

APPENDIX E.

No. 1.

Captain Orlebar's Report on the Horse Shoe Bar, Miramichi River.

Gulnare, Miramichi River, Jan. 2nd, 1857.

SIR,—I have the honor to inform Your Excellency, that I have just completed the necessary Survey and Examination of the Miramichi Horse Shoe Bar, and its alleged obstructions, and have to Report as follows:—

In the first instance having erected stations and taken angles, I prepared a plan on the enlarged scale of four inches to the mile, and carefully sounded the Bar, reducing the same to low water, ordinary spring tides. This re-examination I compared with our Survey completed twenty years ago, and found that in both, a more direct channel, passing to the northward of the lump, could be obtained, with deeper water by two feet than in the present one used by the Pilots, in which they deflect to the south, on the line of two Beacons erected on Fox Island.

Secondly, being joined by Mr. T. T. Vernon Smith, of the Board of Works, on Monday last, and this morning by Mr. Angus M'Eachern, Pilot, I returned with them and again sounded the channel, as well as the one now used by the Pilots, and found still a difference of two feet in favor of the new channel. Mr. Smith at the same time ascertained at different portions that the bottom was of loose sand and gravel. In the afternoon we ran the *Gulnare* through the channel with the same result, shewing that by this new channel there is as much water as can be carried across the flats between the Horse Shoe and Oak Point.

Thirdly, that I therefore recommend shortly that two additional Buoys be placed, one red, on the north side of the channel where shoalest, which is when the west point of Fox Island is in line with the point of trees called Jean Obert's point, and another white, on the south side of the channel close to the lump. The right placing of these Buoys would be best effected by Mr. Angus M'Eachern, who was with me and knows the marks of the channel, and is an intelligent, conscientious and faithful Pilot.

But I do not recommend any dredging for the further deepening of the channel, because from the nature of the bottom, which is loose sand and gravel, I cannot think it would be of any permanent benefit. I will do myself the honor of transmitting for Your Excellency's inspection a trace of the channels referred to in this Report, and also a trace of the changes that have lately taken place in the outer Bar, and which I have hopes will be engraved and published by the Admiralty.

I have the honor to be

Your Excellency's humble servant,

JOHN ORLEBAR,

*Commander, Surveying Gulf of Saint Lawrence,
Nova Scotia, New Brunswick, Cape Breton, &c.*

To His Excellency J. H. T. Manners-Sutton,
Lieutenant Governor. &c. &c. &c.

No. 2.

Report of T. T. Vernon Smith, C. E., on Horse Shoe Bar.

Fredericton, June 5th, 1857.

SIR,—According to your instructions of 28th May I proceeded to Chatham on Friday the 29th ultimo, and on Saturday met Capt. Orlebar, of Her Majesty's Surveying Vessel "*Gulnare*." After conferring with him on the best means of ascertaining the information required, and examining the charts of the Miramichi River made twenty years before by Captain Bayfield, and recently verified by Captain Orlebar, we arranged to proceed together to the Horse Shoe Bar on Monday; and in the meantime I procured such simple boring tools as would enable me to ascertain the nature and material of the formation, and the probability of dredging or blasting operations, if necessary to be made, being permanent. On Tuesday morning we were met by one of the Branch Pilots on the Station, (Angus M'Eachern,) and whilst he and Captain Orlebar examined a new channel across the shoal, which has been discovered