

steadily for eleven miles, to another rapid of twenty feet, where we camped. As far as the Cat portage, the river flows between clay banks from twenty to forty feet high, densely wooded with large poplar and white spruce; below this, the country became very flat and swampy, covered with small black spruce, tamarac and second-growth poplar. General course travelled during the day, N. 70° W.

3rd.—Started early to-day, running the Plum-pudding rapid, one and a-half miles long, with fifteen feet fall, and thence two miles to Smoke Hill rapid, having a fall of twenty-five feet, and passed by a portage of one mile. Below, the river runs with a moderate current for ten miles, when the last rapid, one mile long, with ten feet fall, full of large boulders, was run, and Rupert House, one mile below, was reached.

Rupert House. Rupert House is situated at the mouth of the river, which empties into Rupert Bay, an extension of James Bay.

At this point the river has a width of upwards of one mile, and discharges a volume of water estimated equal to that of the Ottawa River at Ottawa.

The country between Plum-Pudding Rapid and the mouth of the river is very flat and swampy, covered with only a fair growth of timber. The soil is chiefly a heavy clay, and is generally too wet and cold for agricultural purposes.

At Rupert House, garden vegetables are cultivated with fair success; barley is also grown, but seldom ripens, owing to the shortness of the season and frosts during the summer. At Rupert House our season's work was completed, and we hastened to return to Ottawa. We were not able to leave, however, until the 9th, when we crossed the foot of James Bay to Moose Factory, a distance of one hundred and twenty miles, in a large canoe, with six men. The water of the bay is very shallow; so much so, that when the tide is out, nothing but mud flats can be seen.

Having been delayed by high winds, Moose Factory was not reached until the 14th. Having here changed our canoe for a smaller one, with three men, we started up the Moose River next day, and reached Dog Lake, at the Height of Land, on the 29th. Here taking the Canadian Pacific Railway, we arrived in Ottawa October 2nd.

GEOLOGICAL NOTES.

With the exception of the comparatively small areas of Huronian and Cambrian rocks, found in the vicinity of Lake Mistassini, the Laurentian gneisses and associated rocks occupy the whole country from the Gulf of St. Lawrence to James Bay, along the route traversed by this expedition. Of these rocks, the red gneiss, composed of red

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