

MONTREAL, 31st October, 1850.

To The Hon. The Board of Harbor Commissioners of Montreal.

GENTLEMEN,—Having accepted the responsible trust confided to us, as your Board of Engineers, we, on the receipt of your instructions of the 22nd instant, proceeded to the discharge of the duties devolved on us, as specified in those instructions.

Accompanied by your President and Secretary, experienced Pilots provided, in fact with every facility essential to the speedy and accurate attainment of our object, we embarked in the steamer Richelieu that afternoon for Sorel—where we had the pleasure to be joined by Mr. Logan and Captain Armstrong, and early the next day, (Wednesday, 23rd,) reached our main field of operations Lake St. Peter.

Under favorable auspices, the calmness and clearness of the weather, and consequently, smoothness of the Lake, we commenced soundings with a pole graduated to feet and inches, and making such other surveys, examinations and observations, as, in our judgment, would suffice to disclose with sufficient minuteness, all the facts, to enable us as you desire, "to arrive at a comprehensive result, and to give you such a report, with reasons for our opinions, as shall have weight with those, who may desire to be convinced of their correctness, before advancing the necessary funds to complete the work."

1st.—To ascertain the nature and character of the materials forming the Bars and Flats which obstruct the navigation of the River and Lake, frequent borings were made, and specimens preserved for analysis by Mr. Logan, to whose communication on the subject (hereto appended) we would respectfully refer you; and from the tenor of which it may be confidently assumed, that the flats of the Lake are an alluvial deposit of a very fine clay, lightly intermixed with sand, formed by the river drifts of the St. Lawrence, and its subsidiary arms, which meander through the islands and debouche, at the head of the Lake, together with the lateral tributaries, the Rivers Yamaska, St. Francis, and others of less capacity.

It may be inferred, as experience has proven, that material of such description is easily excavated by dredging and the use of the barrow; and yet its consistency is such, that it does not seem from previous excavations, to have silted up; obvious, however, would be the necessity of concentrating the several currents, as far as practicable, into one Channel, thereby materially aiding further excavations, and as a permanent security against a re-deposit of obstructions once removed.

2nd.—We proceed to state the direction and character of existing Channels, comparing the soundings and the velocities of currents, of the Old and New Channels with each other as determined by ourselves, and also by Captain Bayfield, R. N., and others.

The facts under this head are summarily exhibited in the following Table:—

rence between Quebec and Montreal, so that a vessel drawing 16 feet of water, should be able to sail, up or down, in any stage of the water. Mr. Atherton, in 1844, then in the employ of the Provincial Board of Works, surveyed Lake St. Peter and reported in favour of deepening the present natural channel. This was opposed by the President of the Board, Mr. Killaly, who advised the cutting of a new and straight channel. This plan being adopted, the work was placed under the superintendence of Mr. David Vaughan.—While this work was going on, a strong party sprung up, who opposed the construction of this straight channel, which they stated would be unsuccessful, and that at least 600 feet of a breadth, at its upper end, would be required—that for the purposes of the trade, its very straightness was an objection, &c. An outlay of some \$320,000 had been made in this new channel, when the Government, on the Reports of a Committee from the House of Assembly, stopped the work in 1846. We would refer you to the Reports of Mr. Atherton, Mr. Young, the Committee of the House of Assembly, Captain Bayfield, and Captain Boxer, R. N.

The deepening of Lake St. Peter, and the improvement of the navigation, between this City and Quebec, is now placed under our control, and we have called on you, as gentlemen of experience in your profession, to examine fully, into the whole matter, and report to us, the best means, of effectually opening a channel, of 16 feet in low water, between this place and Quebec, as well as the cost of opening a channel of 13 feet, 14 feet, and 15 feet.

We have placed at your disposal, two Branch Pilots, Messrs. David Bouillie, Branch Pilot, No. 2, Zephirin Mayrand, do. do., on whose statements you can rely, and who are practically acquainted with the towing of vessels, and the various channels and places which require dredging. A steamer is placed at your disposal, and you will be supplied with boats, or whatever else you may require in the survey.

The forgoing remarks we believe embrace the plain facts, and as you are now acting as our Board of Engineers, without and entirely unconnected, with local interests or prejudices, we believe you will be enabled to arrive, at a comprehensive result, and give us such a report, with your reasons for your opinions, as shall have weight with those who may desire to be convinced of their correctness, before advancing the necessary funds to complete the work: this latter remark, is the more necessary, from the conflicting views which exist on the subject.

We are happy to say that W. E. Logan, Esq., Provincial Geologist, a gentleman of great eminence in his profession, will accompany you, in the hope that he may be of service in determining the character and age of the deposit in Lake St. Peter.

We are, Gentlemen, yours very respectfully,

(Signed) JOHN TAY, *Chairman.*

" JOHN YOUNG.

" LOUIS MARCHAND.

To General McNeil, Captain Child,  
and C. S. Gzowski, Esq. }

Board of Engineers to Examine and Survey Lake St. Peter.

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