

DEPOSIT IN THE RIVER ST. LAWRENCE.

H. M. SURVEY.

QUEBEC, June 25th 1887.

Sir.

In reply to the letter of your Secretary of 4th instant I have the honor to submit the following observations :

1. A comparison of the recent surveys with those made by Bayfield in 1827-29 shows these facts :

First.—That the channel, known as Patience pass with a depth, then, of 3½ fathoms at the south entrance, is now closed by a bar having shoals with 11 feet water only on them and over which not more than 16 feet can be carried at low water respectively.

Second.—That Margaret tail and Crane Island spit have extended and that the former channel leading between them to the Middle Traverse, is now fronted by a bar joining these spits on which are several shoals with only 20 to 24 feet over them at low water.

Third.—That a spur has extended south westward from Crane Island spit with several shoals having 24 feet water on them.

Fourth.—That West sand and Traverse spit in North Traverse have extended eastward, the latter to a considerable extent.

Fifth.—That shoals, with depths from 16 to 18 feet over them, lie off the shore of St Jean-Port-Joly, the nearest at a distance of nine-tenths of a mile only from Stone Pillar light-house whereas none are shown on Bayfield's charts nearer than one and two tenths miles from the same lighthouse, and

Sixth.—That numerous shoals have been discovered in that neighbourhood and about Channel patch.

2. I think there can be no doubt that these shoals are made and developed by the silt brought down by the river, the nuclei being, probably, boulders dropped by ice, sunken trees or logs round which the deposit collects and thence extends.

3. It appears to me also to be evident that any addition made to the natural sediment must assist in the already too rapid formation of shoals that will in time so greatly diminish the depth of water in the shallow parts of the river as seriously to impede navigation.