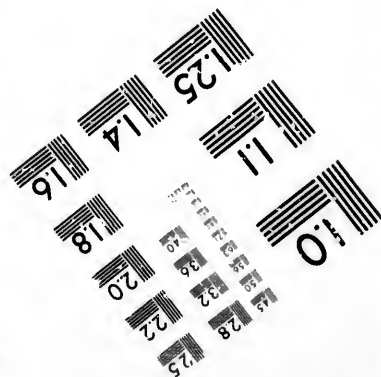
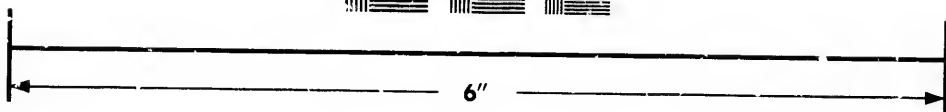
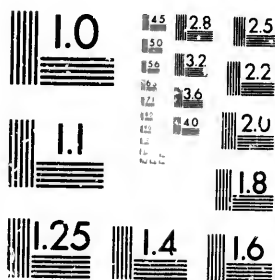


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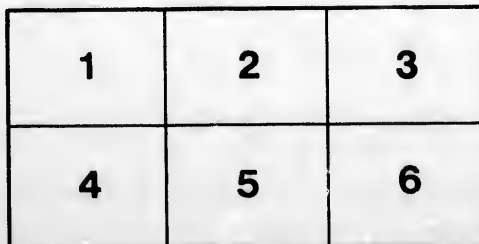
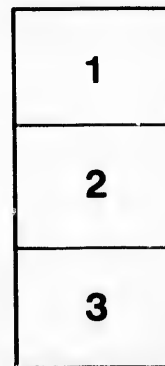
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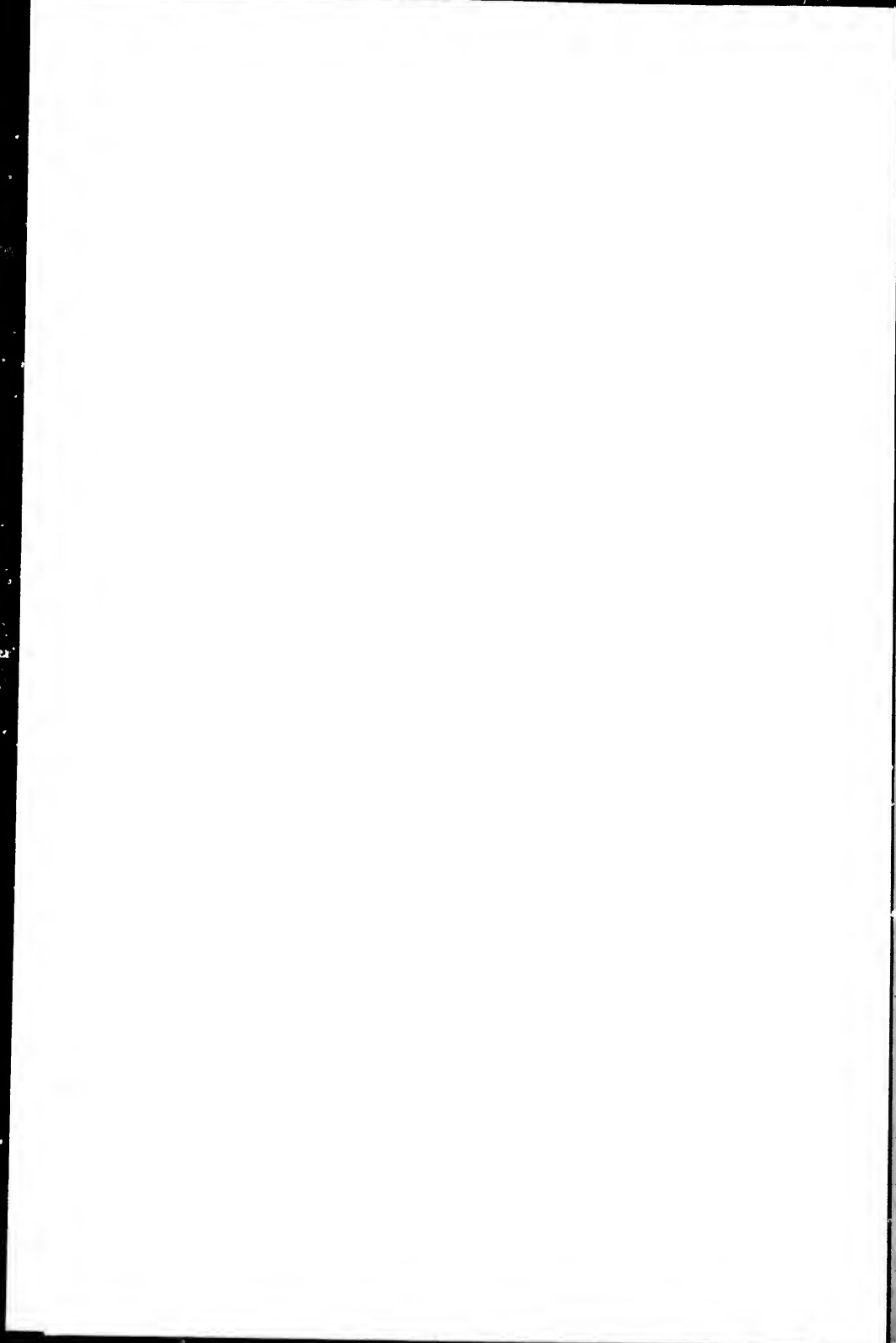
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THE QUESTION  
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CASCADES  
AND  
COTEAU LANDING CANAL  
EXAMINED.

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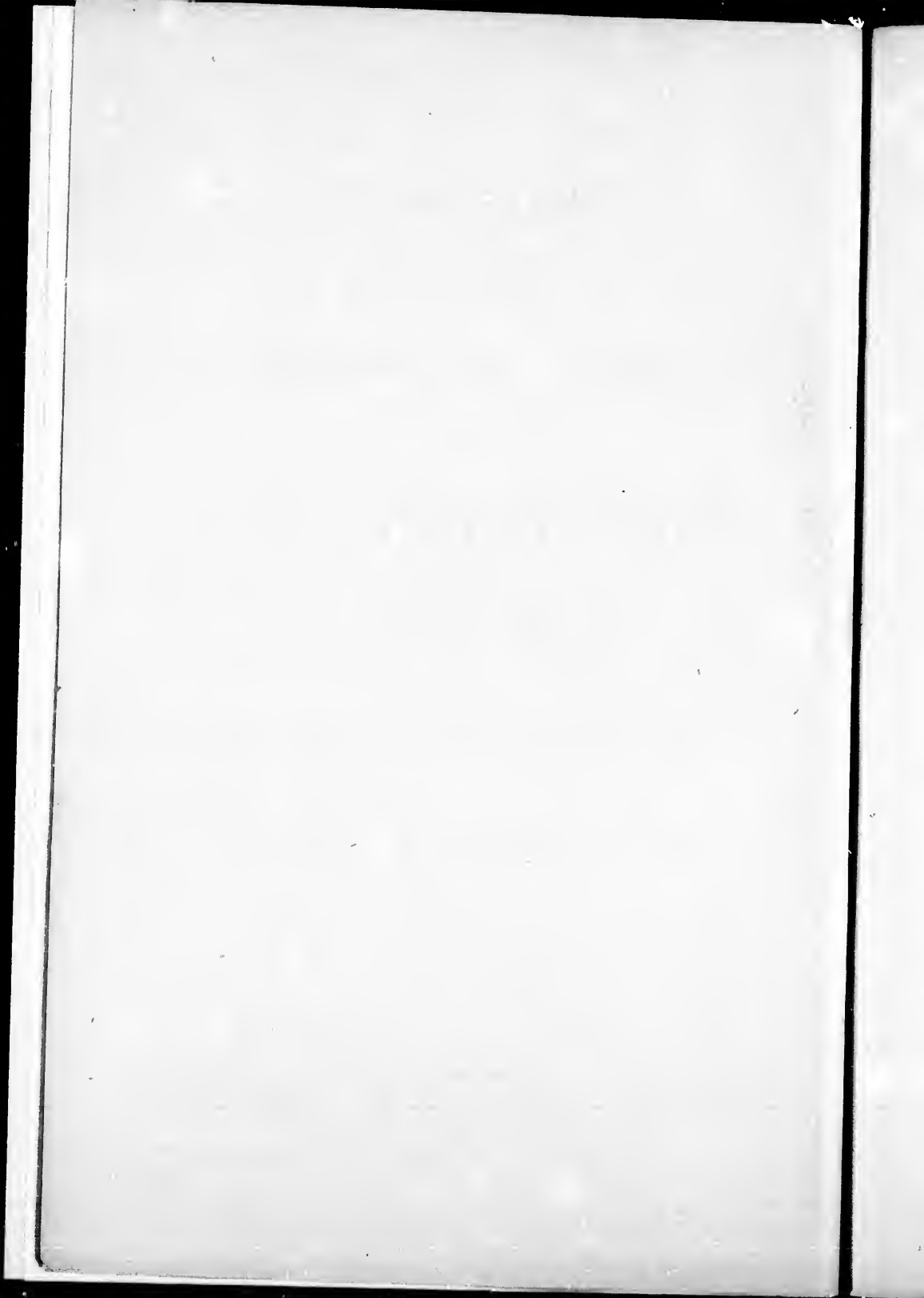
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1874.





## THE QUESTION OF THE CASCADES AND COTEAU LANDING CANAL EXAMINED.

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The interest manifested on the subject of our inland navigation induces me to offer some observations referring to one section of our system of canals.

No better opportunity than the present could offer itself to draw the attention of our Legislature and of the commercial community to the necessity of making a strong effort to put the navigation of the St. Lawrence in the most perfect state of efficiency.

It has, in fact, become a question of political and commercial necessity, that we should lose no time in taking the necessary measures to improve our system of canals on the St. Lawrence, if we wish not only to compete with our neighbours in obtaining that large share of the Western produce trade that it is so desirable that we should obtain, but even if we desire to retain the advantages which we have already secured in that direction.

It will be admitted that, if we wish to construct on the St. Lawrence a good system of canals, it must be perfect and efficient in all its parts, each section made and located so as to correspond with each other in thorough efficiency, and fully equal to the depth of water that can be obtained from Prescott to Montreal. If one part or section of our system of navigation is deficient and not equal to the other sections, it will not only retard the development of our freight trade; hinder or destroy the success of commercial speculations, but it will also diminish the efficiency of the whole system; limit its usefulness, and induce shippers to seek elsewhere the facilities of communications which we could not offer them.

Amongst the many difficulties to the unobstructed navigation of the River St. Lawrence, between Montreal and Prescott, the Rapids of Coteau, Cedars and Cascades present one of its most formidable obstacles; and, as it is to that section of our navigation that I desire to draw the attention of the Federal Legislature, I will briefly refer to the attempts

that have been already made to avoid those difficulties, before submitting a project, the execution of which would, in the well-expressed opinion of the commercial community, afford the best and the only means to overcome the difficulties caused by those Rapids to the navigation of the St. Lawrence.

FORMER ATTEMPTS TO IMPROVE THAT SECTION OF THE RIVER.

The early settlers of the country had understood that the shortest route to reach Lake St. Francis from Lachine, was by Cascades Bay and the north shore of the St. Lawrence. They had constructed small canals at the end of the Cascades point, and at some other places, from that point, to the site of the old Coteau fort. (See General Report of P. W. for 1867.)

After the conquest, the British Government had also considered that the shortest and best route to connect Lake St. Louis, below Cascades, with Lake St. Francis, above the Coteau Rapids, was obtained on the north side of the river, and had, in consequence, constructed a small canal across the point of Cascades, another at the Bisson Rapid, and one at the Coteau fort. The Legislature of Lower Canada, following the same course, had, at subsequent periods, caused surveys to be made on the north side of the St. Lawrence, for the construction of a better system of canals, from Cascades to Coteau Landing, and, in 1833, expended a sum of \$40,000 to facilitate the navigation by the means of short cuts, on the north shore, through some of the most difficult points of the rapids.

In 1834, Mr. Mills made an exploration from Cascades to Coteau Landing, and recommended the construction of a series of three small canals, on the north side, to avoid the three Rapids of Coteau, Cedars and Cascades. He also visited the south side, and expressed his opinion, that a more direct communication between the two lakes would be obtained by the north than by the south route. (See General Report of P. W. for 1867, fol. 13, and following.)

Other engineers, and namely, Colonel Philpotts, surveyed different lines of canals on the north side of the river, and recommended their construction. The Seigniors of Beauharnois have caused surveys to be made on the south shore of the St. Lawrence; but they were made on their own responsibility, and without any official authority. Mr. Stevenson,

in 1833, and Mr. Baird, in 1835, were employed by the Agent of the Seigniory of Beauharnois, to make explorations on the south shore. As their reports were *ex parte* made, they could not be considered as very impartially stating the merits of the location. They contained romantic descriptions of the site; of the advantages of that location, which they declared to be unsurpassed. (See General Report of P. W. for 1867, fol. 14; also Mr. Killaly's Report of 1st Aug., 1842.)

In 1834, Mr. Stevenson's project was submitted to the Government and Legislature of Lower Canada, but it was not accepted nor entertained.

In 1835, two plans for the construction of a canal on the south side, which had been prepared by Messrs. Stevenson & Baird, by order of the Seigniors of Beauharnois, were submitted to the Legislature of Lower Canada. (See Report of P. W. for 1867, fol. 14.) But the Government and Legislature, being well informed, by the report of the hydrographic survey of that part of the St. Lawrence, by Messrs. Thompson and Larue, as to the defects of that route, and as to the exaggerated statements of Messrs. Stevenson and Baird, refused to entertain their project, and it was rejected.

In 1839 Colonel Philpott recommended the construction of a canal on the north shore of the St. Lawrence. Nothing further was done to improve the navigation of that part of the St. Lawrence up to the time of the union of the two Provinces of Upper and Lower Canada.

#### THE BEAUHARNOIS JOB.

It must be borne in mind that at that period of our political history, the Seigniors of Beauharnois exercised a very large influence in the Colonial Office, and in the Government of Canada. They had justly considered that the construction of a canal through their Seigniory would be highly beneficial to them; that it would enhance the value of their property; and that the time had arrived to secure, by their influence in the Colonial Office and with the Canadian Government, the execution, through their estate, of the important scheme which the Lower Canada Legislature had rejected in 1835.

The 20th August, 1841, Lord Sydenham, then Governor General of Canada, in a message to the Legislature, recom-

mended that measures should be adopted to improve the navigation of the St. Lawrence by constructing a series of canals, and recommended that a loan should be negotiated to defray the expenses of their construction. That part of his message, which has reference to the canal between Lakes St. Louis and St. Francis, contained statements from which the only inferences that could be drawn were, that there were capitalists in England who were interested in this work, and especially in seeing the communication between Lake St. Louis and Lake St. Francis established on the southern side of the River St. Lawrence, and that there was reason to expect that assistance would be afforded upon that condition, and that money would be obtained, on that condition, at a cheaper rate of interest. (See Journal of the House, also *British Colonist* of 25th August, 1841.)

The Legislature voted the sum of \$1,023,600, (see General Report of P. W., fol. 15,) to construct a canal to avoid the Rapids obstructing the navigation between the two lakes, but without stating on which side it should be constructed, adopting, however, the estimates of Mr. Mills for the construction of three canals on the north shore, and the unfortunate job of the Beauharnois Canal has sprung from the misuse and misapplication of that vote of money.

The intrigues which had been prepared before hand. to obtain the construction of the canal on the south side, were then used, through the agency of Mr. Wakefield, to secure its success.

Mr. Keefer's Report of 17th February, 1842, gave, to the Government of the day, a colourable pretense to meet the views of the Seigniors of Beauharnois. The old line of Mr. Stevenson was re-examined by Mr. Keefer, approved and recommended by Mr. Killaly; and before the Legislature could meet and interfere in those proceedings, men were hastily brought to the ground as early as June, 1842, before any part of the work was put under contract. The work was pushed with the greatest haste. Money was borrowed from the City Bank, at Montreal, to pay the labourers. The 1st August, 1842, Mr. Killaly boasted in his Report, that there were 700 men at work. It is plainly seen that every means were taken to increase and accumulate the expenses, in order to deter the Legislature from interfering, at a future period, against the prosecution of the work.

The promoters of the Beauharnois Canal knew quite well that the whole affair would be brought before the representatives of the people at the next meeting of the House.

COMMITTEE OF ENQUIRY APPOINTED.

The late John Simpson, then member for the County of Vaudreuil, had addressed to the Governor-General, a strong protest against the proceedings of Mr. Killaly, denouncing the whole scheme and its results. A petition to the same effect was also presented to the Legislature. A Committee was appointed to make an enquiry into the case. The whole job was laid bare before the Committee. (See General Report of P. W. for 1867, also App. of Journal for 1842.)

The statements contained in the Reports of Messrs. Stevenson and Baird, and fully endorsed and accepted by Messrs. Killaly and Keefer, were disproved, not only with regard to the merits of the line on the south side; the quality of the soil that was to be excavated; the cost of construction; but, above all, with reference to the western extremity or channel of communication, from the canal proper to the navigable channel on Lake St. Francis. The defects of that route, its physical difficulties, the absence of any channel of communication to the lake from the western extremity of the canal, were clearly shown to the Committee by competent engineers, by members of the Legislature, by pilots and by other persons. The theory advocated by Mr. Killaly, and his statement of facts upon which it was founded, were clearly proved to be erroneous.

The committee merely reported the evidence to the House, alleging that a prorogation was on the point of taking place. It became known, afterwards, that two members of the committee had accepted offices under the Crown.

But apart from the evidence adduced before that committee, have we not an experience of thirty years, acquired at an immense cost, to disprove every one of the statements contained in the reports of the promoters of the Beauharnois Canal?

How can we explain the silence of that committee, composed chiefly of gentlemen who were the strong supporters of the Government of the day, and the personal friends of Mr. Killaly, in a case where his professional skill

and political position were on trial? Can we infer from their silence, that, if the Government used official influence to prevent them from making an unfavorable report against the projected canal on the south, the members of that committee, in presence of the evidence and strong facts brought before them, and condemnatory of the project, felt convinced that by making a favorable report, they would certainly be exposed to severe public censure.

The House having been prorogued, the promoters of the Beauharnois job were relieved from further interference. The work was continued; the contracts for the work were accepted during the fall of 1842. This canal was reported to be finished in the fall of 1845. (See Gen. Rep. of P. W., fol. 15).

#### THE ERROR SOON FOUND OUT.

The Executive and Legislature were thus drawn into one of those grave errors which remain as a lasting reproach against the foresight and prudence of a Government. But both Executive and Legislature soon found that a great error had been made. The yearly reports of the Board of Works, of the engineers in charge of the works on the canal, contained statements of unforeseen obstacles, requiring a larger outlay of money than was anticipated, to provide for new expedients to overcome difficulties which had been at first prudently ignored.

The complaints of the trade as to the inefficiency of the canal; the difficulties of its ingress and egress; the demands yearly made to the Legislature for more money required to open an artificial canal at the western extremity, where three channels of from six to twelve hundred feet broad each, with a depth of water of from twelve to twenty feet, had been reported to exist, by Messrs. Stevenson, Baird, Killaly and Keefer; the large expenditure over and above the sum originally demanded, convinced the Legislature that the very plausible reports of the engineers who had advocated the construction of a canal on the south shore had not stated the facts as they were, and that some great natural difficulties had been cautiously kept out of sight. The assertions and statement of facts contained in the reports of the promoters of the Beauharnois job have been disproved, one by one, by the reports of the Board of Works of the engineers in charge of the work on the canal, from its inception to the present day. (See Mr. Killaly's Report of 1st August, 1841.)

The assertion of the existence of the three channels of from six hundred to twelve hundred feet broad each, with a depth of water of from twelve to twenty feet, which Messrs. Stevenson, Baird, Killaly and Keeler had stated that were to be found at the western extremity, and their sudden disappearance, might give an idea of the means employed in those days, by the promoters of the Beauharnois Canal, to secure its construction and to obtain that kind of success which has proved to be so detrimental to the interests of the country. (See Mr. Killaly's Report of 1st August, 1841).

#### INEFFICIENCY AND DEFECTS OF THE BEAUHARNOIS CANAL.

It is an admitted fact that the canal, to avoid the rapids of Coteau, Cedars and Cascades, is not located where it should have been; that the Beauharnois Canal has never obtained the efficiency of the other canals on the St. Lawrence; that its location has never met with the approval of the commercial community; that the navigation on the south side of Lake St. Francis, and especially at the western entrance of the canal, is not only fraught with danger, but also impossible for vessels drawing twelve feet of water. The maintenance of that canal, its working expenses, superintendence, costs of construction, and amount of damages paid in consequence of its defects in location, have exceeded in proportion the same lines of expenses incurred in any other of our canals of same size and proportions, and in the same climatic condition, while its efficiency has always been under the standard of our other canals. It never yielded any revenue proportionate to its cost of construction, maintenance and superintendence. It does not correspond in efficiency with the canals of Cornwall and Lachine. Any attempt to remedy its natural defects, and put it in a thorough state of efficiency, in one word, to make it what it should be, and what we want to accomplish to put our system of canals in the state of efficiency needed to obtain to provide for the carrying trade of the West, would entail an expense of money over and above the value of all the advantages that could be expected in return.

#### ITS MAIN DEFECTS.

From the reports of the Public Works Department, from the opinions of the engineers connected with the works on the Beauharnois Canal, as well as from the testimony of



pilots of long experience, we can ascertain that the natural defects of that canal consist chiefly—1st, in its western terminus and its deficient channel of navigation with the channel of Lake St. Francis; 2nd, in the condition of the soil forming its banks, which, being of aluminous formation, causes slit and deposits in the bottom; 3rd, in the want of proper anchorage ground at the eastern extremity, owing to the rocky formation of the bottom of Lake St. Louis at that place; 4th, in the accumulation of the spring ice at the same spot; 5th, in the late opening of the canal in the spring, on account of the late breaking of the ice in the western entrance, and its early closing in the fall on account of the early freezing of the pond at the western end; 6th, in the crooked, tortuous, shallow channel leading from the western extremity of the canal to Lake St. Francis, and in the almost insuperable difficulties to be overcome in excavating a good, straight and deep channel for vessels drawing twelve feet of water; 7th, in the exposed site of the western extremity at *Grosse Pointe* to the strong gales from east, north-east, north and north-west, from the west and south-west; 8th, in the fact that there is no navigable channel on the south side of Lake St. Francis, the channel being on the north side, and that an artificial channel should have to be made from the south to the north side of the lake for vessels drawing ten feet of water; 9th, in the exposed location of the eastern end to the north-west, north, north-east and easterly winds; 10th, in the longer distance from the navigable channel of Lake St. Louis to the navigable channel of Lake St. Francis by using the Beauharnois Canal, then by a canal from Cascades Bay to Coteau Landing.

#### THE NORTH SHORE OF THE ST. LAWRENCE.

If we can obtain, on the north shore of the St. Lawrence, the natural advantages required for the construction of a large ship canal, of which the south side is so deficient, and if those natural advantages on the north shore are such that they would fully compensate for the extra expenses of construction, it would be but an act of wisdom and prudence to make use of the superior facilities that we could find on the north side of the St. Lawrence, instead of persisting in the error of 1842 and its consequences.

We must bear in mind that the problem which is to be solved is not to ascertain which is the cheapest constructed

canal, without paying due regard to its future usefulness and efficiency. But what we have to do is to construct a canal that would be in every respect fully equal to any other link of our system of navigation, having the best harbours, the best channels, the greatest depth of water, with the best advantages that could be obtained, and offering the shortest route from Lachine to Cornwall.

If we examine with care the natural advantages found on the north shore, it is plain that we can obtain there all the requisites for the construction of a large ship canal, and the most part of which no human skill, nor the heaviest expenditure of money, could create on the other side.

WHY A CANAL SHOULD BE CONSTRUCTED ON THE NORTH SIDE.

The construction of a canal on the north shore of the St. Lawrence, to avoid the Rapids of Coteau, Cedars and Cascades, will result from the careful consideration of the following leading facts:—

1st. From the admitted necessity of constructing, to avoid these Rapids, a canal adequate to the present and future wants of our rapidly growing carrying trade, and fully capable of admitting the larger class of vessels which it is necessary using, to cheapen the transportation of produce from the west to the sea ports; having the best harbours, the greatest depth of water, offering the shortest route, connected at each extremity with the best navigable channels, and securing, during each season, the longest term of navigation.

2nd. From the great and insuperable difficulties, and almost physical impossibility, to reconstruct the Beauharnois Canal, in order to put it in such a state of efficiency so as to meet the future wants of the carrying trade, and connect it by a broad and deep channel, unless at an immense cost, with the only deep navigable channel on Lake St. Francis, which is found only on the north side of the lake.

3rd. From the well-known and proved fact, that the greatest natural advantages are found on the north shore of the St. Lawrence to construct a large ship canal, having all the qualities of a first-class canal, with the best harbours, free from obstructions, and directly connected at each end with the deep navigable channels, offering also the longest period of navigation during each season, and the shortest route from Lachine to Cornwall.

THE NECESSITY OF IMPROVING THAT SECTION OF THE RIVER—PRELIMINARY  
REMARKS.

The great efforts that have been made for some years past, by our mercantile community, to secure a large share of the trade of the western products, and the beneficial results of that commerce, have led our political and commercial men to inquire into the best means that could be adopted to obtain the largest possible amount of that important trade, and which would enable us to compete successfully with the shippers of those products to the American sea ports.

From a careful comparison of the lengths and facilities of the different routes, of the means and time employed in reaching the different sea ports, and the markets of Europe, from the Western markets, with the comparative costs of each route, they have arrived at the conclusion that the River St. Lawrence was the great natural artery of the Western trade; that it was the cheapest and shortest route from the West to the sea ports and to the European markets; that by lessening the expenses of freight we would give such an advantage to the shippers of produce, by the St. Lawrence, that no successful competition could possibly be made against that route.

From those considerations, and the conclusions derived therefrom, has arisen the necessity of improving the navigation of the St. Lawrence to its utmost capacity, in order to enable the shippers of produce to use a far larger class of vessels.

The efforts lately made by American statesmen to increase facilities for the transportation of those products from the Western States to their sea ports, both by additional railway and canal communications, have caused amongst our commercial men a feeling of apprehension that the large share which they had already secured in that important trade would be diverted from them. They all look to the Federal Parliament for immediate and energetic action to put the navigation of the St. Lawrence in that state of efficiency which would enable them to compete successfully with the American railways and canals. They feel that the time has arrived to draw from that great natural artery of our trade all the facilities that can possibly be obtained, and that no expense should be spared to test its carrying power to its greatest capacity.

## WHAT SHOULD BE THE REQUISITES OF OUR SYSTEM OF CANALS.

To attain that object, it is necessary that our canals should be constructed on the increased proportions sufficient to carry the

larger class of vessels which it shall be necessary to use to cheapen the freight, and be provided with the necessary accessories, of a proportionate greater depth of water, broader and better channels, the harbours the best and safest that could be obtained, connected with the best channels of navigation, the routes the shortest; and that our canals should be constructed where the longest terms of navigation could be obtained.

THE COTEAU, CEDARS AND CASCADES RAPIDS.

As the Rapids of Coteau, Cedars and Cascades, situate between the western end of Lake St. Louis and the eastern extremity of Lake St. Francis, offer one of the great obstacles to the navigation of the St. Lawrence, it becomes a necessity to construct, on the intended much larger proportions, an artificial communication to connect the deep navigable channels of the two lakes; in fact to put that part of our navigation in the most perfect state of efficiency, on a footing of equality with our other canals, by taking advantage, not only of the engineering skill that we can command, but also of the best natural advantages that we can obtain, and which the most favored locality can offer.

WHY THE BEAUHARNOIS CANAL SHOULD NOT BE RECONSTRUCTED.

A careful perusal of the discussion which took place in Parliament, in 1841, when the canal question was considered, will show that none of our public men of that day foresaw that our trade would make such rapid strides, that it would, at some future period, become a commercial and political necessity to double and triple the carrying capacity of our canals. The south side of the river was not therefore selected with the view of constructing a canal having a larger capacity than the one fixed at that period, and none of its promoters attempted to establish the fact that the locality of the south offered any facilities for the navigation of a larger class of vessels than those for which it was then intended.

Experience having amply proved that the location on the south was deficient, in every respect, in the necessary requisites for the construction of a canal on its then limited proportions, how can we expect that it will be more advantageous for the construction of a canal on the much-intended larger dimensions, which have become necessary, requiring a greater depth of water, better and deeper channels, better harbours, a longer term of navigation season, with the shortest route from Cornwall to Lachine.

## DIFFICULTIES TO BE MET IN RECONSTRUCTING.

Any attempts to reconstruct the Beauharnois canal on the increased dimensions, required to receive the larger class of vessels, which it has become necessary to use in order to cheapen the cost of freight, would bring out in a still more marked manner the difficulties and disadvantages of that very defective location, and would become but the continuation, although on a much larger scale, of the error of 1842, and of its consequences, greater difficulties would be met in making the needed deeper excavations in the canal itself. Vessels of a larger class will require accommodation on a larger scale at each extremity, straighter, broader and deeper channels, better harbours and better anchorage grounds. More expensive and additional means should have to be taken to protect them from the rapids and shoals at the western extremity, and to open a channel of communication to the navigable channel on the north side of Lake St. Francis, which is the only deep channel on that lake.

But no human skill will shorten the distance by following that route, will protect the two extremities of the canal from the effects of the strong gales which so materially affect the shipping, will change the nature of the soil forming the embankments which makes deposits in the canal.

The question of preventing the ice in the pond at the western end from being formed so early in the fall, and from remaining so late in the spring, thereby causing every year a shorter period of navigation, shall have to be solved. Some additional means shall have to be adopted to prevent the spring ice carried down the Cascades Rapids from accumulating at the eastern end.

## DEMOLISHING OLD WORKS.

Before the reconstruction of the Beauharnois Canal could be proceeded with, it would become necessary to demolish the present locks, their foundations, the most of the waste weirs, remove the gates, some of the piers, the bridges, and a number of other works which would become useless.

## LABOUR AND EXPENSES TO RECONSTRUCT THE CANAL.

The reconstruction of the canal proper requires its deepening and widening for its whole length, the construction of entirely new locks, nine in number, of new foundations, of new gates, with new apparatus to the gates, new bridges, waste weirs, new tunnels, new approaches to the bridges, new tow-paths. The

two banks, with the two side walls, should have to be re-made for the full length of the canal. The additional excavation in the canal proper should have to be made in solid stone for the two-thirds of its length; new piers should have to be reconstructed at different places, but especially below and above. It is a well-known fact, amply proved by experience, that the depth of the water in the western extremity, and channel leading to Grosse Point, is less than on the sills of the first lock. It results from the fact that the bed of the canal is lower than the bed of the channel above. The whole of the work to reconstruct the canal should have to be executed during the winter (at a far greater expense than during the summer. To save any delay to the navigation of the canal, a large pier should have to be constructed opposite, but east of *Grosse Pointe*, to prevent accidents and wrecks on account of its proximity to some shoals and to the Rapids of Coteau.

#### THE ENTRANCE CHANNEL AT THE HEAD OF THE CANAL.

But the reconstruction of the canal itself is not the only difficulty to be overcome. The other and much greater obstacle is to obtain a good and deep channel from its western entrance to the only deep navigable channel of Lake St. Francis, which is on the north side of the lake.

If we take into consideration that the class of vessels that will be used on our canals, when they are reconstructed, will be of far greater dimensions, both in length and depth, and will draw at least twelve feet of water, we must understand that they shall require a broad, straight and deep channel, with at least fifteen feet of water, instead of the narrow, crooked and shallow one presently used.

#### A NEW CHANNEL SHOULD HAVE TO BE EXCAVATED.

To open such a channel as should be wanted from the western entrance lock to *Grosse Pointe*, and from *Grosse Pointe* to the deep channel of Lake St. Francis, we should have to excavate a cut of four hundred feet wide, two miles long, across a strong current, by a mean additional depth of at least six feet, through boulders and solid stones, apart of the high rocky shoals intersecting that channel, which should have to be removed, and from *Grosse Pointe* another channel should have to be opened for the larger class of vessels to the channel on the north side of Lake St. Francis, by making another cut across a strong current of 400 feet in width through solid stone and boulders. The distance is about

two miles. The mean depth of excavation would be four feet for a channel of fifteen feet of water, which is considered the necessary depth in lake navigation for a vessel drawing twelve feet. A tug boat should have to be kept constantly there to take sailing vessels to and from the western entrance lock.

THE GREAT NATURAL DEFECTS STILL REMAINING.

When that immense labour would have been accomplished, and it cannot be done unless at an immense cost, there will still remain the same inconveniences which are now experienced each year. 1st. The canal will be closed eight days earlier in the fall on account of the earlier taking of the ice, and opened eight days later in the spring, on account of the later breaking up of the ice at the western extremity, than would be a canal constructed on the north shore. 2nd. The same exposure to the strong winds on the lake, the same dangerous proximity to the rapids of the channels leading from the lake, and the same necessity of keeping a tug boat to take sailing vessels to and from the entrance western lock to the channel of Lake St. Francis. 3. The same want of a good large, roomy and deep harbour at the western extremity, and want of anchorage ground for large vessels, which would be obtained on the north side without any labour. 4. The same increased distance between Cornwall and Lachine, as compared with the shorter distance between those two points by the North Shore route. 5. The eastern extremity would remain as now exposed to the action of the ice carried down the Cascades Rapids, and which is accumulated there by the current of the eddy below Point Bisson. It would remain without a safe anchorage ground at the bottom of Lake St. Louis, as the eastern end of the canal is of solid stone. 6. The eastern end of the canal would remain as now exposed to the strong gales. 7. The ground used to form the embankments, being of aluminous quality, would make, as now, deposits in the bed of the canal. 8. It would remain, as now, exposed, in the event of a war with the United States, to be occupied and used, or destroyed by an invading army; no other outlets possible.

TRIAL SURVEYS BY HUNGRY BAY AND BY A LINE NEAR ISLE-AUX-CHIATS.

Nothing can show more conclusively that the present entrance is considered as impracticable, and is not susceptible of being improved, so as to become what it should be, to answer to the wants of the trade, than the very fact that trial explorations have been made in search of some other spots where another outlet to

the canal could be obtained. The promoters of that theory, instead of admitting frankly the necessity of looking to the north side of the river to obtain a good location, the depth of water, the anchorage facilities, the channels and harbours which are wanted, and which are found there without any expenses, have searched for another outlet by a proposed extension of about three miles, of the canal, further west into Hungry Bay. They are perhaps under the impression that as our experience in search of a good channel, a good harbour and anchorage facilities, having been so far limited to the present site and entrance of the canal, we should become convinced by another fruitless and expensive venture, that this last resort is as useless as was the first.

#### HUNGORY BAY.

The Bay, called Hungry Bay, is immediately above *Grosse Pointe*; it extends several miles west and is formed by an inland curve of the lake. The bottom of the bay is composed, to a great depth, of moving sand, with some boulders. Anchors do not hold in that sand. The bay is shallow and full of shoals and sand bars, which accumulate and disappear according to the surface swell of the bay and the direction of the wind. From Thompson's and Larue's Hydrographic Survey of Lake St. Francis, and from Mr. Jones' evidence before the Committee of the Legislature in 1842, we ascertain the fact that the Commissioners appointed by the Government of Lower Canada, to report on the canal question, and of whom Mr. Jones was the Chairman, had made themselves quite certain that there was not in the bay a depth of water to float a vessel drawing seven or eight feet. A glance at the land back of the bay will satisfy any person that the bay is shallow, as the back country, for several miles, seems to have been not many years ago but an extension of the bay further inland, and from which the water has receded. It is flat, marshy, partly and mostly covered with water, a regular morass. The surface soil is worked for peat fuel, the under soil is composed of moving, wet sand, the same as in the bay. *Grosse Pointe* is at the south-western extremity of that bay. It is a small isolated spot, and the only land, a little more elevated than the surrounding marsh; but around and back of *Grosse Pointe* the land assumes the same character as elsewhere, as low and as marshy. That marshy, low land extends east to the very outskirts of Valleyfield. It must be borne in mind that after the construction of the Beauharnois dams, dikes had to be built in that part of the south side of the lakes to prevent the flooding of the farms, as far as the parishes back of Valleyfield. Sec. No. in App., also App. Z, 1842.



## TWO LINES TO HUNGRY BAY EXPLORED.

If I am informed correctly, two lines have been examined to connect the canal of Beauharnois with Hungry Bay, one from the present terminus of the canal, to a site in the bay. The second from a point west of Valleyfield, passing south of the town, through some high lands, until it reaches the marsh, to the same site as the first in the bay.

If the first line is adopted, the length of which would be about three miles, it would pass through part of the upper portion of Valleyfield, and a number of houses should have to be pulled down and paid for. If the second line is accepted, the length of these extensions would be considerably increased, and these excavations through the high lands up to the marsh would be expensive. It would in both cases either entail the additional expense of maintaining two expensive outlets, the present and the new outlet, if the two are kept, not one of which would satisfy the trade, or the loss of the expenses that have been incurred for the opening of the western channel at the head of the canal, if the new one alone is maintained. In that case all the work done in the old channel, and in the small bay, the expenses for piers, light houses, excavation, dredging, the raising of boulders and the construction of the canal west of the lower line, if it was the line accepted, from its junction to its present terminus, would be a dead loss, to which we might add the expenses for the construction of the dams, the payment of damages for flooded lands; while if my suggestion was adopted of constructing a canal on the north side of the St. Lawrence, we would obtain there all advantages that we seek in vain to find on the south side, without any more losses than those already incurred in trying to prepare the Beauharnois Canal for the passage of a larger class of vessels than it was at first intended for, and in constructing an expensive public work where it should never have been located, because the two canals could be useful, if adopted to proper and suitable purposes.

## THE OUTLET BY HUNGRY BAY.

In the event, although most improbable, of the entrance to the canal by Hungry Bay being approved, through one of the two described lines, that additional length to the present canal should have to be made by a cut through that deep peat bog on that deep moving sand bottom, for the whole distance from the outskirts of Valleyfield, with the certainty that nothing of a permanent character can be executed in that site; with the certainty of

having to draw from a distance the very materials necessary to make the banks on that extension, of providing for means to prevent the banks from sinking in the moving sand, and the canal from getting filled up by the sand upheaved from the bottom, and with the further certainty of obtaining in the bay no depth of water, no harbour, no safe anchorage ground, not even for a wood scow, and far less for large vessels; no channel in the bay; of having to dredge an artificial harbour, and a channel from the bay across the lake, to the navigable channel of Lake St. Francis, on its north side; of keeping a dredge at work to keep that extension of the canal clear from the sand raised from its bed, the harbour and the channel across the bay and lake clear from the moving sands of the bay, the shoals and the bars of sand. That extension to the canal would make it much longer, according to the line adopted, and would necessitate either the construction of another lock or another distribution of the locks on the canal.

Immense piers should have to be constructed on both sides of the entrance into the bay upon artificial foundations. It is known by every pilot and every boat owner, acquainted with the navigation of the lake, that Hungry Bay is exposed to the winds of the whole compass, the south and south-westerly winds excepted. That the bottom of the bay is composed of a deep bed of moving sands, constantly in motion by the effects of the wind. That shoals and bars of sand, accumulated by a storm, are displaced to fill up adjacent ponds or channels existing before a gale; that there is no certainty after a strong wind to find a shoal or a channel where they were the day before.

The ice of the bay is the last to leave the lake in the spring, and the first to take in the fall. The canal opening in Hungry Bay would, to a certainty, lose more time of navigation than with the present defective entrance. It would be a most extraordinary expedient to adopt if, to remedy the existing defects of the present defective entrance, we choose another one, in an out-of-the-way place, far worse in every respect than the present one. If the project of the North Shore Canal is objected to on account of its length, what excuse could be given to induce shippers to be satisfied with one still longer, by at least two miles, and leaving between Cornwall and Lachine the present longer route, as compared with the distance between the two places by a canal on the north. I am told that an exploration was made to obtain another channel of communication by a line between Isle-aux-Chats and the pillar of the Red Light House. In my opinion, and in the opinion of pilots of long experience, if such a course was adopted, the difficulties of navigation would be increased instead of being lessened. The cost of excavation would not be less, if not

not more, but the site would be still worse ; first, on account of its closer proximity to the shoals and the rapids of Coteau ; next, on account of the greater difficulties and the greater amount of expenditure necessary to obtain by excavation a channel of communication across a strong current, from thence to the deep navigable channel of Lake St. Francis ; and again, on account of the greater difficulties for vessels coming from above to enter that lower pass. (See testimony of Messrs. Asselin, Prieur and Rinfret.)

No propeller with a long tow could enter it with a strong westerly, north or north-westerly wind, and because there is no anchorage ground.

The want of anchorage facilities and bottom is so much felt on the south side that vessels that have to beat against a strong wind, or that are not ready to cross to the south by day time, when there is appearance of a dark night, remain moored at the Coteau Landing piers during the night, to wait for a favorable opportunity of reaching in safety the entrance channel of the Beauharnois Canal. I will now ask the projectors of the deepening of the present channel, or those who propose excavating another broader channel, either in the line or by a lower line, if in any of those two cases the lake ice would not be drifted into the bay in larger quantities than now ; if the ice would not take as early if not sooner than now ; if it would not remain as late, if not later than it does at present, and if the canal would not be closed as early as now each fall, and opened in the spring as late as now.

#### NO MORE DAMS ACROSS THE RAPIDS SHOULD BE BUILT.

As the enlargement of the canals will require, above all things, a greater depth and a more abundant supply of water than may be needed at present, in the event of the Beauharnois Canal being enlarged, the increased depth of water necessary to be obtained for a channel from the western extremity of the canal to the navigable channel on the north side of Lake St. Francis, must be obtained either by the excavation which I have already described, or by constructing more dams across another section of the river, above the Coteau Rapids. There is no alternative between those two expensive and extreme means. The cost of such an excavation under water, for such a distance, through solid stone and large boulders, would be immense, apart from the inconveniences to the navigation in such a narrow and tortuous channel.

With regard to the construction of additional means of raising the water by new dams, the public accounts will show what have already cost, the damages caused by the erection of the present dams, apart of the claims which might be presented in future. It cannot be denied that the construction of additional dams across

the Coteau Rapids would be still more disastrous than was the first experience, as the most of the upper part of the County of Soulanges would be flooded, and the front of the counties of Glengary and Soulanges would be covered with water. The Federal Parliament would be exposed to the payment of damages, in excess of the expense that would be incurred for the construction of a new canal on the north, where there is a natural depth of water in the harbours, and channels at each extremity to float vessels drawing fifteen feet of water.

#### THE CASCADES AND COTEAU LANDING CANAL.

I have already noticed the fact that the construction of a canal on the north shore of the St. Lawrence, from the Bay of Cascades to Coteau Landing was not a new project.

Apart of the surveys made on the north side, by men of eminence in their profession, to which I have alluded, and who had invariably recommended that side of the river as the best route to connect the two lakes, Mr. Casey, in 1842, made an exploration on the same side, at the request of the late Messrs. Harwood and Simpson. (See Appendix Z., of Journal, Session of 1842.)

His report and his evidence before the committee of inquiry on the Beauharnois job, demonstrated conclusively the superiority of the north shore over the south, for the construction of a canal, but also pointed out the defects of the location on the south shore, the want of a channel, the difficulties to obtain one, the various reasons why the selection of the south side would hereafter be regretted, our experience since that time having amply justified him.

#### AN EXPLORATION ORDERED IN 1872.

During the fall of 1872, Mr. Baillarge, of the Department of Public Works, received from Mr. Langevin, then Minister of that Department, the necessary instructions to make a survey on the north side of the St. Lawrence, for the construction of a large ship canal to connect Lake St. Francis with Lake St. Louis, from Cascades Bay to Coteau Landing.

A thorough exploration was executed in that fall and during the early part of the winter of 1873, by Messrs. Baillarge, Colonel Farigano, Stukel and Rosa, engineers in the Department of Public Works, from Cascades Bay to Coteau Landing; and not only was a searching inquiry made as to the facilities offered for the excavation necessary to be made, but also as to the channels and harbours at the extremities of the canal, the depth of water, and the other requisites for the construction of a canal on the intended larger dimensions. An able report, with accompanying maps and plans, were made of their surveys of different lines, of the harbours and

channels, corresponding with the terminus. Nothing can show more plainly, than does that report, that there are on the north shore of the St. Lawrence, from Cascades to Coteau Landing, as many natural and permanent advantages for the construction of a large ship canal as there are found on the south side natural difficulties, which no engineering skill will completely overcome.

The channel of navigation from Cornwall to Coteau Landing is broad, straight, on the north side of the lake, and deep enough for vessels drawing fifteen feet.

The harbour of Coteau Landing is, without question, one of our best inland harbours, protected from the east, north and north-easterly winds, with a sufficient depth of water, and a safe and large anchorage ground. No artificial means should have to be used to raise the water, and no expenses would be incurred for the payment of flooded farms.

The channel of the lake is in a straight direction with that harbour, and the intended entrance of the projected canal from Lake St. Francis. Large piers are being now constructed by the Department of Public Works near the intended entrance to the canal. The Bay of Cascades offers one of the best inland harbours of the Dominion. It is formed by an expansion of Lake St. Louis, and by one of the outlets of the Lake of Two Mountains, between Island Perrot on the north, and the point and Island of Cascades on the south side of the bay. The anchorage is safe, the depth of water sufficient for vessels drawing fifteen feet.

That harbour, which is in direct communication, by two deep and broad channels, with the deep navigable channel of the St. Louis, is large enough to receive one hundred vessels. It is perfectly protected from the north, north-west, west and south-west-erly winds.

The two harbours of Cascades Bay and Coteau Landing, were used, in former years, by the Upper Canada Royal Mail Line Company. It is within the knowledge of several persons that, since the Beauharnois canal was constructed, but before the building of the Grand Trunk, on account of the earlier opening of navigation at Cascades Bay and Coteau Landing, while the Beauharnois canal was closed by the ice at the western extremity, the western mails, for several days each spring and fall, were carried by steamers from Lachine to Cascades Bay, thence by land carriages to Coteau Landing, and put again on board steamers at the latter place, for the west.

The engineers who made the survey alluded to, in the fall of 1872, and during the early part of the winter of 1873, have explored and sketched two lines for the construction of a canal on the north shore. One line is through the interior, by a cut from

near Coteau Landing to the Chamberry River which empties in the Bay of Cascades.

The second line would be formed by a cut from the same starting point, near Coteau Landing, to a point below the old Coteau fort. From thence the St. Lawrence could be used to near the village of Cedars; and from the village of Cedars by another cut to Chamberry River.

TWO GOOD LINES ARE OBTAINED.

Either of the two lines would afford all the advantages and requisites of a first-class canal, on the intended enlarged proportions, fully equal, if not superior, in every respect to any other of our canals on the St. Lawrence. The whole land distance between the different termini is a perfect level. The quality of the surface and sub-soils has been tested to a great depth, and no difficulties would be met in excavating. The Chamberry River is, in itself, a natural made canal for a distance of four miles, and its use would save a large amount of expenses, on account of its breadth, varying from three hundred to one thousand feet, and great depth, if filled with water, it would form a large reservoir to supply the lower locks and any amount of machinery. The canal by the interior could be constructed with seven locks, the guard lock included.

By adopting the second or front line, the expenses of excavating the distance from about the Coteau port to near the Cedars Village, about six miles, would be saved, as the use of the St. Lawrence would serve for the purpose of the navigation between the two links of the canal; the channel being deep and broad from near the old Coteau fort to the intended entrance near the Cedars Village. There is an abundance of building materials in the vicinity of the proposed lines.

The North Shore Canal could be opened at least eight days earlier in the Spring, and closed for the same period later in the Fall, than the Beauharnois Canal. It would shorten the distance from Cornwall to the upper entrance of the Lachine Canal by at least six miles, as compared with the distance between those two points through the line of navigation by the canal on the south; because vessels passing by the Beauharnois Canal have to cross Lake St. Francis from its navigable channel on the north side of the lake to the western extremity of the canal, and from its eastern end they have to cross Lake St. Louis to the deep channel on its north side, while by the proposed canal on the north shore those extra distances would be spared, as the channels at each extremity are respectively in a straight and direct course with the channels of the lakes.

## RECOMMENDED BY THE PRESS AND BY THE TRADE.

No project has been as well received by the press and by the commercial community as the proposed canal on the north side of the St. Lawrence, in lieu of the reconstruction of the canal on the south. During the session of 1873, a large number of petitions were presented in its favour. The names of the petitioners representing the largest firms, engaged in the carrying trade on the St. Lawrence, almost every owner of a boat on that river, and the largest commercial firms of the two Provinces of Ontario and Quebec, deserved that due regard should be paid to their demand. They are the most interested in the success of our commerce and navigation; from past experience and observations, the best judges of the existing difficulties to the accomplishment of that success and of the means of obtaining it. Those petitions are properly considered as expressing the unanimous consent and desire of the commercial community that it should be constructed, instead of enlarging the Beauharnois Canal, as a further and stronger expression of public opinion on that subject. The Montreal Board of Trade sent to the Executive a strong recommendation to adopt that project; while the Board of Trade of Kingston and its Council, with the Board of Trade of St. Johns, in the Province of Quebec, sent petitions in its favour. The petitioners not only complain of the inefficiency of the Beauharnois Canal, but strongly express their opinion that owing to the natural defects of its location of the Beauharnois Canal, should not be enlarged, but that a new canal should be constructed on the north shore, which would benefit the trade of the country, not only for the present year, but more so for the future.

Apart from any other considerations, it would save to the public treasury the yearly expenditure of large sums of money to make more patch-work on the Beauharnois side, to provide year after year for new expedients to remedy the natural defects of its location.

The subjoined documents will bear out my statements as to the action of the ice at the eastern end of the Beauharnois Canal; its early closing in the fall on account of the early freezing of the pond at the western end; its late opening in the spring, owing to the late breaking of the ice at the same spot, and as to the earlier opening of the navigation in the spring, at Cascades Bay and Coteau Landing, and its later closing in the fall.

I refer especially to the letter of Captain Masson, formerly of Cascades, commanding, for many years, one of the steamers of the Upper Canada Royal Mail Line Company, between Lachine and Cascades, and subsequently one of the Provincial arbitrators; to the sworn affidavit of Paul Leroux, a resident of Cascades since



many years, lessee of the ferry at Cascades Bay; to the two certificates of Captains Charles B. Dewitt and Jacob H. Dewitt, who commanded steamers for many years plying between Lachine, Cascades Bay and Beauharnois, also between Lachine and Cornwall; to the certificate of Messrs. Joseph Asselin, senior, François Prieur and Joseph Rinfret, pilots of more than twenty years' experience in the navigation between Prescott and Montreal; to the letter of Reverend Mr. Picard, for many years a resident of Isle Perrot, on the north side of Cascades Bay; but particularly to the Report of Colonel Farigana, one of the engineers in the employ of the Public Works Department, who had been specially sent by the Minister of Public Works, in the spring of 1873, to ascertain and report on the action of the ice in the Bay of Cascades, at Coteau Landing, and at the two extremities of the Beauharnois Canal.

#### IT IS A MILITARY NECESSITY.

It is well-known that military men of great experience have reported to the proper authorities that the location of the canal on the Beauharnois side was a great error; that it would become a great cause of danger in the event of a war with the United States, and that the construction of a canal on the north shore was a military necessity.

#### ANSWERS TO OBJECTIONS.

An objection has been raised against the north shore canal, on account of its alleged greater length, as compared with the length of the Beauharnois canal proper. But the parties who made that objection took very good care to ignore the fact that the length of the western channel of the canal on the south, leading from the entrance lock to *Grosse Pointe*, more than compensates for the length of the canal on the north, apart from the difficulties of navigation in the westerly entrance channel, apart also of the distance from *Grosse Pointe* to the channel of Lake St. Francis, and of the necessity of crossing Lake St. Louis from the channel to the eastern entrance of the Beauharnois canal.

The Commissioners appointed to examine and report on the state of our canals, with a due regard to the existing controversy on the location of the canal on the south side, and to the almost certainty of the attention of the legislature being drawn to the merits of the projected canal on the north shore, refrained from giving a favorable opinion on the location of the canal on the south side of the St. Lawrence; but Mr. Laidlaw, one of them, who made a separate report referred to it as "being the canal on the wrong side of the river," while Sir Hugh Allan and Mr. Calvin, two of the Commissioners who had concurred in the report of the



majority, signed some of the petitions presented by me during the session of 1873, condemning the enlargement of the Beauharnois canal, and praying for the construction of a new one on the north shore of the St. Lawrence from Cascades to Coteau Landing.

The project of taking advantage of the natural facilities found on the north side of the St. Lawrence, to connect Lake St. Louis with Lake St. Francis, has obtained the favorable attention of the Legislature, of the commercial community, and of the press. It has been largely discussed by most of the leading journals of the country, and strongly recommended. No arguments were brought to lessen, and far less to destroy its merits.

#### ANSWER TO THE OBJECTION AS TO EXTRA COST.

If now we examine the question of the alledged greater expense of the construction of a new canal on the north side, as compared with the cost of reconstructing the Beauharnois Canal, we must also consider that we obtain, on the north side, natural and permanent advantages which are not found on the other side, and some of which no human skill can procure, conferring on the country lasting benefits far in excess of the extra expenses of its construction. We must also bear in mind that when the work is once done on the north side, we will be spared, for the future, the necessity of finding out new expedients, and we will be saved from new and yearly outlays to make new and additional works, to make up for natural disadvantages of location. We would secure the best harbours at both extremities, with the best channels, the greatest and naturally obtained sufficient depth of water, the shortest route from Cornwall to Lachine, the greater period of navigation season, without incurring the risk of paying damages for flooded farms. A canal on the north side will require a less number of locks, of draw bridges, less expenses for maintenance and superintendence, and will yield a larger revenue; it will meet the wishes and demands of the trade, and the country will be convinced that we are in earnest in selecting the best means to secure the western trade.

The navigation would not be interrupted during its construction. The reservoir of the Chamberry River would become the means of adding largely to our manufacturing facilities. For the same amount of money, or near, we would possess a canal on each side of the river, both useful, if adapted to special purposes, as the one on the south could be still used for smaller sized vessels, and the most of its water turned off to be used for manufacturing purposes, thereby becoming the means of adding largely to the prosperity of the surrounding country.

## CONCLUSION.

I submit the foregoing remarks on the proposed north shore canal, with the greatest confidence, that the question will obtain the favorable consideration of the Government and of the members of the Federal Parliament, as it has already received the almost unanimous approbation of the press and of the trade of the country.

I am confident that the more the question will be discussed and examined, the more certain is the success of that project, and the sooner impartial and enlightened statesmen will come to the conclusion that the north side is the only site in that part of the river where the necessary requisites for the construction of a large canal can be obtained; that the extra costs of construction, if there would be any, would be more than compensated by the great natural advantages which are found on the north side of the river, and which cannot be obtained on the south for any amount of money; that the reconstruction of the Beauharnois canal would be but the continuation of the error of 1841 and 1842 on a much more enlarged scale, and with the certainty of more damaging results for the future.

## APPENDIX.

List of the petitions presented during the Session of 1873, praying for the construction of a canal on the north of the St. Lawrence, as per official acknowledgments:—

1873.

- March 4.—The Petition of the Municipal Council of the County of Soulanges.
- “ 7.—From Rev. A. Labelle and others.
- “ 12.—From Sir Hugh Allan and others.
- “ 12.—From William Cox Allen, Mayor, and others.
- “ 12.—From W. J. McNaughton and others.
- “ 13.—Of Honble. Isaac Buchanan and others.
- “ 17.—From C. C. McFall and others.
- “ 22.—From the Mayor of Kingston and others.
- “ 22.—From Alex. Kirkpatrick and others.
- April 5.—From D. D. Calvin and others.
- “ 17.—From the Board of Trade and the Council of the Board of Trade, Kingston.
- “ 24.—From the Board of Trade of St. John.

Five other petitions were presented by Mr. Harwood, M. P. for Vaudreuil.

COPY OF THE PETITIONS PRESENTED DURING THE SESSION OF 1873.

*To His Excellency the Right Honorable Sir Frederick Temple, Earl of Dufferin, Viscount and Baron Glandeboye, of Ballyeidy and Kilaleagh, in the County Down, in the Peerage of Ireland, and a Baronet, Knight of our Most Illustrious Order of Saint Patrick, and Knight Commander of our Most Honorable Order of the Bath, Governor General of Canada, and Governor and Commander-in-Chief in and over the Island of Prince Edward, and Vice-Admiral of Canada and Prince Edward, &c., &c.*

MAY IT PLEASE YOUR EXCELLENCY,—The humble petition of the undersigned, interested in the trade and navigation on the St. Lawrence, from Montreal to the upper lakes, humbly sheweth:—

That a great effort should be made to bring down by the way of the St. Lawrence, the great trade of the west;

That to obtain that object, as the only means of securing that important trade, the navigation of the St. Lawrence should be

improved, so as to enable a larger class of vessels than those now engaged in the carrying trade of the products of the west to reach the port of Montreal from the upper lakes;

That our canals on the St. Lawrence should be constructed on a scale adequate to the wants of our present largely increasing carrying trade, and to the legitimate expectations of our mercantile community, to obtain and draw to our market a large share of the western trade;

That our canals should be located where the best harbors are found, with the greatest depth of water, and free from those obstructions which are a source of danger to vessels and cargoes, offering at the same time the shortest and safest way of communication from the sea port to the upper lakes;

That experience has convinced your petitioners that the Beauharnois Canal was not located on the most advantageous side of the St. Lawrence, that it is, at both entrances, difficult of egress and ingress, without safe harbors, the channel at the western extremity especially being difficult, dangerous and unsafe, exposed to the strong winds; and that even if alterations would be made, although at a great cost, your petitioners have cause to entertain the strongest doubts whether the necessary safety and convenience could be obtained;

That a canal constructed on the north shore of the St. Lawrence from Cascades to Coteau Landing, opposite the rapids of Cascades, Cedars and Coteau, would, in our opinion, be more advantageous to the interest of the trade on the St. Lawrence than the Canal of Beauharnois, because there would be at each extremity a large and safe harbor, with a sufficient depth of water free from obstructions;

The channel at each extremity would be in a straight line with a course of a vessel navigating on Lake St. Francis and St. Louis;

It would offer a shorter way of communication from the head of the Lachine Canal to Lake St. Francis;

The navigation would not be interrupted on account of its construction;

The harbors of Coteau Landing and Cascades are better protected from the high winds than are the two extremities of the Beauharnois Canal;

It would be open for navigation earlier in the spring;

Vessels entering the canal at Coteau Landing would not be exposed to be drifted into the strong current of the rapids;

It would complete on the north shore of the St. Lawrence our

line of canals, and thereby add to the means of national defence;

It would be the best adapted to the requirements of the carrying trade for the present as well as for the future; the extra expense of construction being more than compensated by the natural and permanent advantages of that route, and which are not obtained on the south side; wherefore your petitioners humbly pray that it may please your Excellency to take their petition under your most favorable consideration, and sanction the construction of a canal on the north shore of the St. Lawrence from Cascades to Coteau Landing.

And your petitioners, as in duty bound, will ever pray.

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*Recommendation of the Montreal Board of Trade.*

(Copy, No. 2903.)

OFFICE MONTREAL BOARD OF TRADE,  
MONTREAL, 5th March, 1873.

HON. H. L. LANGEVIN, C.B.,  
Minister of Public Works,  
Ottawa.

SIR,—I am directed by the President and Council of this Board most respectfully to inform you that their attention has been drawn to representations relating to the great advantages which would accrue to the rapidly increasing commerce of the River St. Lawrence, by the construction of a new canal on the north side of that river, from Cascades to Coteau Landing, as contrasted with the facilities afforded by the Beauharnois Canal, even if the latter canal could be, and were enlarged to the capacity intended for the other canals on the St. Lawrence River.

The President and Council have given the subject such consideration as their knowledge of the circumstances of the case admits of. They are of opinion that the question must depend largely for decision upon thorough reports of competent Engineers as to the difficulties to be overcome, and probable expense that would be incurred.

The President and Council beg, however, to say, that if the question of engineering and expense can be satisfactorily answered, the advantages of a canal on the north side of the River St. Lawrence, would be great, both by shortening the downward and upward trips of vessels, and by affording a much safer harborage at the entrance and outlet to the proposed canal, as compared with the one on the opposite shore. There would also be this further great advantage, that the proposed new canal would be parallel to

the railway, which would be advantageous in case of break, obstruction, or other inconvenience.

The President and Council are well aware that of the attention that has been, and is still given to the improvement and enlargement of the canals by you; and they are confident that the matter in this communication has only to be brought forward, to secure for it all the consideration and subsequent action that is necessary.

I have the honor to be, Sir,

Your obedient servant,

(Signed,)

WM. J. PATTERSON,  
Secretary.

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*Extract of the report of Mr. Killaly, 12th August, 1841.*

IMPROVEMENTS REQUIRED BETWEEN LAKE ST. FRANCIS AND LAKE  
ST. LOUIS.

The Coteau, Cedars and Cascades present most formidable difficulties to the dragging up of a small light barge, with but fifteen or twenty tons of cargo. To vessels of any size they are wholly insurmountable. The construction of the necessary locks and canals to overcome those difficulties, Mr. Keefer estimates at £225,900, and I have every reason to believe that the work can be done for that sum.

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*Extract from Mr. Laidlaw's separate report, 1871.*

FROM THE GRAVE ERRORS, WHOLLY ATTRIBUTABLE TO ENGINEERS.

These have occurred in the selection of canal localities, such as building a needless canal at one place on the St. Lawrence where, I understand, the construction of weirs and the improvement of the bed of the river at a small cost, would have obviated the necessity of a canal, and at another place on the St. Lawrence, where a canal was built in all probability on the wrong side of the river.

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*Extract of the message of Lord Sydenham, 20th August, 1841.*

The navigation of the St. Lawrence involves the expenditure of nearly one-half of the whole sum calculated on. That work is no doubt highly desirable, but it scarcely justifies so great an expenditure at present, unless some diminution of the annual charge of interest upon the sum to be raised can be obtained, nor is such a diminution to be un hoped for. Many capitalists in England are

interested in the prosecution of this work, and especially in seeing the communication between Lake St. Louis and Lake St. Francis established on the southern side of the River St. Lawrence. The Governor-General has reason to expect that assistance will be afforded upon this condition.

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THE THREE ALLEGED CHANNELS WHICH HAVE DISAPPEARED.

Extract from Mr. Killaly's Report of 1st August, 1842, cited from Mr. Tate's Report:—

“ At the foot of Lake St. Francis, a point on the south-eastern side, extending from the shore of Hungry Bay, called *Grosse Pointe*, forms one side of a small bay called Chartier's Bay, which is the mouth of the south channel, or of that portion of the river which runs between the Grand Isle and the main land of Beauharnois. The other side of this bay is formed by an island called Isle-aux-Chats, or Clarke's Island. Upon considering the capabilities of this bay as a harbour or entrance to a canal, it will appear to be sheltered by *Grosse Pointe* from the prevailing wind, which is south-west, as well as from the surf and swell of Hungry Bay, from which it is quite distinct and separate. It has an entrance of sufficient extent and depth of water, in the whole breadth of which, about 1188 yards, there are two shoals of small extent, upon which is a rock with but five feet of water over it. There is every facility for removing these shoals if necessary, *but from the fact of there being three entrances of from six to twelve hundred feet in width each, and with a depth of water varying from twelve to twenty feet, it may be sufficient to place buoys over them.*

“ Pursuing the channel down, there is a fine reach extending a mile and a quarter, with a good *clay bottom*, and sheltered from the winds. The current does not exceed two miles an hour, and there are ten feet of water from the shore. Here, therefore, is a good and safe anchorage from Chartier's Bay to a point called McPherson's Point, a distance of two miles and five chains. This harbour, then, fully comes up to the standard of an unexceptional entrance.”

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STATEMENT of vessels wrecked in the western channel at the head of the Beauharnois Canal:—

1. The steamer Magnet.
2. One schooner loaded with hams.
3. One schooner belonging to Charles Plumbs, of Prescott.
4. One barge, wheat laden.

5. One loaded barge.
6. One do do.
7. One wood boat, 125 cords to Dr. Masson.
8. One barge, to B. W. Bridges.
9. One do., to J. B. Elie.
10. One do., to J. B. Elie.
11. One do., to Godfroi Lalande.
12. One scow, to Olivier Caza.
13. One barge, Joseph Bertrand.
14. One do., to Frs. Decarie.
15. One do., to Isaie Sauve.
16. One propeller, grounded and leaky.

FROM App. 28, fol. 334, General Report, 1867. Maintenance and service from 1860 to 1867:

Beauharnois Canal.	Cornwall Canal.
\$115,941 63	\$98,601 68
Difference against Beauharnois Canal.....	
	\$17,339 97

FROM App. 47, fol. 400, General Report, 1867; statement showing the number of working days of the two canals from 1846 to 1866:

BEAUHARNOIS.				CORNWALL.			Difference against Beauharnois Canal, 177 days.
Years.	Opened.	Closed.	Days.	Opened.	Closed.	Days.	
1846	April 16	Nov. 29	228	April 20	Dec. 2	227	
1847	May 5	..... 28	209	May 1	..... 4	218	
1848	April 12	..... 30	233	April 7	..... 9	237	
1849	..... 19	..... 8	234	..... 7	..... 6	244	
1850	..... 26	..... 4	223	..... 20	..... 7	232	
1851	..... 25	..... 25	215	..... 25	..... 12	232	
1852	May 2	Dec. 13	226	May 1	..... 16	230	
1853	April 29	Nov. 24	209	April 29	..... 14	230	
1854	May 1	Dec. 2	216	..... 30	..... 10	225	
1855	..... 1	Nov. 28	212	..... 30	..... 18	223	
1856	..... 1	Dec. 1	215	..... 28	..... 6	223	
1857	..... 2	Nov. 26	209	May 1	..... 12	226	
1858	April 26	..... 26	215	April 26	..... 7	226	
1859	..... 19	..... 29	225	..... 20	..... 7	232	
1860	..... 14	Dec. 3	229	..... 21	..... 10	234	
1861	..... 24	..... 3	224	..... 24	..... 12	233	
1862	..... 30	Nov. 30	215	May 1	..... 12	226	
1863	May 2	Dec. 4	217	..... 4	..... 12	222	
1864	April 24	..... 3	224	April 27	..... 10	227	
1865	..... 25	..... 7	227	..... 26	..... 13	231	
1866	..... 30	..... 8	223	..... 30	..... 13	227	
Difference against Beauharnois Canal .....						4805	
				4628			
				177			
				4805			



## FROM APPENDIX Z., 1842.

JOHN JONES, Esq., called in and examined.

Question.—You were Chairman of a Commission appointed to superintend the survey of the St. Lawrence Canal, and had before you the plans of survey of Mr. Thompson and Mr. Mills. What was the opinion of yourself and colleagues as to the relative merits of the line of canal on the north and south sides of the St. Lawrence ?

Answer.—By the Act 5th, Will. 4, chap. 23, various portions of Lakes St. Louis and St. Francis, and of the River St. Lawrence, were directed to be surveyed under a Commission of which I was chairman. The survey was for the purpose of ascertaining the most eligible route for canal improvements on a scale corresponding with the canal and locks at Cornwall. The survey of the two lakes was confided to Mr. Larue, and that of the river to Mr. Henry G. Thompson. Having found that both lakes had sufficient depth of water, the question next in importance was to ascertain the best route for connecting them. On the one hand, we had Mr. Mills' plans of a survey on the north side, exhibiting three locations for the contemplated canal, with estimates and reports. On the other hand, we had Mr. Henry G. Thompson's plan of the south channel; also Messrs. Stevenson and Baird's plans and estimates of a projected canal, as surveyed for the proprietors of Beauharnois; and after bestowing on the several documents every consideration, my colleagues and myself were of opinion that the canal ought to be located on the north side for the following reasons:—McDonald Point (now McIntyre's), on the north side, afforded a good site in the still water for the entrance of a canal, and admitted of a good harbour. Our own survey had demonstrated the fact that six miles out of the whole distance of  $14\frac{1}{2}$  miles was on really good navigable water, with a margin offering great facilities for a tow path, whereas no portion whatsoever of the south channel appeared susceptible of being used, and hence a continuous canal from lake to lake became necessary. The next point naturally looked to was Hungry Bay, as the only place at which a canal could enter the lake; and here again it was found, from Larue's Landings and other sources of information, that the depth of water was insufficient, consequently all idea of using the south side was abandoned.

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Extracts from the evidence given before the Committee of inquiry, 1842, from app. Z:—

DAVID THOMPSON, Engineer, examined.

Question.—Have you examined the bottom of the river in the

channels between Grosse Point and Isle-aux-Chats, and if so, what kind of bottom is it?

Answer.—The soundings show it to be rock in situ, or the ordinary rock of the country, with loose boulders on it.

Question.—Will the removal of the boulders make the channel sufficiently deep, without removing part of the rock?

Answer.—No; in my opinion it will not.

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Mr. CASEY, Engineer, examined. (Extracts from evidence)

Question 98.—What side of the river affords the greater facility for navigation?

Answer.—The north side. At the lower end of Lake St. Francis, on account of the better channel, and also from being on the windward side.

Question 103.—What was the nature of the shoals you examined between Isle-aux-Chats and Chartier's Point?

Answer.—Stony, covered with large boulders; the bottom I suppose to be rocky, from its appearance at Isle-aux-Chats.

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Extract from report of Mr. Keefer, 1849, app. B.B. "He (Mr. Keefer) has found only eight feet of water, and only seven feet at the Coffey dam." For the security of the navigation, it is necessary to diminish the action of the current.

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1846, App. N.—*W. B. Robinson*, Commissioner.

"The items on which expenditure over estimate was made, unavoidably took place, are chiefly the following: In the deep cutting of section one, 9,000 yds., and in section height, 7,586 yds. of rock had to be excavated, the *existence of which was not known.*"

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1847, App. 99.—*W. B. Robinson*, Commissioner.

*Mr. Casgrain*, Assistant Commissioner.

The upper entrance to this canal is imperfect, the channel is crooked, and it will require a considerable expenditure to improve it. The Commissioners feel it to be their duty to represent, that in their opinion, it may be found necessary of adopting some means of checking the current. The set of the current which runs at this place, about four miles an hour, is not in a direct line with the channel, but in some places nearly crosses it. They have mentioned that expenditure in consequence of having received from several experienced masters of vessels repeated remonstrances

on the present state of the entrance and the necessity of checking the current.

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1848.—In the report of 1848, App. N., Mr. McIntyre, officer in charge, has ascertained, beyond a doubt, that boulders are brought by the ice from the shoals and high points in the vicinity, and deposited in the channel whenever a shove takes place, and as this occurs frequently, it is obvious that until the current is by some means checked, and the immense masses of ice made to descend the river in another direction, the channel, though clear of boulders at one time, is liable, and indeed certain to be obstructed by others being brought into it.

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EXTRACT FROM REPORT OF 1856, APP. No. 31.

This canal (Beauharnois) was opened last year on the 1st of May, but owing to ice at the upper entrance, no vessel could pass until the evening of the 3rd of that month. From the purely aluminous nature of the soil, of which the banks are formed, the action of the water has caused much silt to take place, to such an extent, in several parts, as to obstruct the passage of deeply-laden vessels; to remove which obstructions a dredge shall be ready on the opening of navigation.

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FROM REPORT OF 1859, APP. 29.

Early in the spring last, we let the water off for the purpose of removing some slides in the banks, bars, &c. The operations of this dredge were continued for the remainder of the season, but it will require further dredging during the greater part of the coming season.

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1859.—In the report of 1859, the following remarks is found: The Commissioners consider it their duty to draw attention to the large sums of money which have been already paid, and to the amounts still claimed for damages, asserted to be caused by the raising of the water of Lake St. Francis, *a few inches at most* by the dams at the head of the canal.

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1858. *Mr. Lemieux*, Commissioner—App. 19.

Much has been done during the past year in removing shoals and deposits in the canal, and it is expected that about two month's working of the dredge will complete the removal of all such obstructions.

1860. *John Rose*, Commissioner—Sess. p. No. 11.

EXTRACT FROM THE REPORT OF JOHN PAGE.

*Remarks.*—During the fall months at low stages of the river, there is frequently not more than ten feet of water on the lower mitre sill of this lock (No. 6), and in October, 1854, there was only nine feet ten inches for the first half, and nine feet six inches for the last half of the month.

1862. *Joseph Cauchon*, Commissioner.

On the 24th April, the canal was ready for use, and five days afterwards, vessels succeeded in passing through the ice which had accumulated in the bay at the head.

The freshets of last spring and heavy rains during the summer did considerable damage to the banks, which, from the nature of the materials they are formed of, are liable to slide when softened by the action of the water. This renders not only an annual outlay on the protection walls indispensable, but diminishes the width of the channel, which from this cause and accumulation of silt in it, had a few years ago to be cleared out by means of a dredge.

1863. *N. J. Tessier*, Commissioner—Sess. p. No. 3.

Report speaks of large tracks of land flooded on account of sudden thaw in the spring, and of breaches caused to the dike in Hungry Bay.

The report further says: "The insufficient accommodation at the outlet (east) of that canal, has been severely felt for the past few years, as a large number of vessels frequently collect there, waiting for tug boats or favorable winds. At such times one or more steamers with vessels in tow have occasionally arrived when there is really no place for them to make fast to.

The ice takes sooner and remains longer in the still water of the bay at the head of this canal, than at the upper entrance of any other on the St. Lawrence. It is crossed by a large number of swing bridges, which together with the long dikes on both sides of its upper entrance, rendered necessary by the backing of the water there, considerably increase the cost of maintenance.

OTTAWA, May 13th, 1873.

DEAR SIR:—In reply to the questions put to me as to the desirability and practicability of constructing a canal on the north side of the St. Lawrence to connect Lake St. Francis with Lake St. Louis, I have the honor to submit the following, viz.:

Question No. 1.—“ Have you been engaged in the navigation on Lake St. Louis, between Lachine and Cascades, and between Lachine and the eastern entrance of the Beauharnois Canal, and during what time and in what capacity? Could you tell from your experience in that navigation at what time was the port of Cascades opened and closed?”

Answer.—I have been engaged in navigation on Lake St. Louis, between Lachine and Cascades and between Lachine and the eastern entrance of the Beauharnois Canal, and other places on Lake St. Louis, at first in 1842, and afterwards from 1845 to 1853 inclusive, as master of steamers. The time of opening and closing of navigation at the different ports varied according to the severity or mildness of the weather in fall and spring. I have (in 1846) commenced running between Lachine and Cascades about the middle of the month of April, (and could have commenced earlier had our boats been ready.) Generally before the first of May, and have run as late in the fall as 17th December (in 1848.)

Question No. 2.—“ Did you ever remark that it was opened in the spring and closed in the fall unusually late or early?”

Answer.—Yes. As I have stated in my answer to question No. 1, but never was opened late.

Question No. 3.—“ Did you ever remark anything particular?”

Answer.—No, except that ice remained on the shoals until the north water from the Ottawa River (*eau du nord*) rose and floated it off. But I never found the ice to obstruct the channel after I could effect a landing at Lachine from Chateauguay, where our boats were usually wintered. The shoals referred to, in no way interfered with the channel, which is broad and deep.

Question No. 4.—“ Did you ever carry the mails for the Mail Company to Cascades because the Beauharnois Canal was closed with ice?”

Answer.—Yes; at the opening of navigation on Lake St. Louis during several seasons before the opening of the Beauharnois Canal.

Question No. 5.—“ Do you consider, from your experience, the Cascades Bay as a good and safe harbour with deep water and safe anchorage?”

Answer.—I do.

Question No. 6.—“ Do you consider the channel leading from Cascades Bay to Lake St. Louis as good, broad and safe?”

Answer.—I do.

Question No. 7.—“ Did you, during the whole of your ex-

"perience, see mountains of ice in Cascades Bay or ice remaining there until late in May?"

Answer.—Never to the best of my recollection, and I look upon such assertions as mere stories.

Question No. 8.—"Did you hear of any damage done by ice in Cascades Bay?"

Answer.—I never did.

Question No. 9.—"Do you know the outlet of Chambery River in Cascades Bay, and from your observations, would you consider that entrance of a canal by that river would be unsafe, exposed to damage by the action of the ice in Cascades Bay?"

Answer.—I know the outlet of Chambery River in Cascades Bay. I do not think that there could be any possibility of damage being caused by ice there; and as proof of my assertion, I beg to refer to the existence, yet, of the old canal and locks at Cascades, which latter, although held together by no cement or fastening whatever (so to speak) still exist in good shape.

Question No. 10.—"Would you consider that a canal by Chambery River, exposed to be closed earlier in the fall or opened later in the spring in consequence of the ice remaining later in the spring and taking earlier in the fall in Cascades Bay than elsewhere?"

Answer.—I would not.

Question No. 11.—"Did you command steamers from Cornwall to Montreal, and during what time, and had you any experience of the navigation by the Beauharnois Canal?"

Answer.—I did, from 1852, with little interruption up to 1859, and after the latter year up to the year 1867, inclusive, between Ogdensburg and Prescott and Montreal.

Question No. 12.—"Did you remark the action of the ice at the eastern end of the Beauharnois Canal and at the western extremity, and what did you observe?"

Answer.—I have always observed that the ice is much later breaking up at the head or western entrance of the Beauharnois Canal than elsewhere; and this I attribute to the fact, that the dam built between the islands and the main land of the south shore of the St. Lawrence has converted what was *swift water* and rapids into a pond of *still water*, and, as is well-known, ice makes faster and thicker in still than in swift or running water. At the eastern end the ice breaks up, according to my observations, about the same time as at the Cascades; but it must be observed that, as the canal itself, if the water be not let out, or if the water weirs or sluices of the lock be not opened to create a strong current to wear out

the ice or cause it to break, it would be late in the month of May before the canal would be of any practicable use for navigation purposes. I have known the ice to hold so fast at Valleyfield (western entrance to Beauharnois Canal) that men and teams have been crossing from Clark's Island, (*Isle-aux-Chats*), to the main land, when steamers and other craft have been lying to waiting for a strong westerly wind to break up the ice, and have seen men engaged with saws and other implements to make a passage through the ice to allow the vessels to pass through to open water on Lake St. Francis, which, I firmly believe, would not be the case were a canal constructed on the north side of the St. Lawrence.

The icé which accumulates on the shoals below Cascades Bay, commonly called "*Lé Bruet du Loup*," is, I consider, caused by the accumulation of anchor ice formed by the congealing of the water when the temperature of the atmosphere is highly rarified and necessarily when passing down the outlet west of or above "*Isle-aux-Chevaux*" lodges on the shoals east of Cascades Bay, but the deep water or channel is not any more effected by this ice than any other part of Lake St. Louis; therefore, I believe, after thirty years experience, that the best site or location for a canal is decidedly the south side of the St. Lawrence. I firmly believe that, with a canal on the north side of the St. Lawrence, season of navigation would be at least two weeks longer than at present.

Respectfully yours,

To J. P. LANTHIER, Esq., M. P.,  
House of Commons,  
Ottawa.

J. H. DE WITT.

(Translation.)

LETTER OF CAPTAIN P. T. MASSON.

St. Eustache, April 3, 1873.

To J. P. Lanthier, Esq., M. P.:

SIR,—In answer to your letter of 29th March last, I must inform you that having resided at Cascades for more than thirty years, and having had the means of remarking each year the action of the ice in the Bay of Cascades and the time of its departure, I have never heard of a place called Ice Point, nor that the ice remained in the bay to the middle of May.

I have obtained a good experience in the navigation of Lake St. Louis, from Cascades to Lachine, having commanded a steamer of the U. C. Mail Co. on that line. I am perfectly disinterested in the success of the canal on the north shore, having sold out, a long time ago, all the real estate which I had once at Cascades and in the two counties of Soulanges and Vaudreuil. I state without any

hesitation that ice leaves the Bay of Cascades as soon as the Lake St. Francis ice comes down, and that the ice in Cascades Bay causes no damage. The wharf which we had, and the old Cascades Canal, having never suffered any damage on account of the departure of the ice from the bay. Having been employed for many years as one of the Provincial arbitrators by the Public Works Department, there must still be, in that department and amongst the members of the Legislature, some persons who remember me well, namely, the Hon. John Hamilton, of Kingston. You may consider as sheer absurdities all the stories of the mountains of ice, of the Point of ice in the Cascades Bay, and specially that the ice of the bay remains up to the middle of May. It happened but once, about thirty years ago, that the ice had not all left by the 1st of May, but it left on that very day; a man of the name of Gordon Johnson intended to plant on it a May-pole, which fact was considered as extraordinary and worthy of remark.

The reflux of the water of the St. Lawrence in the Bay of Cascades, when the ice on Lake St. Francis comes down, and which causes the departure of the ice from the Bay of Cascades, has never caused any damage, and shall never cause any to a canal that would debauch by the Chamberry River. The channel on Lake St. Louis to the Cascades Bay, which is but an extension of Lake St. Louis, is deep, broad, and more than sufficient for a vessel or steamer drawing twelve or thirteen feet of water. I speak of all those facts with perfect knowledge, because I have with the assistance of one Landry set the first buoys, where are presently the light houses on Lake St. Louis. I give you the foregoing information with pleasure, and I guarantee them to be most exact.

I have the honour to be, Sir, yours, &c.,

(Signed,)

P. T. MASSON.

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*Extract from a Letter of Captain Charles B. DeWitt, 15th  
May, 1873.*

At the request of persons interested in the project of the new canal, on the north shore of the St. Lawrence, I take the liberty of bringing the following facts to your knowledge:

I have commanded steamers between Cascades and Lachine from 1846 to 1851, inclusively. During that period the navigation was opened each year by about the middle of April.

The shoal called Brideloup, on which some ice accumulates, is absolutely outside of the channel, and that ice is in no way an obstacle to the navigation.

I am of opinion that by constructing a canal on the north



shore the navigation season would be lengthened each year by ten or fifteen days.

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*Extract from a Certificate by Charles Lefavre, Plantagenet, 25th March, 1873.*

I am engaged in the navigation on the St. Lawrence for a number of years, and the owner of two boats, the Emily and Kingston. During the last summer I could not reach from *Grosse Pointe* to the entrance of the canal without grounding one of my boats. One of my boats drawing eight feet and a half of water grounded also in one of the lower locks. The two ends of the canal are defective and dangerous. Several boats have been wrecked there. The channel at the head of the canal is crooked, and too narrow. Anchors will not hold on the bottom, which is of rock from about a mile above *Grosse Pointe* to the entrance of the canal. The navigation season is retarded every spring by the accumulation of the ice at the head of the canal, and often artificial means had to be used to break the ice to enable vessels to pass.

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*St. Stanislas de Katska, 25th March, 1873.—Extract from a Certificate by Joseph de Repentigny.*

I am engaged in the navigation on the St. Lawrence since thirty-two years. I have commanded the boats of Messrs. Glassford and Perrault, also my own boats. I have always found the entrance of the Beauharnois Canal very difficult, on account of the channel being narrow and tortuous, and from the want of a sufficient depth of water on the rock, which extends from one mile above *Grosse Pointe* to the entrance of the canal. Several vessels and boats have been wrecked at that place, and many, my own included, have lost their anchors, as they could not hold on the rock. At the eastern end several vessels have been exposed to being wrecked; when the wind is north-east, the surge is so great that the entrance into the canal is very difficult.

The opening of the canal is kept back on account of the accumulation of ice from *Grosse Pointe*.

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*Extract from a Certificate by Jean Bte. Elie, owner of Boats at St. Zotique, 24th March, 1873.*

I am engaged almost from my youth in the navigation on Lakes St. Louis and St. Francis, which I know thoroughly well. In my opinion the canal of Beauharnois has been constructed on the wrong side of the river; the channel leading to the entrance

from Lake St. Francis is defective, and without a sufficient depth of water; the bottom from *Grosse Pointe* and for a mile above is composed of solid rock and large boulders. No vessel can safely anchor there. It would be exposed to be drifted into the rapids by the strong currents found there. That channel is tortuous, and difficult even in *any* time, but more so during the night, when the wind is strong. It is too narrow to enable two vessels to meet. I can speak of those facts from my own experience. Having lost in that place three of my barges, almost completely, and my anchors. I am aware that sailing vessels have been wrecked, and that some others lost their anchors in the same passage. I can testify as to the losses of their barges made by Godfroy, Lalande, Joseph Bertrand, and Francois Descarie, with his two anchors. A grand child of Lalande, aged 16 years, was drowned, and the rest of the crew on board his barge had great difficulty to save their lives.

The Beauharnois Canal cannot be opened early in the spring, because, during the fall, the pieces of broken ice drifted by the strong winds from north and west form such a thick mass on the pond between *Grosse Pointe* and the entrance of the canal, that we have to wait until the ice is melted by the sun, if artificial means are not taken to break it.

In my long experience I have never known that there was a place at Cascades called *Pointe aux Glaces* (Ice Point.) I can assure you that the navigation would be opened in the spring much sooner if a canal was constructed on the north side. Because the channel from Cascades to the Lake would be opened as early as the lake itself, and because there is nothing at Coteau Landing to prevent the ice from passing down, as is the case from *Grosse Pointe* to the canal. The harbours and channels on the north are deep, good and safe.

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*Extract from a Letter of Reverend B. Rivard, Priest—Isle Perrot, 10th May, 1873.*

With reference to the enlargement of the canal of Beauharnois and the project of constructing a new one from the Bay of Cascades to Coteau Landing, I feel no hesitation in stating, that a new canal on the north of the rapids would be more advantageous to the trade of the Dominion than the present Beauharnois canal.

I reside at Isle Perrot since over thirty years. I have always remarked that the Cascades and the north channel from that bay to Isle Perrot were clear of ice each spring much earlier than the south channel from Beauharnois.

The Cascades Bay is clear of ice sooner than Lake St. Francis.

The navigation being opened, while it is still closed at Beauharnois.

You know that I have no personal nor local interest to serve in that question.

I make the foregoing statement in the hope that our Government will not fall into a second error more detrimental than was the first in constructing the Beauharnois Canal.

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*Certificate of Messrs. Joseph Asselin, Francois Prieur, and Joseph Rinfret, pilots—2nd April, 1873.*

We, the undersigned, Joseph Asselin and Francois Prieur, pilots, of more than forty years experience, and Joseph Rinfret, pilot, since twenty years, from Kingston to Montreal, employed as pilots by the owners of the Mail Line Company, and by other companies owning steamers and sailing vessels, are prepared to declare under oath, if required, that we know the navigation of the St. Lawrence, from Kingston to Montreal, on the lakes and through the rapids, as well as any other pilots employed by the different companies owning boats and steamers navigating on those waters. We know all the channels and shoals, also the depth of the water in Lakes St. Louis and St. Francis. We do not hesitate in stating that the northern channels through those two lakes are the best and the deepest. We can safely pilot through those channels, any sailing or steam vessels drawing fifteen feet of water, from Cornwall to Coteau Landing, on Lake St. Francis: also from Cascades, through the north channel on Lake St. Louis, until it meets with the south channel, from Beauharnois, with vessels drawing over fifteen feet.

The south channel on Lake St. Francis does not offer the same advantages. The entrance to the Beauharnois Canal, from near one mile above Point Cartier, offers great difficulties for vessels drawing eight feet and a half, even when the water is high. The bottom of that part of the river being of solid rock, an anchor will drag. During the high winds the surf on the rock is stronger than elsewhere. The channel from *Grosse Pointe* to the entrance of the canal, is too narrow and tortuous, hence its name of "the crooked rapid." To our knowledge many vessels have been wrecked at that place. It has happened to ourselves when meeting there with other vessels to meet with accidents either to the vessels under our charge, or to those we had to pass by. The lower end of the Beauharnois Canal is also most unsafe, especially during a north-east wind. The two extremities of this canal offer neither harbours nor anchorage grounds, while there are good harbours and good anchorage ground on the north side, at Coteau Landing and at Cascades.

We declare also that the navigation by the Beauharnois Canal is closed sooner in the fall, in consequence of the thickness of the ice formed in the bay from *Grosse Pointe* to its entrance; also by the loose ice drifted into the bay, by the wind from north and west, the most prevalent during that season of the year; while the Lachine and Cornwall Canals are free from ice for fifteen days longer. It happens often, during the spring, that vessels, after passing the Cornwall Canal, reach the Beauharnois side, where they are detained at *Grosse Pointe*, and compelled to remain at anchor for several days, and even weeks, in the impossibility of reaching the entrance of the canal, on account of the thickness of the ice. They have to wait until it is melted by the heat of the sun, or opened by artificial means.

We positively affirm, without any fear of being contradicted, by any experienced pilot, that in the event of the opening of another outlet, near *Isle-aux-Chats*, that is to say between that Island and the great pillar of the Red Light House, as we have been informed that such a course had been recommended to the Government, such a channel would be still more dangerous than the present one, on account of the strong currents towards the main rapids, and because tug boats with a long tow of vessels will be more exposed to be drifted into the rapids, which at that spot are most dangerous. We do not know that there is at Cascades any place called *Pointe-aux-Glaces* (Ice Point.)

When the Ottawa River is swollen by the melting of the snow, the ice from *Vaudreuil* to Cascades is carried away as early as in any other place. The Cascades channel is opened to navigation much sooner than the channel at the head of the Beauharnois Canal.

Last year, in the middle of the month of April, we had to be landed from the rafts of Messrs. Calvin and Breck, at the foot of the Cascades Rapids, in an open boat to the Cascades shore by the north channel, as we were not able to reach the Beauharnois side.

Received in presence of C. O. Pease,  
Warden, County of Soulanges.

his  
JOSEPH X ASSELIN,  
mark.

his  
FRANCOIS X PRIEUR,  
mark.

his  
JOSEPH X RINFRET,  
mark.

*From the declaration of Paul Leroux, trader at Cascades, 20th  
March, 1873.*

That, in his opinion, the enlargement of the Beauharnois Canal would not prevent the ice from accumulating at the head of the canal, and would not be a remedy to the shorter period of navigation by that canal, as it is retarded every year by the longer period during which the ice remains at the head of the canal; while on the north side the same obstacle would not be found. It has happened often that when communication was closed on the south, it was opened on the north side; and that travellers coming from the west, who could not go down by the canal, on account of the ice at Valleyfield, had to land on the north side, reach Cascades by land carriage from Coteau Landing, and arrive at Montreal by a steamer from Cascades, no such obstacle would have been met on the north side, while it was experienced sometimes for ten days on the south.

That the deepening of the channel at the head of the present canal would not prevent the ice from accumulating hereafter, and would not, therefore, cause an earlier opening of the canal, while no such obstacle would be experienced on the north side, as no ice remains there at the latter end of the winter, and as the Cascades Bay is clear of ice sooner than any of the extremities of the present canal.

That the entrance into the channel, leading to the canal, is difficult; the water is not deep, and accidents have often happened which were not generally noticed.

That the entrance into the channel leading into Cascades Bay is straight, over eighteen feet deep, and from three to four hundred feet broad.

That deponant resides at Cascades, in the Parish of Vaudreuil, since about forty years, and knows the whole place perfectly well. That there is no such a place known as *Pointe a la Glace* (Ice Point), as was stated. That the shoals make no obstacle to the navigation, on account of the great breadth of the channel, which would render quite easy the access of vessels to the canal if constructed there.

