

APPENDIX No. 20 TO THE REPORT OF THE SURVEYOR GENERAL

REPORT OF ARTHUR SAINT CYR, D.L.S.

EXPLORATION OF THE COUNTRY EAST OF TESLIN LAKE.

OTTAWA, May 1, 1899.

E. DEVILLE, Esq.,
Surveyor General,
Ottawa.

SIR,—I have the honour to submit my report on the exploration of the district allotted to me in your instructions dated April 13, 1898.

The district to be explored embraced that section of country which extends from Teslin lake to Pelly river. Your instructions also suggested that, if time permitted, I should endeavour to reach Pelly river and ascend Ross river, which is believed to be the principal tributary of the Pelly river from the north. At the same time I was to make an examination of the country drained by it. I, however, found the water so low in all the streams leading up to the divide between the Nisutlin river and Pelly river basins that I had to abandon my canoes long before I could reach their sources. Under the circumstances the only thing left for us was to pack our supplies and outfit, in which case we could not take a sufficient quantity to successfully carry out the exploration. The mountainous character of the country to be examined and the lateness of the season, taken into consideration with the limited help at my disposal rendered our chances of safely returning from the trip very problematic. After giving due consideration to these difficulties, I decided to limit myself to the exploration of the Nisutlin and Big Salmon rivers. The former is the chief feeder of Teslin lake, and the latter an eastern tributary of the Lewes river.

The object of the exploration was to obtain a general knowledge of the district, its topography and its resources. In order to successfully complete the work during the short summer season, it was decided to connect by triangulation a number of the highest and most prominent points, and then fill in the gaps by means of photographs and sketches.

The general character of the country is mountainous, and specially so along the upper reaches of the Nisutlin and Big Salmon rivers, which of course is very advantageous for photographic surveying. The ascent of twenty peaks was made which ranged in altitude from 6,000 to 7,000 feet above the level of the sea. Whenever these were located too far apart to furnish the detailed topography of the country, I established intermediate camera stations. One hundred photographs were taken from these points for use at some future time in mapping the chief features of this district.

To successfully carry on photographic surveys, it is necessary that the atmosphere should be free from smoke, a condition seldom obtained in a country where there are so many prospectors. Therefore the moment the smoke made its appearance, this work had to be discontinued and other methods substituted, such as instrumental traverses of the navigable rivers and track surveys of the paths following the most important of the mountain streams. I managed in every instance to connect these partial surveys with my triangulation.

In a mountainous country the magnetic needle is not solely to be relied upon. I therefore took solar observations for azimuth from the tops of almost every peak occupied, and thus obtained the astronomical bearings of the other peaks used as triangulation stations, and in this way did not depend altogether on the compass. The