

ECONOMIC GEOLOGY IN CANADA.

becomes discontinuous and lenticular in nature. The author directs attention, as others have done, to the broad Battle River anticline, and suggests that while the prospects are more favourable for the discovery of natural gas than oil, it is not impossible that the latter may be found in the sands occurring in the Benton or Niobrara, or higher formations. D. B. Dowling's paper entitled "Correlation and Geological Structure of the Alberta Oil Fields" gives the geological structure, in so far as it is known, of the strata forming the foothills of Alberta, where boring operations have been carried on.

The year 1915 witnessed some activity among prospectors at a number of points. A large number of prospecting parties were drawn to Fond du Lac, Lake Athabaska, by a report that an occurrence of silver ore, similar to that at Cobalt, had been discovered. They met with disappointment, and a field officer of the Geological Survey, who was sent into the district, failed to find anything that would justify such a report.

The discovery of a large body of sulphides, reported to be auriferous, a few miles north of Athapapuskow lake near the boundary between Manitoba and Saskatchewan attracted prospectors to that region. Attention was also directed during the year to auriferous deposits around Rice lake and Gold lake, to the east of Lake Winnipeg.

There was also a big rush of prospectors early in the season into the vicinity of Kowkash, a station on the Transcontinental railway in northern Ontario. This was caused by the discovery of a spectacular showing of native gold in a small quartz vein. Apparently little of economic importance has been found here.

An event that it is hoped will prove to be very important is the discovery of phosphate rock near Banff in the Rocky Mountains park by Frank D. Adams and W. J. Dick, of the Commission of Conservation. A mass of phosphate rock float weighing 31 pounds was found in the valley of Forty-mile creek opposite the southeast end of Stoney Squaw mountain. This specimen carries 24.71 per cent of phosphoric acid (P_2O_5). A loose angular mass of quartzite carrying 7.6 per cent of phosphoric acid was also found on the southern slope of Stoney Squaw mountain near the contact of the Rocky Mountain quartzite and the Upper Banff limestone. Phosphate rock in place was afterwards found by H. S. De Schmid, of the Mines Branch of the Department of Mines, Canada, at the top of the Rocky Mountain quartzite at several points in the vicinity of Banff. At one point the proportion of phosphoric acid (P_2O_5) is as high as 28 per cent. This discovery suggests a possible continuation into Canada of the condition that led to the formation of large deposits of phosphate of lime in the States to the south. The finding and exploitation of a deposit in Canada that could be cheaply mined would be a great boon to the agricultural industry, phosphoric acid being used extensively as a fertilizer.

Among the investigations that the Geological Survey has recently entered upon, the study of soils and of materials for road construction is worthy of notice. Field work was conducted along these lines during the season of 1915 in eastern Ontario and southwestern Quebec. The results also of the experiment in paving made in Edmonton by the