

employed to advantage only on Black river and even on this stream were used only a short distance upstream from the Porcupine. Thence to the Boundary on the Black, and on the other larger tributaries including Kandik, Nation, and Tatonduk rivers, poling boats were employed to transport supplies to the Boundary line.

To reach Whitehorse, at the head of navigation on the Lewes, the main tributary of Yukon river, it is customary to go by steamer from Vancouver or Seattle to Skagway, distances respectively of about 870 and 1,000 miles. Thence, the White Pass and Yukon railway proceeds over the White pass to Whitehorse, a distance from Skagway of 110 miles. Steamers also ply during the summer months from Seattle, by the outside, open-sea route to Nome and St. Michael which are situated near the mouth of the Yukon about 2,310 and 2,360 miles respectively from Seattle. Stages make regular trips between Whitehorse and Dawson during the winter, but otherwise there is relatively little travel along the Yukon except during the season of open navigation on the river.

PREVIOUS WORK.

Previous to the summer of 1911 when the work described in this memoir was commenced, no geological work had been performed along the 141st meridian between the Porcupine and the Yukon except in the immediate vicinity of these rivers. McConnell came down Porcupine river in 1888 making a geological reconnaissance en route,¹ and Kindle made a geological examination of the rock formations along the Porcupine below New Rampart House for the United States Geological Survey during the summer of 1907². In addition a number of geol-

¹McConnell, R. G., "Report on an exploration in the Yukon and Mackenzie basins, N.W.T.": Geol. and Nat. Hist. Surv. of Can., Ann. Rept., Vol. IV, 1888-89, Part D, pp. 129-134.

²Kindle, E. M., "Geologic reconnaissance of the Porcupine valley, Alaska": Bull., Geol. Soc. Amer., Vol. XIX, 1908, pp. 310-338.