

by the use of two sextants, double angles were taken simultaneously from the centre of the boat to some three beacons on the shore, one beacon always being common to the two angles. Thus every sounding was an absolute fix, and was plotted upon the chart by means of a station pointer. It was also necessary to note the time when each sounding was taken, in order to be able to make the proper reduction to low water, as at this place the rise and fall of the tide varies from eight to sixteen feet. As may be seen by this plan, the area of water in the harbour within a four-fathom line is approximately half a square mile, and with a very little dredging this area could be considerably increased.

The mouth of the Nelson River was also surveyed in a somewhat similar manner, but not so completely, on account of the much greater dimensions of the work—the river being fourteen miles wide at the mouth—our limited time, and the less necessity for the survey. Sufficient soundings were taken, however, to ascertain the limits of the channel of deepest water, and to give evidence of the impracticability of making a harbour at York. The *Alert* was obliged to anchor ten miles outside the mouth of the river altogether, where she was exposed to the full sweep of the gales from the north-west, and one night experienced such a heavy sea that it was found necessary to let oil tanks run to prevent the seas from breaking over her.

I had intended to give you an account of some track surveys made during the winter season by myself, when travelling about the country on a sled drawn by an Esquimo dog team; but am afraid that I have already taken up as much time and space as my subject will warrant me in doing.