

NOTES ON PROSPECTING FOR CORUNDUM. BY WILLET G. MILLER, M.A.,  
SCHOOL OF MINING, KINGSTON.

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When I first received instructions from the Director of the Bureau of Mines to make an examination of the occurrence of corundum in the township of Carlow, reported by Mr. W. F. Ferrier, of the Geological Survey,<sup>(1)</sup> I was not very enthusiastic over the prospect, especially as I was expected to search for other outcrops of the mineral. The district is situated rather near at hand to the chief cities and older settled parts of the Province, and, moreover, it occurs in a region which has attracted considerable attention from prospectors and miners during the last 35 or 40 years. It thus appeared to me that there could not be very much of the material in place in the district or some one would have noticed its existence years before. However, as my instructions authorized me to make notes on any other economic minerals which might be met with in the field, I thought that if I could not find more corundum I could at least get enough material for a report and spend my time to advantage in directing attention to some of the other numerous ore bodies which are to be found in Eastern Ontario.

For the first week after entering the field the outlook for the discovery of other occurrences of the mineral was not very promising. The district is a rather rough one, and the rocks are covered to a considerable extent by soil and timber, and the part of the field in which we first started to work happens to be cut through by two large river channels. Having once obtained the key to the mode of distribution of the deposits it was chiefly then only a matter of time and work to find other deposits. Drift deposits assisted us much in prospecting. In every case, I think, where we found boulders of rock carrying corundum we found the mineral in place a few miles to the northward in the direction from which the glaciers had come. We also soon became familiar with the different varieties of the rock which belonged to the same magma as the corundum-bearing variety, and knew how these different varieties shaded off into one another and into the corundum-bearing variety. We could generally tell when we were approaching the latter variety from the character of the other rocks. We also, of course, made use of the strike and other characteristics of these rocks.

The work on which we were engaged differed materially from ordinary geological field work. In the latter case one does not need to examine every hundred acres, nor in most cases every square mile or so. A fair outline of the geology of a district can generally be given by following the roads or canoe routes.

In the part of the field in which we worked in 1897 the outcrops of corundum rock occur in isolated areas. This made our work more difficult, as, being engaged in examining lands of which the mineral right in most cases belonged to the Government, we were anxious that no good deposits should escape us. It was as important for the Government to know where these deposits were situated, as it would have been for any private company which might have controlled the lands. A rather foresighted policy had been inaugurated in connection with the corundum

(1) Summary Report Geological Surv., Can., 1896, page 116.