

## FIRST REPORT, &c.



*To His Excellency Sir John Colborne, Knight, Commander of the most Honorable Military Order of the Bath, Lieutenant Governor of the Province of Upper Canada, Major General commanding His Majesty's Forces therein, &c. &c. &c.*

At an early period after the passing of the act authorising and appointing me to examine the Welland Canal, and to report to your Excellency "all such facts and information" as I might deem useful, in aid of forming a correct opinion of that work; "its progress, condition and future usefulness," I proceeded to Port Dalhousie, and from thence along the whole line to the Dam at the Grand River; and personally inspected us far as the state of the weather would admit, the Harbor on Lake Ontario; the Deep Cut, the Locks, the Aqueduct, the Feeder, the Dam, and the excavation generally.

### THE DEEP CUT.

As the 13th Section of the Statute requires a very minute and particular examination of the Deep Cut to be made, in order to ascertain as far as practicable, "the probability there is of the stability or instability of the banks," I have visited and inspected that section of the work from time to time, since the beginning of April, carefully enquiring into, and noting down, such facts and occurrences as I considered likely to prove useful.

Several slips in the left or West bank have taken place this spring; the surface area of one of them perhaps exceeding half an acre—but the soil thus deposited in the Canal, has partly filled up the vacant space below the new bottom level, and by widening the summit level, rather benefitted than injured the navigation. I was informed that at the place where the banks had chiefly given way, during the present year, the workmen on the Canal had first discovered the soft clay bottom, and on further digging arrived at a stratum of quicksand.

An opinion is very generally entertained, by persons residing near the Canal, that the margin will give way in other places along the line of deep cutting; and it is indeed probable that such will be the case; for the banks that remain unbroken, are apparently in the same unstable condition as were those places which have already fallen in; the quality of the soil is the same and they are equally steep—But I do not apprehend any very serious consequences from this state of the banks, for there are now eight, ten, and in some places, twelve feet of water and vacant space in the Canal, below its present base level, where the margin has not caved in; and unless the banks were to give way on both sides, the soil, (judging from the experience of the last eighteen months,) would not be likely to fill the canal any farther than to its base level, and scarcely, if at all, interrupt navigation.—The slips that have taken place since the Welland River level was abandoned, have occasioned very little additional excavation or trouble. I found a few laborers employed clearing out a bottom channel of twenty feet width for a short distance.—The cutting was neither deep nor extensive.

The banks on the towing path side are steep, but have thus far stood the test of the seasons, except in a very few places—when the Canal is filled with water, there will be much less chance of the sides giving way in this section, than there is in its present state; and, looking at the subject in this its worst point of view, I can decidedly express my opinion that the anticipation of such an event ought not to be allowed to prevent or hinder the completion of the Canal, or be received as an argument against its utility as a permanent public work. Were the soil to cave in so as to stop the passage of vessels it could be cleared out and placed at a proper distance at no great expence—and without much loss of time, and that is the worst that can happen.

It is to be regretted however, that more precaution was not made use of by the principal