

lay before you a statement of the amount of work done and the good effected.

In the first place, the dredges were taken into the Lake on the 19th May, but owing to the new boat not being ready one of them only was kept at work until the 12th June, when the new boat started. From this until the 19th of the same month, they were both wrought without intermission. On this day the main shaft of the new boat broke, which we could not get effectually repaired till the 30th July. The "Albion" was chartered in her place, but owing to her want of power, and the time she was absent with a broken bridge tree she did not work more than half the time we had her. I mention these things to point out to you the great detention and delay from unforeseen accidents, which we had to contend with in the commencement of our operations this season; but, notwithstanding these delays, the two dredges have up to the 18th November, or in 120 working days, removed 498,820 cubic yards, thereby forming a channel, about four miles long, from a little above the lower light vessel to the iron buoy, of 150 feet in width, and thence to deep water, about two miles long, of 130 feet in width, with 4 feet more water in it throughout, than the water on the flats.

The bar above the upper light-vessel has also, this summer, been sufficiently removed to allow vessels to pass drawing 12 feet at low water. This improvement was effected by means of the "North America" and "Harrow." This vessel commenced on the 4th May, and finished on the 18th June, making the channel about 200 feet wide, and removing in that time about 44,000 cubic yards. When finished here, her crew was for some time employed in laying down the buoys on the side of the channel, placing 27 on the south side of the channel through the flats, and 3 on the south side of the channel through the upper bar.

Dredge No. 1 was also very much detained by the breaking of some parts of her machinery; but, notwithstanding this, I commenced operations with her at Isle "Platte", on the 14th June, improving the channel which she made there last year, by deepening it 2 feet, and increasing its width to 250 feet through the lower Bar, and 150 feet through the upper Bar. To effect this, she had to remove 15,000 cubic yards, and it was finished on the 28th August. From this place I sent the vessel up to Isle "De Lorier", where she cut a channel through the Bar there of 250 feet wide and 16 feet deep, at low water, removing, in that operation, 1,400 cubic yards, and finishing on the 8th September. She was then removed up to the Harbour of Montreal, where she continued to work until the close of the navigation, improving the channel entering the Harbour, which she has not yet finished.

I may remark here, that the improvements made upon the machinery and mode of working this Dredge last spring, have enabled her to do double the amount of work in much less time than she took last year. I should recommend you to make still further improvements upon this vessel, with the view of adapting her for lifting large boulders, of which there are many yet in the Harbour to be removed: a description of which improvements I will lay before you at any time you may require it.

The Spoondredge has not done so well as I expected her to do, principally owing to parts of her machinery being too slight for the hard excavation we had to contend with in the Harbour. This I propose to remedy, with your permission, this winter, by making certain improvements in her construction. She has, however, effected some improvements in the Harbour, more particularly

in the Creek-corner, the King's Basin, the Sydenham Basin, and the upper side of the Island Wharf, which could not have been effected by any other means.

In my letter to you, dated the 11th December, 1851, I stated that, by following certain plans, a channel of 15 feet at low water could be had by the end of the season of 1852; I am now happy to be able to state that such a channel actually exists, with the exception of one small bar opposite the Victoria Pier, entering the Harbour of Montreal, on which there is about 6 inches less of water than we now have in the channel through the Lake. This can be removed by Dredge No. 1, when the channel from the Harbour to the foot of Lake St. Peter will be complete, and safe for vessels to navigate drawing 4 feet more than the water on the flats. But as this fact appears to be by many doubted, I respectfully request that you will appoint some qualified person to sound and examine the channel in Lake St. Peter, and report thereon. This can be done effectively on the ice, as soon as the Lake is frozen over, and the length and width of the channel at the same time accurately ascertained.

The plan for future operations in Lake Saint Peter will greatly depend upon the width you intend to make it. For my part, I should prefer a deep channel 300 feet wide to a wider one containing merely sufficient water to float the vessel.

A channel of 300 feet wide and 10 feet deep, at low water, can be effected by our present means in two years.

A channel 400 feet wide and 15 feet deep, at low water, can be effected in the same time. To obtain the first mentioned, I should in the Spring, when the water is high, commence the widening of the present channel, and as soon as the water fell sufficiently to admit of our working in the present channel, I should begin to make it a foot deeper. A great portion of it could be put down to this extra depth before the Fall vessels would begin to arrive, and they would thereby obtain the advantage of it.

But if the channel of 400 feet wide were preferred, there would be nothing to do but to commence the widening of the present channel, and continue it till finished.

As respects the channel from the Lake to Montreal, it will be necessary, some time next Summer, again to place Dredge No. 1 at Isle Platte to widen the channel 100 feet through the upper Bar, and deepen the whole of it one foot more. But on the opening of the Navigation, I would recommend you again to place her in the Harbour, as there are many places about the lower wharves where deepening is much required, and where she could work to advantage while the water is high, and as the water falls she could commence and finish the improvement of the channel entering the harbor.

I may add, in conclusion, that the amount of material to be lifted by calculation to make the channel what it is now represented to be, and the amount lifted by account, agree within a very few yards, which proves that our method of working the dredges is perfect; that is to say, that they leave nothing behind them which can cause obstruction.

I am, Gentlemen,

Your most obdt. serv't,

(Signed)

JNO. BELL.

(Copy.) MONTREAL, 22nd October, 1850.

GENTLEMEN,—Some five years ago, it was determined by the Provincial Government of Canada, to improve the navigation of the St. Law-

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