will require an annual outlay to meet interest of, say \$60,000.

In sparsely settled new sections of the country it is considered a safe rule to assume that every individual of the population within a belt of fifteen miles on each side of the railway will contribute directly and indirectly the sum of \$7 to the traffic.

From the census returns of 1870 and 1871, the population of the County of Pontiac is placed at 15,810. To this should be added the Township of Eardly in the County of Ottawa, through which the road passes, numbering 1,120; and we have a total population on the north side of the Ottawa, depending on the road of 16,930, or say 17,000 souls.

Applying the usual rule of \$7 per head, the gross receipts from ordinary traffic will give..... \$119,000

This will be the Postal route for the country above Ottawa City, and should, with express receipts yield \$100 a mile per annum, or..... 10,000

A region so rich in scenery, and as yet but little known, will during the summer months command a large

tourist travel, while at other seasons of the year large numbers of lumbermen will pass over the road, to and from the shanties in the interior, and together with the proportion of supplies which they will require and to be transported over this line, we may confidently anticipate that the through traffic from these various sources will amount to the usual proportion of $\frac{1}{4}$ of the general traffic, or say.

30,000

\$159,000

In round numbers a total local gross revenue of.... \$160,000

The low grades on this line, will render the working expenses comparatively light. We may therefore assume that 60 per cent of the gross earnings, or \$96,000, will cover the cost, and deducted from the total receipts \$160,000, there will be a balance to meet interest on bonds of \$64,000.

It has been shown, however, that the interest account will amount to only \$60,000, thus obtaining an annual surplus of earnings of \$4,000, with ordinary legitimate local traffic alone considered, and without including the revenue which will be derived from transport of sawed lumber and minerals.

With reference to the first of these items, it would be difficult to establish a limit to the amount of business which will be brought into existence by the facilities for cheap and rapid transport to market, where none now exists. As an illustration, reference is made to the Brockville and Ottawa road, running from the Brockville St. Lawrence to Sand Point, a locality on the Ottawa River opposite our proposed railway. This line with a short branch to Perth, about 84 miles in all, and just touching the great lumber district as it were, during the year 1872 received for freight on account of this item alone, the considerable sum of \$83,521. Now, with the extension of the Montreal Northern Colonization Railway to a distance of 100 miles, parallel with or touching the Ottawa at many points, and entirely through the lumber country, with a through route to Montreal of at least 40 miles shorter than via the Brockville and Ottawa line, it is surely not assuming too much to claim a far higher revenue from the transport of sawed lumber than the amount mentioned, or a sum exceeding the

total estimated local traffic (\$160,000) derived from other sources.

No water competitor for this transport need be anticipated for many years. The Ottawa River is only navigable in reaches, with intervening *portages*, around which sawed lumber cannot be profitably carried. The artificial slides which convey the square timber or saw logs around these obstructions in the navigation, are not adapted for the passage of lumber which must therefore continue to be carried by rail. With the road in operation not only will manufactured pine be conveyed to market but all the various descriptions of hardwood also. Important items of return freight, from the agricultural counties of Quebec, for the Upper Ottawa, will be hay and coarse grain for the extensive lumber establishments of that district; thus opening up a profitable market for the agricultural products of such great producing counties as Argenteuil, Two-Mountains and Terrebonne, and at the same time materially reducing the cost of those articles to the consumers in the interior.

The recent discoveries of most extensive and valuable iron mines on the line of the proposed extension of the Montreal Northern Colonization Railway, will conduce most essentially to the prosperity and wealth of the country, and success of the road. These mines are now being opened up with the most promising results, several of them furnishing or yielding over sixty per cent of iron. Large deposits of super-phosphate of lime, excellent marbles, plumbago, and valuable minerals of several descriptions, have also been found, proving this region to be one of great richness, in addition to its timber wealth.

For the transport of these ores to market, or for the conveyance of coal to the mining localities for smelting purposes, the Montreal Northern Colonization Railway extension is an *imperative necessity*; without it, those mines of wealth must remain undeveloped, the prosperity of the country generally, and that of the Ottawa Valley in particular will suffer accordingly.

It is thought that sufficient evidence has been advanced to establish the financial success of the enterprise, even when resting on local merits, without reference to its important function as a link in the Inter-oceanic chain from the Atlantic to the Pacific. Whatever fair amalgamation or running arrangements may be made between the Canadian Pacific, and Montreal Northern Colonization Roads, cannot but conduce to the benefit of

the latter by the vast through traffic which will flow over the rails and give a *pro-rata* profit to the company.

In so far we have considered the Montreal Northern Colonization Railway as terminating financially at Deep River. A petition is now before the Dominion Legislature for an extension of the charter to Lake Nipissing, and to some point touching the waters of Lake Huron, or the Sault Ste. Marie. Assuming for the present that the western terminal point will be in the neighbourhood of Lake Nipissing to establish the proposed junction with the Pacific Line, it becomes a matter of some importance for your company to determine the route from the foot of Deep River to that place, and the financial basis to be established for the construction of the road.

In the event of the Pacific Railway passing to the north of Lake Nipissing, the location of that work would be favourable for the extension of the Montreal Northern Colonization Railway through the Province of Quebec, at least so far as the River Matawan, a tributary of the Ottawa, about seventy-five miles above the foot of Deep River. From the River Matawan, a distance of thirty-five miles will reach a point of junction with the Pacific Railway, making a total distance from Ottawa city of two hundred and ten miles, or three hundred and thirty miles from Montreal.

The enlightened policy of the Quebec Legislature in the assistance rendered the Montreal Northern Colonization Railway in its onward progress to the foot of Deep River, will no doubt still support your company in its efforts to reach that "Ultima Thule," a Pacific connection, in so far as a Quebec route can be followed. Passing from the foot of Deep River to the Matawan, for a distance of seventy-five or eighty miles towards our destination, through a comparatively uninhabited country, and consequently without any probability of municipal aid, there is little doubt but the generosity and patriotism of the Provincial Legislature would increase the land grant to, at least twenty thousand acres per mile, or say a total of 1,600,000 acres in aid of this last Quebec section of the road. From the Matawan to Lake Nipissing a similar grant would be required either from the Dominion or Ontario Government, for the thirty-five miles to reach the junction, or 700,000 acres, making a total land grant of 2,300,000 acres as a bond basis to enable the last link in the Montreal Northern Colonization Railway, of 110 miles, to be built. The construction of this entire

line from Lake Nipissing to Montreal, while giving a greatly enhanced value to the land already, and to be granted by the respective Governments, in the region traversed by the proposed road, will also correspondingly benefit the balance of the public *domaine* in opening it up for settlement to such an extent or degree as no other means could accomplish.

Being assured of the cordial co-operation of the Quebec Government if a North Shore route is attainable, it remains to determine the possibility of meeting the above requirement.

It is popularly believed that a line from the foot to the head of Deep River, a distance of about twenty-five miles, is quite impracticable, on account of the high banks and mountainous character of the country on the North or Quebec side of the river. Nearly all the persons with whom I conversed during the recent visit united in stating that if this section can be overcome, a fine route could be had from the head of Deep River to the Matawan, a distance of some fifty miles, and thence through to Lake Nipissing.

From all the information gained, there is no doubt the North Shore of the Deep River presents from the water, a formidable appearance to the unprofessional eye, and apparently condemns *in toto* the construction of a railway on that side. You will allow me to observe, however, that our experience of the past in connection with alleged natural difficulties on other sections of the Montreal Northern Colonization Railway, has rendered me a little sceptical with reference even to those said to exist at Deep River. It will be in the memory of the company that during the early history of our railway, it was quite as confidently predicted, and by those who were supposed to be thoroughly acquainted with the country, that no route could be had from Grenville to Ottawa, on the Quebec side of the river. A hurried exploration was alone sufficient to demonstrate the absurdity of the prediction. The scene of difficulties was then shifted westward; no line could be had above Aylmer; soon it was found equally false, and Portage du Fort some fifty miles further up the Ottawa became the fatal point in our western progress through the Province of Quebec. The recent investigations have, however, removed the obstacle an additional distance of fifty miles beyond the Portage, and the foot of Deep River is now the "jumping off place" for the amateur railway engineers. No doubt those

prophetical gentlemen were quite sincere in uttering their convictions, but the satisfaction of the company and public generally, must be equally so, in having those predictions falsified, at least as far as Deep River, to which point, for a distance of two hundred and twenty miles, an engineer could scarcely demand a more favorable country for the construction of a railway.

No doubt from the foot to the head of Deep River greater difficulties will be encountered, but from my knowledge of the Laurentian formation, and that no continuous ridges of any extent are met, but consisting, so to speak, rather of a jumble of hills with intervening valleys, I have no doubt by keeping back some distance from the shore that a route will be discovered in following the valleys referred to until the head of the river is reached, after which as stated all is plain sailing.

At any rate, while the surveys are being made next summer, from Aylmer to the foot of Deep River, and before it is finally concluded to cross into Ontario at that point, a most thorough exploration and instrumental examination should be made of the country for several miles back of the north shore, from the foot to the head of Deep River. On the success, or otherwise, of this investigation, depends a land grant from the Province of Quebec of at least 1,600,000 acres, representing, say \$3,200,000, to assist in forming the Pacific connection.

If the Quebec route is obtained, this sum will establish a bond basis for the balance of the money required. If on the other hand we fall in getting above the foot of Deep River, on the north or Quebec side, it is doubtful if the Province of Ontario would be willing to contribute so liberally as the sister Province, and a larger amount would be required to be raised from other sources.

You will observe that no special reference has been made to Portage-du-Fort crossing, or to that at "La-Passe," over the Ottawa River, into Ontario, as advocated by many. To cross at either of these points would be of course to lose the Quebec Land Grant from that point westerly, without perhaps receiving any corresponding inducement or equivalent for the loss.

Before concluding it may be well to make a few additional remarks with reference to Pontiac, the most westerly county of the Province of Quebec, through which the proposed extension mostly runs.

With the exception of the population, 15,810, the census returns of products, &c.,

for the year 1870, have not yet been published.

From the census of 1860, the following information is obtained:—

Cash Value of Farms.....	\$1,191,400
Cash Value of Farming Imple- ments	\$71,654
Wheat and other Gra'n, minots...	493,523
Root Crops, minots.....	340,422
Hay, tons.....	10,711
Value of Live Stock.....	\$389,676
Butter and Cheese, lbs.....	266,809
Beef and Pork, brls.....	5,390

No doubt a considerable increase to the above quantities has taken place within the last twelve years.

For some time past, however, the lumbering industry has been pre-eminent in this county, and I am informed on very good authority that the annual product of Pontiac, in this item alone, is about \$4,000,000. As an agricultural county, I am told, the valleys and alluvial flats are rich in marly clays,

and that wheat grown here actually carried off the second prize at the Paris Exhibition of 1867.

I have now given you the general results of investigations and information collected during the recent hurried visit to Pontiac and Deep River, which, perhaps, may answer the purposes of the company for the present.

To an engineer it is always more satisfactory to base his conclusions and reports on the more accurate data, resulting from instrumental examinations of the country to be traversed, and which I trust to be able to give you during the ensuing summer, in general confirmation of what has now been written.

I have the honour to be, sir,

Your obedient servant,

CHARLES LEGGE,

Chief Engineer M. N. C. R.

E. LEF. DE BELLEFVILLE, Esq.,

Secretary M. N. C. R., Montreal.

