

"permanently frozen"?—I am unable to state very extensive facts upon that subject; the soil at York Factory, on Hudson's Bay, is permanently frozen.

Lieut.-Colonel
J. H. Lefroy, R. A.

275. Mr. Roebuck.] How far north is that?—It is about 57 degrees, I think, not so far north as Fort Simpson; the soil there does not thaw in the summer more than about three feet deep, and it is frozen to about 20 feet permanently.

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276. Sir John Pakington.] I apprehend that you did not mean to apply that expression, "permanently frozen" in the sense in which I think you used it, namely, as applying generally to this district, but only to particular parts?—Of course; it is a very large region; the district is as large as Europe, and has great differences of climate.

277. You applied the term generally. I presume there is nothing to which you could apply the term "permanently frozen" in the nature of the climate about the Red River Settlement, or even at Fort Cumberland Station?—Fort Cumberland, I believe, is near the limit of the region where the ground is permanently frozen; more accurately speaking, I think Lake La Crosse is about that limit.

278. There is cultivation at Fort Cumberland, is there not?—I do not mean to say there is not cultivation where the ground is permanently frozen; at the most northerly point I have spoken to, namely, Fort Norman, on Mackenzie's River, the ground is permanently frozen to the depth of 45 feet, yet there is cultivation.

279. What do you mean by "permanently frozen"?—I mean that it never thaws except at the surface. I had a remarkable opportunity of ascertaining that fact by a great landslip on the banks of the Mackenzie River, exposing a completely permanent frozen soil to the depth of 45 feet. The surface thaws to the extent of a foot or two. In the more open situations, it thaws of course to a greater depth.

280. Under those circumstances, with a depth of permanently frozen ground of many feet, and only thawed very superficially, does the ground admit of cultivation?—Not, I think, with any profit; indeed, a white population accustomed to civilised life cannot find subsistence.

281. The ripening of the crops under those circumstances must be precarious?—Yes. There is a difference between absolute cultivation yielding small returns for the support, or the assistance of other means of support, of a very small community, such as is to be found at all these forts, and one on which a large community can permanently depend. All over that country, although they have a crop in many places, they depend principally upon fish, and the dried meat of the buffalo.

282. What is the population of the Red River Settlement?—In 1843 or 1844, it was about 5,000, according to the information given me.

283. What population is there at the northern settlement of Fort Cumberland, or Norway House?—It does not in any one instance, I imagine, amount to 20 persons permanently resident. At some seasons of the year there are others coming and going, and the Indians occasionally frequent them. Not, of course, including the Indians inhabiting the districts supplying those stations with their furs; but taking the residents, you will find 10, 20, or 30, according to the means of subsistence.

284. Are there any European inhabitants in the district between the Red River and Cumberland Fort and Norway House?—None, but the traders in the Hudson's Bay Company's employment.

285. Is Lake Winnipeg open for navigation for any length of time in the summer?—Not for long; I should suppose that Lake Winnipeg is open for navigation from May till about the end of October.

286. The whole lake would then be open?—Yes.

287. Mr. Roebuck.] Do you know how long the St. Lawrence is open at Quebec?—It varies extremely in different seasons; but the St. Lawrence at Quebec is generally open early in April.

288. I beg your pardon?—In April.

289. Not till May. Do you not know that after the month of November begins, the insurance upon ships doubles?—I am quite aware of that; but I am equally aware that the last vessels leave Quebec very late in November, and I have known them leave in December.

290. You say that you attribute the possibility of growing barley at Fort Simpson to its proximity to the Pacific?—I attribute it in a great degree to that fact.

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